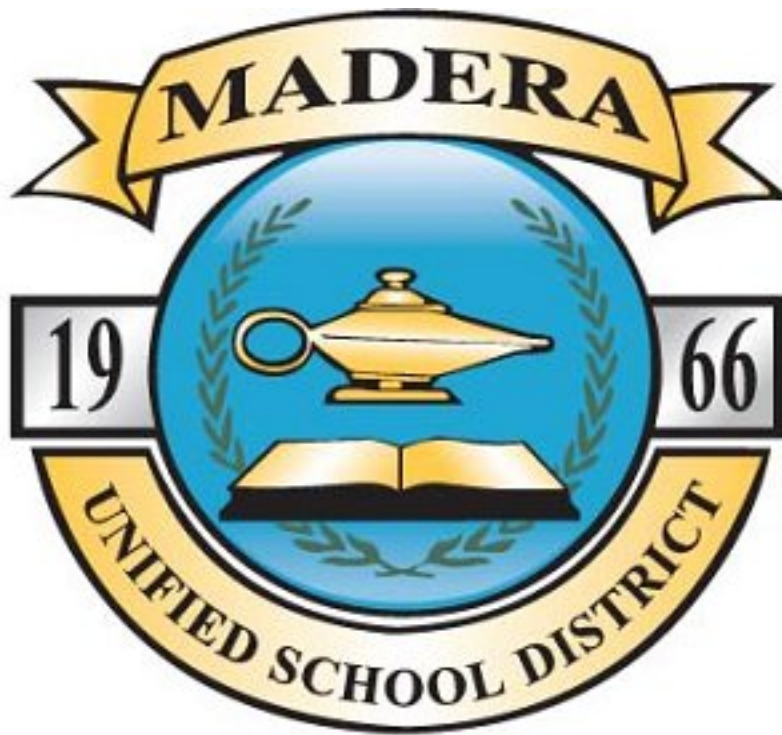


BIDDER PACKET FOR
BERENDA ELEMENTARY SCHOOL
REROOFING PROJECT
BID #141503



MADERA UNIFIED SCHOOL DISTRICT
1902 Howard Road, Madera, CA 93637
Edward C. González
Superintendent

BID DATE: APRIL 2, 2015 @ 2:00 PM

BIDDER PACKET

To: All contractors interested in bidding on the project known as

BERENDA ELEMENTARY SCHOOL REROOFING PROJECT, BID #141503

The attached documents are necessary if you intend to submit a bid on the above-mentioned project. Please read all documents carefully. The documents included are:

- Notice to Contractors Calling for Bids
- Instruction to Bidders
- Timeline
- Notice of Pre-bid Mandatory Bidders Conference and Job Walk
- Information for Bidders
- General Conditions
- Bid Form
- List of Subcontractors
- Bid Bond
- Noncollusion Affidavit
- General Contract
- Contractor's Certificate Regarding Workmen's Compensation
- Performance Bond
- Payment Bond
- Manufacturer's Warranty
- California Labor Code (by reference only)
- Title 24 of the California Code of Regulations (by reference only)
- California Building Code (1995 Edition) (by reference only)
- Prevailing Wage Rate Tables
- Contractor Prequalification Form
- Owner Supplied Materials List

Interested bidders **must** attend the mandatory pre-bid job site meeting at the date and time as shown on the TIMELINE page of the Bidder Packet. At that time the owner will conduct a tour of the areas and scope of work covered by this project.

Please address all questions regarding this project to:

Madera Unified School District
Curtis Manganaan, Director of Maintenance and Operations
1205 Madera Ave.
Madera, CA 93637
559-675-4534
curtismanganaan@maderausd.org

Sealed bids are due at the above address at the time and date as shown on the TIMELINE page of the Bidder Packet, at which time and place they will be opened.

NOTICE TO CONTRACTORS CALLING FOR BIDS

PROJECT: BERENDA ELEMENTARY SCHOOL REROOFING PROJECT BID # 141503

NOTICE IS HEREBY GIVEN that the Madera Unified School District of Madera County, California, acting by and through its Governing Board, hereinafter referred to as the District, will receive up to, but not later than 2:00 p.m., April 2, 2015, sealed bids for the award of a contract for Berenda Elementary School Reroofing Project Bid #141503

Sealed bids will be accepted at the Maintenance and Operations Department, located at 1205 Madera Ave., Madera, CA 93637, and shall be opened and publicly read aloud at the above stated time and place.

All inquiries about this bid shall be directed to the Maintenance & Operations Department, Madera Unified School District, Attention: Curtis Manganaan, curtismanganaan@maderausd.org. Refer questions to curtismanganaan@maderausd.org no later than March 27th, @ 10:00 a.m. 2015. Only questions received via email will be responded to.

Bids shall be submitted upon the forms provided in the bid package. Each bid must conform with and be responsive to the contract documents, copies of which are on file and may be obtained from the Madera Unified School District website <http://www.madera.k12.ca.us/Page/6706>

Each bid shall be accompanied by (1) the security referred to in the contract documents; (2) the list of proposed subcontractors, if any; and (3) the non-collusion affidavit (4) materials list, and (5) bid form.

A mandatory bidder conference and job-walk will be conducted on March 24, 2015 at 1:00 p.m. located at Berenda Elementary School, 26820 Club Drive, Madera, CA 93638.

Bidders shall be required to have a valid class "C-39" Contractor's License, and MUST submit their DIR Registration Number.

The prevailing wage rate law is mandatory for all work performed under this contract. Copies of local rates are available at online at www.dir.ca.gov/DLSR.

No bidder may withdraw his bid for a period of sixty (60) days after the date set for the opening of bids. The District reserves the right to reject any and all bids or to waive irregularities in any bid.

Madera Unified School District is an "equal opportunity" Employer. Qualified Disabled Veteran Business Enterprises are encouraged to participate in this project.

Curtis Manganaan, Director, Maintenance & Operations
Madera Unified School District; Madera, California

INSTRUCTIONS TO BIDDERS

EXAMINATION OF REQUIREMENTS:

Before submitting a proposal, bidders shall carefully examine the drawings, read the specifications and related documents, visit the site of the proposed work and shall fully inform themselves as to all existing conditions and limitations. A sum to cover all items and conditions shall be included in the bid amount.

DISCREPANCIES, ERRORS, AND OMISSIONS:

Should a bidder find discrepancies, errors, or omissions in the documents, or should a bidder be in doubt as to the intended interpretation of the documents, the bidder at once shall notify the Owner. Should it be necessary, a written addendum will be issued. Changes authorized by oral communication will not become effective unless validated by a written addendum issued by the Owner.

EXECUTION OF FORM OF PROPOSAL:

Bids shall be submitted upon the Bid Form provided by the Owner. Numbers shall be stated both in writing and in figures. Signatures shall be in ink and in cursive writing. Proposals shall not contain any recapitulation of the work to be performed. Oral, telegraphic or telephonic proposals will not be considered. Proposals will be invalid unless signed by the bidder or by a person authorized to sign by the bidding entity. If the bidding entity is a partnership, proposal must be signed with the partnership name and by at least one partner; if a corporation, bid must be signed by a person authorized to execute proposals on behalf of the corporation. The type of organization, i.e., corporation, co-partnership, private individual or individuals doing business under a fictitious name shall be designated in the space provided.

AWARD OR REJECTION OF BIDS:

It is the Owner's intent to award the contract(s) to the lowest responsible bidder complying with these instructions, provided his bid is reasonable and acceptance is to the Owner's advantage. However, the Owner reserves the right to reject all bids without explanation and/or reject the bid of any bidder whom has previously failed to perform properly or to complete on time, contracts of a nature similar to this project.

BIDDERS INTEREST IN MORE THAN ONE BID:

Except in case of required alternate proposals, no person, firm, or corporation shall make, file, or be interested in more than one bid for the same work for this project. However, a person, firm, or corporation which has submitted a sub-proposal to a bidder or who has quoted prices of materials to bidder, is not disqualified from submitting a sub-proposal or quoting prices to other bidders.

TIMELINE FOR
BERENDA ELEMENTARY SCHOOL
REROOFING PROJECT
BID# 141503

March 14, 2015	First publishing of Notice to Bidders
March 21, 2015	Second publishing of Notice to Bidders
March 24, 2015	Mandatory pre-bid job-walk at 1:00 PM
April 2, 2015	Bid opening at 2:00 PM
May 12, 2015	Board to consider bids at Board Meeting
May 13, 2015	District to issue NOTICE TO PROCEED to contractor
June 8, 2015	Project start date
August 1, 2015	Project completion date

MANDATORY BID WALK
BERENDA ELEMENTARY SCHOOL
RE-ROOFING PROJECT BID # 141503
SIGN-IN SHEET

Printed Name

Printed Name

Vendor Represented by above

Vendor Represented by above

E-mail

E-mail

Printed Name

Printed Name

Vendor Represented by above

Vendor Represented by above

E-mail

E-mail

Printed Name

Printed Name

Vendor Represented by above

Vendor Represented by above

E-mail

E-mail

INFORMATION FOR BIDDERS

1. **Preparation of Bid Form** The District invites bids on the form attached to be submitted at such time and place as is stated in the Notice to Contractors Calling for Bids. All blanks in the bid form must be appropriately filled in. All bids shall be submitted in sealed envelopes bearing on the outside the name of the bidder, his address, and the name of the project for which the bid is submitted. It is the sole responsibility of the bidder to see that his bid is received in proper time. Any bid received after the scheduled closing time for receipt of bids will be returned to the bidder unopened. Contractor must submit materials list with bid form as information. Contractor must also be an approved installer of the owner supplied materials and must meet all qualifications set forth in the technical specifications.
2. **Bid Security** Each bid shall be accompanied by a certified or cashier's check payable to the District or a satisfactory bid bond, in favor of the District, executed by the bidder as principal and a legally admitted California surety insurer as surety, in an amount not less than TEN PERCENT (10%) of the maximum amount of the bid. The check or bid bond shall be given as guarantee that the bidder shall execute the contract if it is awarded to him in conformity with the contract documents and shall provide the surety bond or bonds as specified therein within five (5) days after notification of the award of the contract to the bidder. The bid must be signed in the name of the bidder and must bear the signature in longhand of the person or persons duly authorized to sign the bid on behalf of the bidder.
3. **Modifications** Changes in or additions to the bid form, recapitulations of the work bid upon, alternative proposals, or any other modification of the bid form which is not specifically called for in the contract documents may result in the District's rejection of the bid as not being responsive to the invitation to bid. No oral or telephonic modifications of any bid submitted will be considered, and a telegraphic modification may be considered only if the postmark evidences that a confirmation of the telegram duly signed by the bidder was placed in the mail prior to the opening of bids.
4. **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 correction the surname or surnames of the persons signing the bid.
5. **Examination of Site and Contract Documents** Each bidder shall visit the site of the proposed work and fully acquaint himself with the conditions relating to the proposed project so that he may fully understand the facilities, difficulties, and restrictions attending the execution of the work under the contract. Bidders shall thoroughly examine and be familiar with the drawings and specifications. The failure or omission of any bidder to receive or examine any contract document, form, instrument, addendum, or other document, or to visit the site and acquaint himself with conditions there existing, shall in no way relieve any bidder from any obligation with respect to his bid or to the contract. The submission of a bid shall be taken as prima facie evidence of compliance with this section.
6. **Withdrawal of Bids** Any bidder may withdraw his bid either personally by written request or by telegraphic request at any time prior to the scheduled closing time for the receipt of bids.
7. **Agreements and Bonds** The Agreement form which the successful bidder, as Contractor, will be required to execute and the forms and amounts of surety bonds, which he will be required to furnish at the time of execution of the Agreement, are included in

the contract documents and should be carefully examined by the bidder. The required number of executed copies of the Agreement, the Performance Bond, and the Payment Bond (Labor and Material Bond) is as specified in the Supplementary General Conditions. Payment and Performance bonds must be executed by a legally admitted California surety insurer

8. **Interpretation of Plans and Documents** If any person contemplating submitting a bid for the proposed contract is in doubt as to the true meaning of any part of the drawings, specifications, or other contract documents, or finds discrepancies in or omissions from the drawings and specifications, he may submit to the District a written request for an interpretation or correction thereof. The person submitting the request will be responsible for its prompt delivery. Any interpretation or correction of the contract documents will be made only by addendum duly issued and a copy of such addendum will be mailed or delivered to each person receiving a set of the contract documents. No person is authorized to make any oral interpretation of any provision in the contract documents to any bidder, and no bidder is authorized to rely on any such unauthorized oral interpretation.
9. **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 of materials to a bidder, is not thereby disqualified from submitting a sub-proposal or quoting prices to other bidders or making a prime proposal.
10. **Award of Contract** The District reserves the right to reject any or all bids, or to waive any irregularities or informalities in any bids or in the bidding process. The award of the contract, if made by the District, will be to the lowest responsible bidder therefor.
11. **Alternates** If alternate bids are called for the contract may be awarded at the election of the governing board to the lowest responsible bidder on the base bid, or on the base bid and any alternate or combination of alternates.
12. **Evidence of Responsibility** Upon the request of the District, a bidder whose bid is under consideration for the award of the contract shall submit promptly to the District satisfactory evidence showing the bidder's financial resources, his construction experience, and his organization and plant facilities available for the performance of the contract.
13. **Listing Subcontractors** Each bidder shall submit a list of the proposed subcontractors, if any, on this project as required by the Subletting and Subcontracting Fair Practices Act (Government Code §4100, et seq.). Forms for this purpose are furnished with the contract documents.
14. **Worker's Compensation** In accordance with the provisions of Section 3700 of the Labor Code, Contractor shall secure the payment of compensation to his employees. Contractor shall sign and file with District the following certificate prior to performing the work under this contract: "I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of the code, and I will comply with such provisions before commencing the performance of the work of this project should I be awarded a contract." The form of such certificate is included as part of the contract documents and/or bid form.
15. **Bid Deposit Return** Deposits of three or more low bidders, the number being at the discretion of the District, will be held for thirty (30) days or until posting by the

successful bidder(s) of the bonds and certificates of insurance required and return of executed copies of the appropriate agreement form, whichever first occurs, at which time the deposits will be returned.

16. **Forfeiture for Failure to Execute Contract** In the event the bidder to whom an award is made fails or refuses to execute the contract within five calendar days from the date of receiving notification that he is the bidder to whom the contract is awarded, the District may declare the bidder's bid deposit or bond forfeited as damages caused by the failure of the bidder to enter into the contract, and may award the work to the next lowest bidder, or may call for new bids.
17. **Anti-Discrimination** It is the policy of the District that in connection with all work performed under contracts, there be no discrimination against any prospective or active employee engaged in the work because of race, color, ancestry, national origin, religious creed, gender, age, or marital status. The Contractor agrees to comply with applicable Federal and California laws including, but not limited to, the California Fair Employment and Housing Act, beginning with Government Code Section 12900, and Labor Code Section 1735. In addition, the Contractor agrees to require like compliance by any subcontractors employed on the work by him.
18. **Non-collusion Affidavit** Bidders on all public works contracts are required to submit an Affidavit of Non-collusion with their bid. This form is included with the bid package and must be signed under penalty of perjury and dated.
19. **Fingerprinting Requirements.** Contractors and any subcontractors shall comply with the requirements of state law regarding fingerprinting and background checks, including Education Code section 45125.1 and 45122.1, when any employee's come into contact with pupils on school grounds during the course of this project. Requirements include:
 - (1) Submitting to the Department of Justice the fingerprints of all employees who may have any contact with pupils.
 - (2) Not permitting any employee to come into contact with pupils until the Department of Justice has ascertained that the employee has not been convicted of a felony as defined in Education Code section 45122.1;
 - (3) Certifying in writing to the District governing board that none of its employees who may come into contact with pupils have been convicted of a felony as defined in section 45122.1; and
 - (4) Providing the District governing board with current lists of names of its employees who may come into contact with pupils.

Contractor shall use the Department of Justice form or other form as required by the Department of Justice for fingerprint and background check requests.

The certification and list of names must be provided before allowing an employee to have contact with pupils. The initial certification shall be made no later than **20 days** after the notice of award. Thereafter, contract shall provide supplemental certifications and updated lists before allowing any other employee to have contract with pupils.

Contractor or subcontractor's failure to comply with state law fingerprinting and background check requirements including but not limited to Education Code section 45125.1 shall constitute cause for immediate termination of the contract.

GENERAL CONDITIONS

ARTICLE 1

CONTRACT DOCUMENTS

The contract documents include the Bid Packet, the Agreement, and the General and Special Conditions, the Drawings, and the Specifications. Two or more copies of each, as required, shall be signed by both parties and one signed copy of each shall be retained by each party.

The intent of these documents is to include all labor, non-owner supplied materials, appliances and services of every kind necessary for the proper execution of the work.

The documents are to be considered as one, and whatever is called for by any one of the documents shall be as binding as if called for by all documents.

ARTICLE 2

MATERIALS, APPLIANCES, EMPLOYEES

Except as otherwise noted, the Contractor shall provide and pay for all non-owner supplied materials, labor, tools, water, power and other items necessary to complete the work.

Unless otherwise specified, all materials shall be new, and both workmanship and materials shall be of good quality.

All workmen and sub-contractors, if any, shall be skilled in their trades.

ARTICLE 3

ROYALTIES AND PATENTS

The Contractor shall pay royalties and license fees, if applicable. He shall defend all suits or claims for infringement of any patent rights and shall save the Owner harmless from loss on account thereof.

ARTICLE 4

SURVEYS, PERMITS, AND REGULATIONS

The Owner shall furnish all surveys unless otherwise specified. Permits and licenses necessary for the prosecution of the work shall be secured and paid for by the Contractor. Easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the Owner, unless otherwise specified. The Contractor shall comply with all laws and regulations bearing on the conduct of the work and shall notify the Owner if the drawings and specifications are at variance therewith.

ARTICLE 5

PROTECTION OF WORK, PROPERTY, AND PERSONS

The Contractor shall adequately protect the work, adjacent property and the public and shall be responsible for any damage or injury due to his act or neglect.

ARTICLE 6

INSPECTION OF WORK

The Contractor shall permit and facilitate inspection of the work by the Owner and his agents and public authorities at all times.

ARTICLE 7

CONTINGENCY ALLOWANCES/CHANGES IN WORK

Use of the contingency allowance will be made only as directed for the Owner's purposes, and only be written authorization signed by Owner's and Architect's "representative" which designate amounts to be charged to the allowance. Change orders authorizing use of funds from the contingency allowance will include the Contractor's related costs and reasonable overhead and profit margins.

At project closeout, the unused amounts remaining in the contingency allowance shall be credited to Owner by Change Order.

Any changes in the work in excess of the contingency allowance shall be made in writing and submitted to the Board for approval. Claims by the Contractor for extra cost or time must be made in writing before executing the work involved.

ARTICLE 8

CORRECTION OF WORK

The Contractor shall re-execute any work that fails to conform to the requirements of the contract and that appears during the progress of the work, and shall remedy any defects due to faulty materials or workmanship which appear within a period of one (1) year from the date of completion of the contract unless a greater time period is specified elsewhere in the contract documents. The provisions of this article apply to work done by sub-contractors, if any, as well as to work done by direct employees of the Contractor.

ARTICLE 9

OWNER'S RIGHT TO TERMINATE THE CONTRACT

Should the Contractor neglect to prosecute the work properly or with diligence, or fail to perform any provision of the contract, the Owner, after seven (7) days' written notice to the Contractor, may, without prejudice to any other remedy he may have, make good the deficiencies and may deduct the cost thereof from the payment then or thereafter due the contractor or, at his option, may terminate the contract and take possession of all materials, tools, and appliances and finish the work by such means as he sees fit, and if the unpaid balance of the contract price exceeds the expense of finishing the work, such excess shall be paid to the Contractor, but if such expense exceeds such unpaid balance, the Contractor shall pay the difference to the Owner.

ARTICLE 10

CONTRACTOR'S RIGHT TO TERMINATE THE CONTRACT

Should the work be stopped by any public authority for a period of thirty (30) days or more, through no fault of the Contractor, or should the work be stopped through act or neglect of the Owner for a period of seven (7) days, or should the Owner fail to pay the Contractor any payment within seven (7) days written notice to the Owner, Contractor may stop work or

terminate the contract and recover from the Owner payment for all work executed and any loss sustained and reasonable profit and damages.

ARTICLE 11 **PAYMENTS**

Payments shall be made as provided in the Agreement. The making and acceptance of the final payment shall constitute a waiver of all claims by the Owner, other than those arising from unsettled liens or from faulty work appearing thereafter, as provided for in Article 9, and of all claims by the Contractor except any previously made and still unsettled. Payments otherwise due may be withheld on account of defective work not remedied, liens filed, damage by the Contractor to others not adjusted, or failure to make payments properly to sub-contractors or for materials or labor.

ARTICLE 12 **INSURANCE**

The Contractor shall take out, pay for, and maintain at all times during the performance of work under this contract, through companies and agencies approved by the Owner and containing provisions satisfactory to the Owner the following insurance:

INSURANCE

1. Workmen's Compensation and Employer's Liability Insurance in the Contractor's name with limits or liability under the Employer's Liability portion of not less than \$300,000, containing a waiver of subrogation in favor of the Owner executed by the Insurance Company.
2. Public Liability Insurance including Contractor's Protective Liability in the Contractor's name, with bodily injury including accidental death, to any one person in an amount of not less than \$1,000,000 per person, and \$2,000,000 per accident and property damage limits of not less than \$1,000,000.
3. Contractual Liability Insurance in the Contractor's name specifically endorsed to cover the indemnity agreement in this contract. Limits of liability shall be not less than \$250,000 per accident for bodily injury and \$1,000,000 for property damage.
4. Automobile Liability Insurance with an Employer's Non-Ownership Liability Endorsement in the Contractor's name. Limits of liability shall be not less than \$250,000 per person and \$500,000 per accident for bodily injury and \$100,000 for property damage.
5. All of the above insurance coverage must be carried with the same insurance company.
6. **Indemnity Agreement.** The Contractor hereby agrees and covenants to protect, defend, hold harmless, and indemnify the Owner, from and against any and all claims, actions, liabilities, losses, and expenses relating to any and all losses or damages (including, without limiting the foregoing, injury to or death of persons and damage to property) allegedly or actually arising out of or incidental to the work, services, and activities of the Contractor or any of its sub-contractors under this Contract, including without limiting the foregoing, all acts and omissions of the officers, employees and agents of the Contractor and its sub-contractors in connection with any installation, job or work under this contract or while proceeding to or from the site of any installation, job or work, whether or not lawful or within the scope of their employment.

7. In the event the Agreement shall specify insurance amounts greater than the amounts mentioned herein, then the greater amounts shall govern in determining the policy amounts.

ARTICLE 13

EVIDENCE OF INSURANCE

Before the work is started, the Contractor shall forward to the Owner two (2) copies of a certificate of insurance or memorandum of insurance evidencing that all required insurance is in force.

The Contractor must certify to the Owner that he has obtained similar certificates or memorandum evidence of insurance from each of his sub-contractors, if any, before their work commences. Each sub-contractor must be covered by insurance for the same character and in the same amounts as the Contractor unless the Contractor and the Owner agree that a reduced coverage is adequate because of the nature of the particular sub-contract work.

ARTICLE 14

CONTRACTOR'S AND BUILDER'S RISK

The owner will carry insurance or self-insure the Builder's Risk (fire, vandalism, malicious mischief and Extended Coverage perils) in amounts to cover the value of work installed. The Owner's insurance will not cover hoists or equipment belonging to the Contractor or any of his sub-contractors. The Contractor shall be responsible for all materials delivered to the site, but not yet installed.

ARTICLE 15

LIENS

The final payment shall not be due until the Contractor has delivered to the Owner a complete release of all liens arising out of this contract, or receipts in full covering all labor and materials for which a lien could be filed, or a bond satisfactory to the Owner indemnifying him against any lien.

ARTICLE 16

DAMAGES

The Owner, Architect, or authorized representatives of either, shall not in any way or manner be answerable or suffer loss, damage, expense or liability for any loss or damage that may happen to said work, or part thereof, or in or about the same during its construction and before acceptance, and the said Contractor shall assume all liabilities of every kind of nature arising from said work, either by accident, neglect, or any other cause whatever; and shall hold the Owner harmless from all liability of every kind provided however, the risk of loss to the extent covered by insurance.

ARTICLE 17

LIQUIDATED DAMAGES

Liquidated damages shall be paid by the Contractor to the Owner in the event Owner and/or the public is denied the use of or access to the facilities on which the Contractor is working due to delay or overrun of time by Contractor. Because it would be difficult to determine an exact amount for damages for such denial of use or access to the facilities, the amount of one thousand dollars (\$1,000.00) per calendar day is agreed upon as a fair and reasonable amount to which the

Owner shall be entitled from the Contractor in the event of delay or overrun of time by Contractor.

ARTICLE 18

FIRE INSURANCE WITH EXTENDED COVERAGE

The Owner shall self-insure or effect and maintain fire insurance with extended coverage upon the entire structure on which the work of this contract is to be done to one hundred percent of the insurable value thereof, in or adjacent to the structure insured.

ARTICLE 19

SEPARATE CONTRACTS

The Owner reserves the right to let other contracts in connection with this work. The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work and shall properly connect and coordinate his work with theirs.

If any part of the Contractor's work depends for proper execution or results upon the work of any other contractor, the contractor shall inspect and promptly report to the Owner any defects in such work that render it unsuitable for such proper execution and results. His failure to inspect and report shall constitute an acceptance of the other contractor's work as fit and proper for the reception of his work, except as to defects which may develop in the contractor's work after the execution of his work.

To insure the proper execution of his subsequent work, the Contractor shall measure work already in place and shall at once report to the Owner any discrepancy between the executed work and the drawings.

Where work of one trade joins, or is on other work, there shall be no discrepancy when it is completed. In engaging one kind of work with another, marring or damaging shall not be permitted. Should improper work of any trade be covered by another, which results in damage or defects, the whole work affected shall be made good by the contractor without expense to the Owner.

The Contractor shall anticipate the relations of the various trades to the progress of the work and shall see that required anchorage or blocking is furnished and set at proper times. Anchorage and blocking necessary for each trade shall be a part of same, except where stated otherwise.

The Contractor and all sub-contractors shall coordinate their work with adjacent work and shall cooperate with each other so as to facilitate the general progress of the work. The contractor and all sub-contractors shall afford each other every reasonable opportunity for the installation of its work and for the storage of its materials.

ARTICLE 20

OWNER'S STATUS

The Owner shall have general supervision and direction of the work. He has authority to stop the work whenever stoppage may be necessary to insure the proper execution of the Contract.

ARTICLE 21

ARCHITECT'S DECISIONS

For projects employing the use of an architect, the architect shall, within a reasonable time, make decisions on all claims of the Contractor and on all other materials relating to the execution and progress of the work or the interpretation of the Contract Documents.

The architect's decisions, in matters relating to artistic effect, shall be final, if within the terms of the Contract Documents.

ARTICLE 22

ARBITRATION

Any disagreement arising out of this contract, or from the breach thereof, shall be submitted to arbitration, and judgment upon the award rendered may be entered in the court of the forum, state or federal, having jurisdiction. It is mutually agreed that the decision of the arbitrators shall be a condition precedent to any right of legal action that either party may have against the other. The arbitration shall be held under the Standard Form of Arbitration Procedure of the American Arbitration Association.

ARTICLE 23

CUTTING, PATCHING AND DIGGING

The Contractor shall do all cutting, fitting or patching of his work that may be required to make its several parts come together properly and fit it to receive or be received by the work of other contractors shown upon, or reasonably implied by the Drawings and Specifications for the completed structure, and he shall make good after then as the Owner may direct.

Any cost caused by defective or ill-timed work shall be borne by the party responsible therefore.

The Contractor shall not endanger any work by cutting, digging, or otherwise, and shall not cut or alter the work of any other contractor save with the consent of the Owner.

ARTICLE 24

USE OF PREMISES

The Contractor shall confine his apparatus, the storage of materials and the operations of his workmen to limits indicated by law, ordinances, permits or directions of the Owner and shall not unreasonably encumber the premises with his materials. The Contractor shall not load or permit any part of the structure to be loaded with a weight that will endanger its safety.

The Contractor shall enforce the Owner's instructions regarding signs, advertisements, fire, and smoking.)

ARTICLE 25

CLEANING UP

The Contractor shall at all times keep the premises free from accumulations of waste material or rubbish caused by his employees or work, and at the completion of the work, he shall remove all rubbish from and about the building and all his tools, scaffolding and surplus materials and shall leave his work "broom clean" or its equivalent, unless more exactly specified. In case of dispute, the Owner may remove the rubbish and charge the cost to the Contractor.

ARTICLE 26

DRUG-FREE/SMOKE FREE WORKPLACE

The Contractor shall remove any worker from the Project Premises when directed to do so by the District or any representative of the District. The District and all of the District's projects are "drug-

free" and "smoke-free" workplaces and, as such, require that the Contractor be subject to the requirements mandated by California Government Code Sections 8350, et seq. The Drug-Free Workplace Act of 1990 requires that every person or entity awarded a contract or grant for the procurement of any property or service from a State agency certify that it will provide a drug-free and smoke-free workplace and, in that respect, comply with certain obligations set forth in that Act. In addition, the Drug-Free Workplace Act provides that each contract or grant awarded by the State agency may be subject to suspension of payments or termination for failure to comply with such Act. It is the sole responsibility of the Contractor to police and oversee any and all personnel used in connection with the Work and the Project, whether employed directly or indirectly by Contractor. If Contractor fails to maintain a drug-free and smoke-free workplace as required by the Drug-Free Workplace Act, the District may enforce its lawful rights to suspend pending or subsequent payments and to terminate the Contract and may pursue all other rights and remedies in may have against the Contractor at law and/or in equity. The Contractor shall also submit to the District the drug-free workplace certificate required by law within seven (7) days after award of the Contract.

ARTICLE 27

DELAY IN THE WORK

Extension of Contract Time. The District shall extend the time period for completion of the Work by the number of calendar days the Contractor is delayed only when satisfactory evidence is presented to the District, within five (5) calendar days after the commencement of the matter or condition causing the delay, that such delay could not be anticipated at the time of entering into the Contract and is neither caused nor continued by fault or negligence on the part of the Contractor, its Subcontractors, Material men or others reasonably and customarily under the Contractor's control and is not otherwise caused by the Contractor or within its control. The following shall constitute matters or conditions that may justify an extension to the Contract Time hereunder: an act of God or of a public enemy, act of government, act of any quasi-governmental or publicly-regulated entity including a public utility, labor disputes, fire, abnormal adverse weather, flood, epidemic, quarantine restrictions, riot, strike, freight embargo, unavoidable casualties, and other such causes beyond the Contractor's control. If abnormal adverse weather conditions are the basis of a claim for an extension to the Contract Time, such claim shall be documented by data substantiating that weather conditions were abnormal for the period of time claimed and could not have been reasonably anticipated at the time of contracting, and that such weather conditions had an adverse effect on the scheduled construction. The District shall ascertain the facts and the extent of the delay, and its findings shall be conclusive. A time extension granted for Work at one site shall not apply to any other site. Any extension of time, if allowed by the District pursuant to this Section, shall be authorized under written Change Order.

District Liability for Delays. Except as otherwise provided in this Section, the District and those acting on its behalf shall not be liable for any damages because of any delay in furnishing the Project Premises or otherwise resulting from any cause beyond the control and without the fault of the District, including, but not restricted to: an act of God or of a public enemy, act of government, act of any quasi-governmental or publicly-regulated entity including a public utility, labor disputes, act of the Contractor or the Contractor's employees, Subcontractors, Material men or agents, act of any other contractor on the Project, abnormal adverse weather conditions, fire, flood, epidemic, quarantine restrictions, riot, strike, freight embargo, unavoidable casualties, or act of any third person or entity not subject to the direct control of the District. The sole remedy of the Contractor for any such delay shall be limited to an extension of the Contract Time in accordance with this Section above. Notwithstanding anything to the contrary stated above, the District may, in its sole and absolute discretion and without obligation to do so, elect to increase the Contract Price for

significant delays that are not caused by the Contractor or any person under the Contractor's control where the circumstances warrant such a change in the Contract Price pursuant to a Change Order.

In anticipation of, and in compliance with, the provisions of California Public Contract Code Section 7102, and because it is agreed by the Contractor and the District that actual damages are impracticable and extremely difficult to ascertain, if the Contractor is delayed in completing the Work due solely to the fault of the District, and where such delay is unreasonable under the circumstances and was not contemplated by the parties at the time of contracting, the Contractor shall be entitled to an appropriate time extension to account for the delay, to be authorized by Change Order, and to pay to Contractor liquidated damages in the amount of One Thousand Dollars (\$1,000.00) for each day of such delay. An extension of the Contract Time shall be the Contractor's sole remedy (and the Contractor shall have no right to actual or liquidated damages) for any delay, hindrance in the performance of the Work, loss in productivity, impact damages or similar claims unless the delay (i) is caused solely by the acts of the District, (ii) is unreasonable under the circumstances, and (iii) was not contemplated by the parties at the time of contracting. If any such District-caused delay occurs, the Contractor expressly agrees to be limited solely to the liquidated damages provided for in this Section.

Notwithstanding anything to the contrary stated above, Contractor hereby acknowledges and agrees that Contractor shall not be entitled to any compensation, under any theory of recovery, for extended overhead, project general conditions, acceleration costs or other costs or expenses, arising or resulting from delays of up to one-hundred twenty (120) days from the date of bid opening in the District's obtaining bid approval from its Board and the State of California (if required). In bidding this Project, Contractor fully agrees and understands that a considerable delay may result from the date of the bid opening until the issuance of the Notice to Proceed and that no compensation shall be due to Contractor for such delay unless such delay exceeds one-hundred twenty (120) days, in which event the Contractor shall be appropriately compensated only for the portion of such delay that exceeds one-hundred twenty (120) days.

ARTICLE 28

HOLD HARMLESS CLAUSES

The Contractor shall indemnify, defend and hold the District, the Board, the Architect, its and their officers, employees, agents, consultants, other independent contractors, consultants and representatives, harmless from and against every liability, claim, demand, cost, loss, damage or expense which may accrue or be made by reason of:

Any injury to person or property sustained by the Contractor or by any person, firm, corporation, partnership, limited liability company or other entity, including, without limitation, any Subcontractor or Material man of any tier, employed directly or indirectly by it upon or in connection with the Work;

Any injury to person or property sustained by any person, firm, corporation, partnership, limited liability company or other entity, caused by any act, neglect, Default or omission of the Contractor or any person, firm, corporation, partnership, limited liability company or other entity, including, without limitation, any Subcontractor or Materialman of any tier, directly or indirectly employed by it upon or in connection with the Work, whether the injury or damage occurs upon or adjacent to the Work or the Project;

The furnishing or use of any copyrighted or uncopyrighted composition, secret process, patented or unpatented invention, process, article, or appliance under the Contract. The violation of any applicable laws, rules or regulations of any governmental entity in connection with the Work; or Any failure or alleged failure of the Contractor (or any person hired or employed, directly or indirectly, by the Contractor) to pay any Subcontractor or Materialman of any tier or any other

person employed in connection with the Work, and/or the filing of any stop notice or mechanic's lien claim.

The Contractor, at its own cost, expense and risk, shall defend all legal proceedings that may be brought against the District, the Board, its and their officers, employees, agents, consultants, other independent contractors and representatives, on any such liability, claim, demand, cost, loss, damage or expense, and satisfy any resulting judgment that may be rendered against any of them whether or not the liability, claim, demand, cost, loss, damage or expense was actually or allegedly caused wholly or in part through the negligence or other tortuous conduct of any of them; provided that, notwithstanding anything to the contrary stated above, the Contractor shall not be obligated to indemnify any particular indemnity if the liability, claim, demand, cost, loss, damage or expense was actually and solely caused by such indemnity's gross negligence or willful misconduct.

ARTICLE 29

GUARANTY-WARRANTY

Beside guaranties required elsewhere in the Contract Documents, the Contractor shall, and hereby does, guaranty and warrant that the Project and all Work executed and materials furnished under the Contract will be free from defects of materials and workmanship for a period of one (1) year after the date of Acceptance of Completion, except that certain specific items of the Work and Project may require a guaranty or warranty for a greater period of time when so provided in any Contract Document and the guaranty period for certain portions of the Work may commence prior to Acceptance of Completion as provided herein. Immediately upon receipt of written notice from the District, but in no event later than one (1) business day thereafter, the Contractor shall repair or replace, at its own expense, any defective material or Work which may be discovered before Acceptance of Completion or within the above guaranty period, any material or Work damaged thereby, and all adjacent material or Work which may be displaced in connection with the repair or replacement required hereunder. Inspection of or failure to inspect the Work or the Project by the District shall not relieve the Contractor from these obligations. The Contractor shall notify the District upon completion of the repairs.

If the Contractor fails to repair or replace the material or Work as indicated in the preceding paragraph within one (1) business day from the date of receipt of a written notice from the District notifying the Contractor of the defect, the District, with its own forces or by contract, may proceed with the repair or replacement and assess the costs thereof against the Contractor, which costs will bear interest at the rate of 8% annual from the date expended until repaid to the District, and which amount may be withheld or retained from any portion of the Contract Price outstanding and otherwise owing to the Contractor in accordance with this document. When necessary to keep school open or safely operating, the District, with its own forces or by contract, may make such repairs or replacement without advance notice to the Contractor and assess the costs thereof (together with interest as specified above) against the Contractor. Such action by the District will not relieve the Contractor of the guaranties provided in this Section or elsewhere in the Contract Documents. If Contractor fails to repair or replace any Work or material covered by any guaranty or warranty set forth in the Contract Documents within the applicable guaranty or warranty period, the District may elect to declare the Contractor a non-responsible bidder on future District projects.

Whether the Contractor or the District actually repairs or replaces defective material or Work within the applicable guaranty period pursuant to either of the preceding two paragraphs, the warranty period shall begin anew from the date of completion of the repair or replacement. For example, if an item with a one year warranty requires repair or replacement during the guaranty period, then the

guaranty for that item shall expire one (1) year after the completion of the repair or replacement of such item and not one (1) year after Acceptance of Completion.

Contractor further warrants that title to all Work, materials and equipment will pass to the District upon receipt of payment by Contractor therefor, free and clear of all lien rights, stop notice rights, security interests or encumbrances (collectively referred to as liens). The Contractor shall also defend the District, at the Contractor's sole cost and expense, against any and all actions, lawsuits or proceedings brought against the District as a result of claims, liens or stop notices filed against the District, the Project Premises or otherwise. The Contractor hereby indemnifies, defends and holds harmless the District against any and all such claims, liens and stop notices and agrees to pay any judgment, lien or stop notice claim against the District or the District's property resulting from any actions, lawsuits or proceedings brought to enforce such liens, stop notices or other claims.

This Section does not in any way limit the guaranty on any items for which a longer guaranty is specified, or on any items for which a manufacturer gives a guaranty for a longer period. Contractor shall furnish the District all appropriate guaranty or warranty certificates immediately upon completion of the Project.

No payment by the District, or any partial or entire use or occupancy of the Project by the District, shall constitute an acceptance of any Work not performed in accordance with the Contract Documents and all applicable laws, rules and regulations.

ARTICLE 30 **WAGE RATES**

In compliance with the provisions of the California Labor Code, hereby incorporated herein, all workers employed by the Contractor or any Subcontractor of any tier performing Work under this Contract shall be paid not less than the general prevailing rate of per diem wages in effect at the time of execution of the Contract for each craft, classification or type of worker needed to execute the Work under this Contract. Although the District will rely upon the determinations made by the California State Director of Industrial Relations for wage rates, the District reserves the right to establish wage rates and determine classifications in the event of a dispute, as allowed by law.

Pursuant to the provisions of this document and the California Labor Code, the District has obtained from the Director of the Department of Industrial Relations the general prevailing rate of per diem wages and the prevailing rate for holiday and overtime work in the locality in which the Work is to be performed for each craft, classification or type of worker needed to execute the Contract. Holidays shall be as defined in the collective bargaining agreement applicable to each particular craft, classification or type of worker employed under the Contract.

Per diem wages pursuant to California Labor Code Section 1773 shall be deemed to include employer payments for health and welfare, pensions, vacation, travel time and subsistence pay as provided in Section 1773.8 of the California Labor Code, apprenticeship or other training programs authorized by Section 3093 of the California Labor Code, and similar purposes when the term per diem wages is used herein.

Pursuant to Section 1773.6 of the California Labor Code, if during the period this bid is required to remain open, the Director of Industrial Relations determines that there has been a change in the prevailing rate of per diem wages in the locality in which the Work under the Contract is to be performed, he shall make the change available to the District, but the change shall not affect any request for bids or the Contract subsequently awarded.

Pursuant to Section 1815 of the California Labor Code, holiday and overtime work, when permitted by law, shall be paid for at the rate of at least one and one-half (1-1/2) times the specified rate of per diem wages, unless otherwise specified.

There shall be paid to each worker of the Contractor, or any Subcontractors of any tier engaged in Work on the Project, not less than the general prevailing wage rate, regardless of any contractual relationship which may be alleged to exist between the Contractor or any Subcontractor of any tier and such worker.

Pursuant to California Labor Code Section 1775, the Contractor shall forfeit as a penalty to the District not more than **Two Hundred Dollars (\$200.00)** for each calendar day or portion thereof for each worker paid less than the prevailing wage rates for such work or craft in which such worker is employed for any Work performed under the Contract by the Contractor or any Subcontractor of any tier, except as otherwise provided in Section 1775(b). The difference between the prevailing rates and the amount actually paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing wage rate shall also be paid to each worker by the Contractor or Subcontractor. Such amounts may be retained or withheld from the Contract Price in accordance with section(s) of this document. The amount of the penalty shall be determined by the Labor Commissioner and shall be based on consideration of the Contractor's or Subcontractor's mistake, inadvertence, or neglect in failing to pay the correct rate of prevailing wages, or the previous record of the Contractor in meeting his or her prevailing wage obligations, or the failure by the Contractor or Subcontractor to pay the correct rates of prevailing wages. A mistake, inadvertence, or neglect in failing to pay the correct rate of prevailing wages is not excusable if the Contractor or Subcontractor had knowledge of his or her obligations under the provisions of this document or the California Labor Code. All penalties or forfeitures from prevailing wage violations shall be deposited into the District's general fund, pursuant to California Labor Code Sections 1771.5 and 1771.6.

Any contract executed between the Contractor and any Subcontractor for the performance of Work under this Contract shall include a copy of the provisions of Sections 1771, 1775, 1776, 1777.5, 1813, and 1815 of the California Labor Code.

The Contractor shall monitor the payment of the specified general prevailing rate of per diem wages by each Subcontractor to each Subcontractor's employees, by periodic review of the certified payroll records of each Subcontractor.

Upon becoming aware of the failure of any Subcontractor to pay his or her workers the specified prevailing rate of wages, the Contractor shall diligently take corrective action to halt or rectify the failure, including, but not limited to, retaining sufficient funds due the Subcontractor for any Work performed under the Contract.

Prior to making final payment to any Subcontractor for any Work performed under the Contract, the Contractor shall obtain an affidavit signed under penalty of perjury from the Subcontractor that the Subcontractor has paid the specified general prevailing rate of per diem wages to his or her employees in connection with the Work and any amounts due pursuant to California Labor Code Section 1813.

The Division of Labor Standards Enforcement (DLSE) shall notify the Contractor within fifteen (15) days of the receipt by the DLSE of a complaint of the failure of any Subcontractor to pay workers the general prevailing rate of per diem wages. If the DLSE determines that employees of any Subcontractor were not paid the general prevailing rate of per diem wages and if the District did not retain sufficient money under the Contract to pay those employees the balance of wages owed under this general prevailing rate of per diem wages, the Contractor shall withhold an amount of moneys due the Subcontractor sufficient to pay those employees the general prevailing rate of per diem wages if requested by the DLSE. The Contractor shall pay any money retained from and owed to a Subcontractor upon receipt of notification by the DLSE that the wage complaint has been resolved. If notice of the resolution of the wage complaint has not been received by the Contractor within one hundred eighty (180) days of the filing of a valid notice of completion or District's acceptance of the Project, whichever occurs later, the Contractor shall pay all moneys retained from

the Subcontractor to the District. If the Subcontractor prevails in the enforcement action, the District shall release any funds retained pursuant to this Section.

Contractor shall post, at appropriate conspicuous points on the Project Premises, a schedule showing all determined general prevailing wage rates.

The Contractor is responsible for ascertaining and complying with all rates for all crafts utilized in and during the Work. Questions pertaining to prevailing wages should be directed to the following address:

Division of Labor Statistics and Research
P. O. Box 420603
San Francisco, California 94142
(415) 703-4281

Full compliance with SB 854 is expected as part of this contract. No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a) in which circumstance the contractor or subcontractor is ineligible to respond to a bid or to do public work]. No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015). This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

ARTICLE 31

RECORD OF WAGES PAID: INSPECTOR

Pursuant to Section 1776 of the California Labor Code:

Each Contractor and Subcontractor shall keep accurate payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by him, her or it in connection with the public work under this Contract. Each payroll record shall contain or be verified by a written declaration that it is made under penalty of perjury, stating both of the following:

- (1) The information contained in the payroll record is true and correct.
- (2) The employer has complied with the requirements of Sections 1771, 1811, and 1815 of the California Labor Code for any work performed by his or her employees in the public work project under this Contract.

The payroll records shall be certified and shall be available for inspection at all reasonable hours at the principal office of the Contractor on the following basis:

- **A certified copy of an employee's payroll record shall be made available for inspection or furnished to such employee or his or her authorized representative on request.**
- **A certified copy of all payroll records enumerated in provision(s) of this document and copies of all cancelled payroll checks shall be made available for inspection or furnished upon request to a representative of the District, the Division of Labor Standards Enforcement and the Division of Apprenticeship Standards of the Department of Industrial Relations.**
- **A certified copy of all payroll records enumerated in provision(s) of this document shall be made available upon request by the public for inspection or for copies thereof. However, a**

request by the public shall be made through either the District, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. If the requested payroll records have not been provided pursuant to the above section, the requesting party shall, prior to being provided the records, reimburse the costs of preparation by the Contractor, Subcontractors, and the entity through which the request was made. The public shall not be given access to such records at the principal office of the Contractor.

Each Contractor and Subcontractor shall file a certified copy of the records with the entity that requested such records within ten (10) days after receipt of a written request.

Any copy of records or payroll checks made available for inspection as copies and furnished upon request to the public or any public agency by the District, the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address and social security number. The name and address of the Contractor awarded the Contract or the Subcontractor performing the Contract shall not be marked or obliterated.

The Contractor shall inform the District of the location of the above records, including the street address, city and county, and shall, within five (5) working days, provide a notice of a change of location and address.

In the event of noncompliance with the requirements of this Section, the Contractor shall have ten (10) days in which to comply subsequent to receipt of written notice specifying in what respects the Contractor must comply with this Section. Should noncompliance still be evident after such 10-day period, the Contractor shall pay a penalty of One **Hundred Dollars (\$100.00)** to the District for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, such penalties shall be withheld from progress payments otherwise due the Contractor hereunder.

ARTICLE 32 **HOURS OF WORK**

As provided herein and/or in Section 1810, Chapter 1, Part 7, Division 2 of the California Labor Code, eight (8) hours of labor shall constitute a legal day's work. The time of service of any work employed at any time by the Contractor or by any Subcontractor upon the Work, or upon any part of the Work contemplated by this Contract, is limited and restricted to eight (8) hours during any one calendar day and forty (40) hours during any one calendar week, except as hereinafter provided. Notwithstanding the provisions hereinabove set forth, Work performed by employees of the Contractor or any Subcontractor in excess of eight (8) hours per day and forty (40) hours during any one week shall be permitted upon this public work; provided that, compensation for all hours worked in excess of eight (8) hours per day or forty (40) hours per week shall be at not less than one and one-half (1-1/2) times the basic rate of pay.

As provided in Section 1813 of the California Labor Code, the Contractor shall pay to the District a penalty of Twenty-Five Dollars (\$25.00) for each worker employed in the execution of this Contract by the Contractor or by any Subcontractor, for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any calendar day or forty (40) hours in any one calendar week, in violation of the provisions of Article 3, (commencing at Section 1810), Chapter 1, Part 7, Division 2 of the Labor Code, unless compensation to the worker so employed by the Contractor is not less than one and one-half (1-1/2) times the basic rate of pay for all hours worked in excess of eight (8) hours per day or forty (40) hours per week, as applicable. The District may retain or withhold any such amounts from the Contract.

Any work required to be performed after regular working hours or on Sundays or other holidays shall be performed without additional expense to the District.

ARTICLE 33

ASSIGNMENT OF ANTITRUST CLAIMS

In entering into a public works contract or a subcontract to supply goods, services or materials pursuant to a public works contract, the Contractor or Subcontractor offers and agrees to assign to the District all rights, title and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Section 15) or under the Cartwright Act (Chapter 2 [commencing with Section 16700] of Part 2 of Division 7 of the California Business and Professions Code), arising from purchases of goods, services or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time the District tenders final payment to the Contractor, without further acknowledgment by the parties.

If the District receives, either through judgment or settlement, a monetary recovery for a cause of action assigned under Chapter 11 (commencing with Section 4550) of Division 5 of Title 1 of the California Government Code, the assignor shall be entitled to receive reimbursement for actual legal costs incurred and may, upon demand, recover from the District any portion of the recovery, including treble damages, attributable to overcharges that were paid by the assignor but were not paid by the District as part of the bid price, less the expenses incurred in obtaining that portion of the recovery.

Upon demand in writing by the assignor, the District shall, within one year from such demand, reassign the cause of action assigned pursuant to this Section if the assignor has been or may have been injured by the violation of law for which the cause of action arose, and (a) the District has not been injured thereby, or (b) the District declines to file a court action for the cause of action.

ARTICLE 34

FAIR EMPLOYMENT PRACTICES

The following provisions pertaining to fair employment practices are incorporated into this Contract. All references to "contractor" in this Section shall be deemed to refer collectively to the Contractor named herein and all Subcontractors of any tier performing Work on the Project.

In connection with the performance of the Work under this Contract, each contractor agrees as follows:

- (i) The contractor will not knowingly discriminate against any employee or applicant for employment because of sex, race, color, religion, ancestry, age, handicap, national origin, or other protected classification. The contractor will take action to ensure that applicants are employed, and that employees are treated equally during employment, without regard to their sex, race, color, religion, ancestry, age, handicap, national origin, or any non-job related criteria. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising; layoff or termination, rates of pay or other forms of compensation; and selection for training, including apprenticeship where applicable.
- (ii) The contractor agrees to post at the Project Premises in conspicuous places, available to employees and applicants for employment, notices to be provided by the District setting forth the provisions of this Fair Employment Practices Section.
- (iii) In all advertisements for labor or other personnel, or requests for employment of any nature, the contractor shall encourage applications of all persons without regard to

gender, race, color, religion, ancestry, age, handicap, national origin, or other protected classification persons.

- (iv) The contractor shall permit access to those records of employment, employment advertisements, application forms and other pertinent data designated by the District, for the purpose of investigation to determine compliance with this Fair Employment Practices Section of this Contract.
- (v) Following the award, but within ten (10) days after issuance of the Notice to Proceed, the Contractor shall meet the following standards for compliance with the fair employment requirements of this Contract and the applicable sections of laws and regulations of the State of California , and shall ensure that each Subcontractor of every tier will meet these requirements within ten (10) days after receiving a notice to proceed from the Contractor, unless the District provides for a greater time period:
 - (A) Provide evidence, as required by the District, that all Subcontractors of every tier, the Contractor's supervisors, and other personnel have been notified, in writing, of the content of this Fair Employment Practices section and their responsibilities under it by posting notices in conspicuous places, including, without limitation, the Project Premises, the contractor's offices, and in other places available to supervisors and other personnel; and
 - (B) Provide evidence, as required by the District, that all sources of employee referrals (including, but not limited to, unions, employment agencies, and the State Employment Development Office) have been notified of the content of this Fair Employment Practices section.
- (vi) After a determination by the District that a contractor has knowingly committed a violation of Fair Employment Practices as set forth herein or of the California Fair Employment Practices Act (if a State-funded project), or of any applicable federal law or executive order concerning equal employment practices, the District shall cause written notice to be served on the contractor and to any Subcontractor of any tier involved in such violation. The notice shall set forth the nature of the violation. Upon the District's request, the contractor shall meet with representatives of the District in order to determine the means of correcting the violation and the time period within which the violation shall be corrected. If within ten (10) days the parties are unable to agree upon a means of remedying the violation or upon the time period within which said remedy shall be affected, the District shall serve a second written notice upon the manner in which the violation shall be corrected. If the contractor has not corrected the violation in the manner prescribed by the District within fifteen (15) days after receipt of the second notice, the District may impose any or all of the following penalties:
 - (A) Determine the contractor not to be a responsible bidder for any future contract until such time as the contractor has satisfied the District that the requirements of the Fair Employment Practices provisions of this Contract have been met;
 - (B) Terminate the entire Contract, in which case the District shall not be liable for any further payments thereunder, or for any damages to the contractor caused by such termination, except as provided below;

- (C) Terminate and cancel any portion of the Contract or Work hereunder, or require the Contractor to terminate and cancel (or cause to be terminated and cancelled) the subcontract of any offending Subcontractor, which is related to the violation in which case the District shall not be liable for any further payments as to said portion of the contract or for any damages caused by such termination, except as provided for below, and may engage another Contractor or Subcontractors to perform said Work; or
 - (D) Assess as liquidated damages payable as provided by law the penalties provided in California Labor Code Sections 1735 and 1775, for each calendar day, or portion thereof, for each person who was denied employment as a result of such violation.
-
- (vii) Nothing contained in these Fair Employment Practices provisions shall be construed so as to prevent the District from pursuing any other remedies that may be available to it at law or in equity.
 - (viii) The contractor shall include the provisions of this Fair Employment Practices Section in every first tier subcontract and require each Subcontractor to bind each further Subcontractor with whom a contract exists to such provisions, so that such provisions will be binding upon every Subcontractor of every tier who performs any of the Work required by this Contract.
 - (ix) Should the termination, under the provisions above, of part or all of any contract be finally determined by a court of law to have been improper and unauthorized, the District shall compensate each employee of any affected contractor who was actually working on the Project Premises at the time of the contract termination for wages that such employee would have received had such contract not been so terminated, less any wages the employee earned or had the opportunity to earn during the time the employee otherwise would have been employed on the Project Premises.
 - (x) Should the termination, under provisions of this document above, of part or all of any contract be finally determined by a court of law to have been improper and unauthorized, then the District shall reimburse the Contractor for all direct damages which it may have incurred by reason of such termination.
 - (xi) The District shall have the right, but not the obligation unless requested in writing by the Contractor within three (3) days of service of any summons and complaint or other pleading, to defend the contractor against any legal action which may be brought by reason of any action that the District may have taken under the provisions of these documents. In the event a dispute arises between the District and the Contractor as to whether or not the Contractor was acting upon District direction, the decision of the matter by the District, made by and through the District Administrator of Operations, shall be final.

ARTICLE 35

CONTRACTOR NOT A PARTNER, OFFICER, EMPLOYEE OR AGENT OF THE DISTRICT

While engaged in carrying out and complying with the terms and conditions of the Contract, the Contractor is an independent contractor and not a partner, officer, employee or agent of the District, and the District shall not be liable for any of the Contractor's acts, omissions, liabilities or other obligations as such.

ARTICLE 36

ATTORNEYS' FEES

In the event of any dispute between the District and the Contractor pertaining to the Work, the Project or this Contract, the prevailing party (as determined by the court or arbitrator) shall be entitled to recover from the other party its reasonable attorneys' fees, costs and expenses incurred in connection therewith. The term "**attorneys' fees**" or "**attorneys' fees and costs**" shall mean the fees and expenses of counsel to the parties hereto, which may include printing, photostating, duplicating and other expenses, air freight charges, and fees billed for law clerks, paralegals and other persons not admitted to the bar but performing services under the supervision of an attorney, and the costs and fees incurred in connection with the enforcement or collection of any judgment obtained in any such proceeding.

ARTICLE 37

ASSIGNMENT

The Contractor shall not assign or transfer, by operation of law or otherwise, any or all of its rights, burdens, duties or obligations under this Contract, under any of the Contract Documents, or any part hereof or thereof without the prior written consent of the Surety(ies) on the Payment Bond and Performance Bond and the District, which may be given or withheld in their sole and absolute discretion. Should the Contractor request an assignment of monies under the Contract, the District shall be entitled to assess against the Contractor the reasonable costs for processing such assignment. Any assignment of monies due or to become due under this Contract shall be subject to (i) prior lien and stop notice rights for services rendered or materials supplied for performance of the Work called for under this Contract in favor of all persons, firms, or corporations rendering such services or supplying such materials (including, without limitation, Subcontractors and Materialmen) to the extent that claims are filed pursuant to the California Civil Code, the California Code of Civil Procedure or the California Government Code and (ii) deductions for liquidated damages if liquidated damages have been assessed against the Contractor as specified herein.

ARTICLE 38

NOTICE AND SERVICE THEREOF

All notices, requests, demands, consents, instructions or other communications hereunder shall be in writing (which shall include US Mail, telegram or fax) and shall be deemed to have been duly given or made upon transmittal thereof, if transmitted on a business day, otherwise on the first business day after transmittal, or on the date of confirmed dispatch if sent by fax on a business day, otherwise on the first business day thereafter, or upon the delivery thereof to the telegraph office if sent by telegraph on a business day, otherwise on the first business day thereafter, or three (3) business days after deposit in the mails if sent by certified mail, postage prepaid, return receipt requested, or on the next business day if sent by overnight personal delivery, in each case addressed to the party to which such notice is requested or permitted to be given or made hereunder, at the address and numbers set forth underneath such party's signature line to the General Contract, or at such other address and number of which such party shall have notified in writing the party giving such notice.

BID FORM

BERENDA ELEMENTARY SCHOOL REROOFING PROJECT BID #141503

TO:
MADERA UNIFIED SCHOOL DISTRICT
1205 MADERA AVE.
Madera, California 93637 (559) 675-4534

Closing Date and Time: April 2, 2015 @ 2:00 PM To: Madera Unified School District, acting by and through its Governing Board, herein called "District":

1. Pursuant to and in compliance with you Notice to Contractors Calling for Bids and the other documents relating thereto, the undersigned bidder, having familiarized himself with the terms of the contract, the local conditions affecting the performance of the contract and the cost of the work at the place where the work is to be done, and with the drawings and specifications and other contract documents, hereby proposes and agrees to perform, within the time 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 labor, materials, tools, expendable equipment and all utility and transportation services necessary to perform the contract and complete in a workmanlike manner all of the work required in connection with the above titled project all in strict conformity with the drawings and specifications and other contract documents, including all noted addenda, if any, up to and including **Addendum Number** _____, which is/are on file at the office of the Purchasing Department in the District Office, as listed in the bidder packet for this project.
2. It is understood that the District reserves the right to reject this bid and that this bid shall remain open and not be withdrawn for the period specified in the **Notice to Contractors Calling for Bids**, which is contained within the bidder packet.
3. The required bid security is hereto attached.
4. It is understood and agreed that if written notice of the acceptance of this bid is mailed, telegraphed, or delivered to the undersigned after the opening of the bid, and within the time this bid is required to remain open, or at any time thereafter before this bid is withdrawn, the undersigned will execute and deliver to the District a contract in the form attached hereto in accordance with the bid as accepted, and that he will also furnish and deliver to the District the Performance Bond and Payment Bond as specified, all within five (5) days after receipt of notification of award, and that the work under the contract shall be commenced by the undersigned bidder, if awarded the contract, on the date to be stated in the District's Notice to the Contractor to Proceed and as shown on the **TIMELINE** which is a part of the bidder packet, and shall be completed by the Contractor in the time specified in the contract documents.
5. All notices or other correspondence should be addressed to the undersigned at the address stated below.

Company Name: _____

Responsible Person: _____

Address: _____

City/State/Zip: _____

Telephone number: _____

E-mail address: _____

-
6. The names of all persons interested in the foregoing proposal are as follows:

(IMPORTANT NOTICE: If Bidder or other interested person is a corporation, state legal name of corporation, also names of the president, secretary treasurer, and manager thereof; if a co-partnership, state true name of firm, also names of all individual co-partners composing firm; if bidder or other interested person is an individual, state first and last names in full.)

7. The undersigned holds a California Contractor license Class _____ License No. _____.
8. The undersigned holds DIR (Department of Industrial Relations) # _____ per SB 854.
9. In the event the bidder to whom Notice of Intent to Award Contract is given fails or refuses to post the required bonds and return executed copies of the agreement form within five (5) days from the date of receiving the Notice of Intent to Award Contract, the District may declare the Bidder's bid deposit or bond forfeited as damages.
10. Pursuant to Section 4552 of the Government Code, in submitting a bid to the District, the bidder offers and agrees that if the bid is accepted, it will assign to the district all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 {commencing with Section 16700} of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, materials, or services by the bidder for sale to the District pursuant to the bid. Such assignment shall be made and become effective at the time the District tenders final payment to the bidder.
11. Designation of Subcontractors
- a. In compliance with the Subletting and Subcontracting Fair Practices Act (Public Contract Code §4100 et seq.) and any amendments thereof, each bidder shall set forth below: (1) the name and the location of the place of business of each subcontractor who will perform work or labor or render services to the prime contractor in or about the construction of the work or improvement to be performed under this contract in an amount in excess of one-half of one percent of the prime Contractor's total bid and (2) the portion of the work which will be done by each subcontractor under this act. The prime contractor shall list only one subcontractor for each portion as is defined by the prime contractor in this bid.

- b. If a prime contractor fails to specify a subcontractor or if a prime contractor specifies more than one subcontractor for the same portion of work to be performed under the contract in excess of one-half of one percent of the prime Contractor's total bid, he shall be deemed to have agreed that he is fully qualified to perform that portion himself, and that he shall perform that portion himself. No prime contractor whose bid is accepted shall (1) substitute any subcontractor, (2) permit any subcontract to be voluntarily assigned or transferred or allow it to be performed by anyone other than the original subcontractor listed in the original bid, or (3) sublet or subcontract any portion of the work in excess of one-half of one percent of the prime Contractor's total bid as to which his original bid did not designate a subcontractor, except as authorized in the Subletting and Subcontracting Fair Practices Act. Subletting or subcontracting of any portion of the work in excess of one-half of one percent of the prime Contractor's total bid as to which no subcontractor was designated in the original bid shall only be permitted in cases of public emergency or necessity, and then only after a finding reduced to writing as public record of the authority awarding this contract, setting forth the facts constituting the emergency of necessity.

BID FORM

BERENDA ELEMENTARY SCHOOL REROOFING PROJECT BID #141503

This form shall be used by interested bidders to submit bids for the project, **BERENDA ELEMENTARY SCHOOL REROOFING PROJECT, BID #141503**, for the Madera Unified School District, as described in *BIDDERS PACKET*. **Bids are to be submitted by 2:00 PM on April 2, 2015**, to the Madera Unified School District's Maintenance & Operations office located at 1205 Madera Ave., Madera, CA 93637, at which time and place bids will be opened.

_____ (insert business name of bidder) does hereby submit a bona fide bid to perform the work as specified in the contract documents for the above named project as per contract documents.

BASE BID AMOUNT

Lump sum **Base bid** for this project is for the **Berenda Elementary School Reroofing Project** to be completed in accordance with contract documents, including all costs to the school district including, but not limited to, materials, labor, tools, insurance, cleanup, and warranties, shall be

_____ Dollars.(\$ _____)
(Write in words the amount of your bid on this line) (Show bid in numbers)

SQUARE FOOT WOOD BOARD REPLACEMENT AMOUNT

Square foot wood board replacement to be completed in accordance with contract documents, including all costs to the school district including, but not limited to, materials, labor, tools, insurance, cleanup, and warranties, shall be

_____ Dollars.(\$ _____)
(Write in words the amount of your bid on this line) (Show bid in numbers)

In the event of a conflict between the written and numeric versions of the bid, the written version will prevail.

At the discretion of District, I agree to enter into a contract with the District for the above mentioned work. I possess a valid license to contract in the State of California for the above-described project. I warrant that I am insured as required by the provisions of the contract documents for the above project and that I will provide evidence of such insurance prior to start of work.

I am aware of provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of the code, and I will comply with such provisions before commencing the performance of the work of this project should I be awarded a contract.

Signed (authorized signature) _____

Printed name of person signing _____

Title of person signing _____

Date_____

Contractor doing business as (name style of contractor's license):_____

Type of Business: (Sole Proprietorship, Partnership, Corporation) _____

Contractor License Number:_____

Contractor DIR # per SB 854 _____

SUBCONTRACTOR LIST

Portion of Work	Subcontractor Name	License Number	Location of Business
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

(Use Additional Pages if Necessary)

Date: _____

Bidder: _____

Title: _____

Signature: _____

Street Address: _____

City, State, Zip: _____

Telephone Number: _____

Note: If bidder is a corporation, the legal name of the corporation shall be set forth above together with the signature of authorized officers or agents and the document shall bear the corporate seal; if bidder is a partnership, the true name of the firm shall be set forth above together with the signature of the partner or partners authorized to sign contracts on behalf of the partnership, and if bidder is an individual, his signature shall be placed above.

If there are no subcontractors to be used on this project then write, "NO SUBS" in the above spaces provided for listing of subcontractors.

BID BOND

Name of Principal _____

Address _____

City of _____, State of _____

as Principal, and _____

a corporation organized and existing under the laws of the State of _____,

legally doing business in California as an admitted surety insurer at:

Address _____

City of _____, State of California, as Surety, are indebted to the District hereinafter called the District, in the sum of **TEN PERCENT (10%) OF THE TOTAL AMOUNT OF THE BID** of the Principal submitted to the District for which payment Principal and Surety bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally.

THE CONDITION OF THE OBLIGATION OF THIS BOND IS THAT THE PRINCIPAL has submitted the accompanying bid dated _____, 2015 for:

BERENDA ELEMENTARY SCHOOL REROOFING PROJECT BID # 141503

NOW THEREFORE, IF THE Principal does not withdraw said bid within the period specified therein after the opening of the same, or, if no period be specified, within sixty (60) days after said opening; and if the Principal is awarded the contract, and shall within the period specified therefor, or if no period be specified, within five (5) days after the prescribed forms are presented to him for signature, enter into a written contract with the District, in accordance with the bid as accepted and give bond with good and sufficient surety of sureties, as may be required, for the faithful performance and proper fulfillment of such contract and for the payment for labor and materials used for the performance of the contract or in the event of the withdrawal of said bid within the period specified or the failure to enter into such contract and give such bonds within the time specified, if the Principal shall pay the District the difference between the amount specified in said bid and the amount for which the District may procure the required work and/or supplies, in the later amount be in excess of the former, together with all costs incurred by the District in again calling for bids, then the above obligation shall be void and of no effect, otherwise to remain in full force.

Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract on the call for bids, or to the work to be performed thereunder, or the specifications accompanying the same, shall in anywise affect its obligation under this bond, and it does hereby waive notice of any such change, extension of

time, alteration or addition to the terms of said contract or the call for bids or to the work, or to the specifications.

In the event suit is brought upon this bond by the District and judgement is recovered, the Surety shall pay all costs incurred by the District us such suit, including a reasonable attorney's fee to be fixed by the court.

IN WITNESS WHEREOF this instrument has been duly executed by the Principal and Surety above named on the _____ day of _____, 2015.

BY _____

(Corporate Seal)

Typed or printed name

Title

Surety

BY _____

(Corporate Seal)

Typed or printed name

Title

(Attach Attorney-In-Fact Certificate)

**NONCOLLUSION AFFIDAVIT TO BE
EXECUTED BY BIDDER AND SUBMITTED WITH BID**

_____, being first duly sworn, deposes and says that he or she is _____ of the party making the foregoing bid that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not directly or indirectly, submitted his or her bid price or any breakdown thereof, of the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

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

Date

Signature

GENERAL CONTRACT

THIS GENERAL CONTRACT is made as of the _____ day of _____, 2015, in the County of Madera, State of California, by and between the **MADERA UNIFIED SCHOOL DISTRICT** (hereinafter called "District"), and _____ (hereinafter called "Contractor").

In consideration of the mutual covenants and considerations stated herein, the receipt and sufficiency of which are hereby acknowledged, the District and Contractor hereby agree as follows:

1. **SCOPE OF WORK** The Contractor shall perform within the time stipulated herein, and shall provide all labor, equipment, materials, tools, utility services and transportation to complete in a workmanlike manner, in accordance with the terms and conditions of the Contract Documents, as defined in Section 10 below, all of the work (the "**Work**") required in connection with the following titled project, all as more fully described in the contract Documents and Bidder Packet titled:

BERENDA ELEMENTARY SCHOOL REROOFING PROJECT, BID #141503

2. **CONTRACT PRICE** The District shall pay to the Contractor as full consideration for the faithful performance of the Contract, subject to any additions or deductions ordered or approved by the District by any Change Order (as described and provided for in the General Conditions), the lump sum price of : _____/00, (\$ _____), which shall be payable to the Contractor in progress payments from time to time in accordance with Section 11 of the General Conditions.
3. **CHANGE ORDER AUTHORIZATION** All change orders must be approved by the Chief Facilities Officer, Superintendent and the Board of Education. No change order will be paid unless prior written approval by the Chief Facilities Officer and the Superintendent is secured.
4. **CONTRACT TIME** The Work shall be commenced on the date stated in the TIMELINE section of the contract documents and shall be completed within the time allowed in the TIMELINE section of the contract documents. If the Work is not completed in conformance with the foregoing, the Contractor shall be subject to liquidated damages in the amount set forth in Section 4 below. *The project completion date established for this work shall be August 1, 2015.*
5. **LIQUIDATED DAMAGES** The agreed upon liquidated damages payable to the District pursuant to Section 17 of the General Conditions in the event that the Work is not completed within the Contract Time shall be One Thousand Dollars (\$1,000.00) for each calendar day that the completion of the Project is so delayed beyond the expiration of the Contract Time.
6. **INSURANCE REQUIREMENTS** As provided in Section 12 of the General Conditions, Contractor shall procure and maintain from the Starting Date until final payment under this General Contract is made to the Contractor, and shall require all subcontractors to so procure and maintain for all periods during which such subcontractors are performing any portion of the Work, the insurance described below.
 - a. Builder's Risk Insurance or its equivalent on a so-called all risks basis (including collapse, but excluding coverage for earthquake and flood) on a completed value (non-reporting) form for the full Contract Price (as may be increased from time to time pursuant to Change Orders (as defined in the General Conditions)) or full replacement values, whichever is the greater sum, covering the interest of the District, its contractors

and subcontractors in all Work, including, without limitation, all materials and equipment stored on the site to be incorporated in such Work and all materials and equipment already incorporated in such Work.

- b. Comprehensive Bodily Injury and Property Damage Liability Insurance for Combined Single Limit Bodily Injury and/or Property Damage Liability of not less than \$1,000,000.00 Liability, contractors Protective (Contingency) Liability, Products Liability or Completed Operations, Hazardous Materials (required when the Contract involves removal of these materials), and Owned, Hired, and Nonowned Automobiles Insurance, and shall be endorsed to the name of the District, its Board, and all other indemnitees described in Section 36 of the General Conditions as additional insureds and shall provide specifically that any insurance carried by the District which may be applicable to any claim or loss shall be deemed excess and the Contractor's insurance primary despite any conflicting provisions in the Contractor's policy to the contrary. Coverage shall be maintained with no self-insured retention.
 - c. Workers' Compensation Insurance in accordance with the provisions of the California Labor Code, adequate to protect it and all subcontractors from claims under Workers' Compensation Acts which may arise from operations under the Contract Documents, whether such operations be by the Contractor or by any subcontractor or anyone directly or indirectly employed by either of them.
 - d. All insurance coverage amounts specified above shall be Project-specific to this particular Work, and all such insurance shall cover only risks relating to or arising out of the Project and the Work. The insurance and required amounts of insurance specified above shall not be reduced or encumbered on account of other work contracted for or being performed by Contractor.
 - e. Such other insurance in amounts as the District may reasonably deem advisable from time to time for protection against claims, liabilities and losses arising out of or in connection with the Project or the Work; provided that, the additional cost of such insurance shall be added to the Contract Price pursuant to a Change Order in accordance with Section 7 of the General Conditions.
6. **PROVISIONS REQUIRED BY LAW** Each and every provision of law and clause required to be inserted into this General Contract and the other Contract Documents shall be deemed to be read and enforced as though it were included herein or therein (as applicable), and if through mistake or otherwise any such provision is not inserted or is not inserted correctly, then upon application of either party the General Contract or any of the other Contract Documents (as applicable) shall forthwith be physically amended to make such insertion or correction.
7. **DESIGNATION OF ENGINEER AND INSPECTOR** District
8. **DUE AUTHORIZATION** This General Contract is, and all Contract Documents to be executed by Contractor in connection with the Work and the Project will be, duly authorized, executed and delivered by Contractor, legal, valid and binding obligations of Contractor, and enforceable against Contractor in accordance with their respective terms (except to the extent that such enforcement may be limited by applicable bankruptcy, insolvency, moratorium and other principles relating to or limiting the right of contracting parties generally), and does not and will not violate any provisions of any

agreement to which contractor is a party or may become a party or to which it is subject or may become subject. The representations and warranties contained in this Section 29 shall be deemed to be remade each day throughout the term of the Contract.

9. **AUTHORIZATION OF SIGNATORIES** Each individual and entity executing this General Contract hereby represents and warrants that he, she, or it has the capacity set forth on the signature page hereof with full power and authority to bind the party on whose behalf he, she, or it is executing this General Contract to the terms and provisions hereof.
10. **COMPONENT PARTS OF THE CONTRACT** The "Contract" consists of the following contract documents, all of which are component parts of the Contract, if by reference, as if herein set out in full, or attached hereto (the "Contract Documents"):

Notice to Contractors Calling for Bids
Instruction to Bidders
Timeline
Notice of Pre-bid Mandatory Bidders Conference and Job Walk
Scope of Work
Information for Bidders
General Conditions
Bid Form
General Contract
Contractor's Certificate Regarding Workmen's Compensation
Performance Bond
Payment Bond
California Labor Code (by reference only)
Title 24 of the California Code of Regulations (by reference only)
California Building Code (1995 Edition) (by reference only)
Prevailing Wage Rate Tables
Owner Supplied Materials List

All of the above-listed Contract Documents are intended to be complimentary. Work required by any one of the above-named items and not required by another shall be performed as if required by all.

IN WITNESS WHERE OF, this General Contract has been duly executed by the above named parties, on the day and year as shown below.

DISTRICT:

MADERA UNIFIED SCHOOL DISTRICT

CONTRACTOR:

_____ Date _____

_____ Date _____

By: _____
Print Name

By: _____
Print name

CONTRACTOR'S CERTIFICATE
REGARDING WORKERS' COMPENSATION

Labor Code section 3700:

“Every employer except the State shall secure the payment of compensation in one or more of the following ways:

- a. By being insured against liability to pay compensation in one or more insurers duly authorized to write compensation insurance in this State.
 - b. By securing from the Director of Industrial Relations a certificate of consent to self-insure, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become do his employees.”
-

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of this contract.

NAME _____

TITLE _____

SIGNATURE _____

DATE _____

Attach copies of Certificates of Insurance issued by insurance companies if applicable.

(In accordance with Article 5 {commencing at Section 1860}, Chapter 1, Part 7, Division 2 of the Labor Code, the above certificate must be signed and filed with the awarding body prior to performing any work under this contract.)

CONTRACTOR CERTIFICATION REGARDING BACKGROUND CHECKS

_____ certifies that it has performed one of the following:
[Name of contractor/consultant]

- ☐ Pursuant to Education Code Section 45125.1, Contractor has conducted criminal background checks, through the California Department of Justice, of all employees providing services to the District, pursuant to the contract/purchase order dated _____, and that none have been convicted of serious or violent felonies, as specified in Penal Code Sections 1192.7(c) and 667.5(c), respectively.

As further required by Education Code Section 45125.1, attached hereto as Attachment "A" is a list of the names of the employees of the undersigned who may come in contact with pupils.

OR

- ☐ Pursuant to Education Code Section 45125.2, Contractor will ensure the safety of pupils by one or more of the following methods:
- ☐ 1) The installation of a physical barrier at the worksite to limit contact with pupils.
 - ☐ (2) Continual supervision and monitoring of all employees of the entity by an employee of the entity whom the Department of Justice has ascertained has not been convicted of a violent or serious felony.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct.

Date _____, 2015

[Name of Contractor/Consultant]

By its: _____

ATTACHMENT "A"

(INSERT NAMES OF EMPLOYEES WHO MAY COME IN CONTACT WITH PUPILS)

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____

ATTACHMENT "B"

Quantities of owner supplied materials required for the project completion. The project documents include product type, size, and product name for use in this section. This materials list must be included with the bid form for a complete responsive bid.

1. HPR Aqua Shield, 200 square feet per roll_____
2. Polyester Soft Reinforcement Mesh (6" x 150' roll)_____
3. Stressply Plus FR Mineral surface sheet (75 sq ft per roll)_____
4. Stressbase 80 Ply Sheet (150 sq ft per roll)_____
5. Flashing Bond Mastic (5 gal pail)_____
6. Tuff Stuff Urethane Sealant (10.1 oz tube)_____
7. Garla-Prime VOC (5 gal pail)_____
8. Garmesh (150' x 6")_____
9. Pyramic Acrylic Coating Base Coat (55 gal drum)_____
10. Pyramic Acrylic Coating Top Coat (55 gal drum)_____
11. WhiteKnight Urethane Coating (5 gallon pail)_____
12. Weatherking Plus WC Membrane Adhesive (5 gallon Pail) _____
13. Weatherking Flashing Adhesive (5 gallon pail)_____
14. R-Loc 18", 24 gauge, Standing Seam Metal Panel (Square Feet)_____
15. Field Clips, (100 Box)_____
16. Head Closures Trim (10' each)_____
17. Rivets, (1000 per bag)_____
18. Flat Stock 4' x 10' sheet, each _____
19. Freight to jobsite_____

CONTRACTOR'S QUALIFICATION STATEMENT

(For Non- Authorized installers of the Owner Supplied Materials or by request from Owner / Architect)

The undersigned certified under oath that the information provided herein is true and sufficiently complete so as not to be misleading.

Submitted to: _____

Submitted by: Firm Name: _____

Address: _____

Principal Office Location: _____

Qualification Statement Submitted for - Project Name

Type of Work:

Site Preparation	_____	General Construction	_____
Roofing	_____	Plumbing	_____
HVAC	_____	Sprinkler	_____
Electrical	_____	Other	_____

(File separate form for each classification of work)

Organization:

Please provide the following information concerning your organization:

Type of Entity:

Corporation _____
Partnership _____
Individual _____
Other _____

Name of Principal, Owners or Partners

<u>Name</u>	<u>Position</u>	<u>Years of Service with Organization</u>
-------------	-----------------	---

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Number of years this organization has been in business? _____

Have members of this organization operated under former names/businesses? If "yes," list name, type of entity and names of principal, owners or partners. Yes _____ No _____

Provide a brief description of the general type of construction the firm performs. Please indicate for this project the work you intend to subcontract or perform.

	<u>Perform</u>	<u>Subcontract</u>
Earth Work	_____	_____
Concrete Work	_____	_____
Masonry Work	_____	_____
Structural Work	_____	_____
Roofing Work	_____	_____
Sprinkler	_____	_____
Plumbing	_____	_____
HVAC	_____	_____
Electrical	_____	_____

Experience

Please list the type and number of educational projects your firm has constructed which were subject to the Owner Guidelines and other California regulatory agency construction requirements:

<u>Type</u>	<u>Number</u>
New Construction - Primary	_____
New Construction - Secondary	_____
Renovations - Primary	_____
Renovations - Secondary	_____

Please list on a separate sheet marked "Appendix A" the major construction projects your organization has in progress providing the name of project, owner, architect, contract amount, bonding company, insurance carrier, percentage complete and scheduled completion date.

Please list on a separate sheet marked "Appendix B" the major projects your organization has completed in the past five years, giving the name of project, owner, architect, contract amount, bonding company, date of completion and percentage of the cost of the work performed with your own forces.

Insurance and Bonds

Please list names of current insurance carrier and number of projects insured by carrier:

Please list names of bonding company/agent utilized for projects constructed during the last five years:

Claims and Suits

Has your organization ever failed to complete and construction work it has been awarded?

Yes____No____

Within the last five years, has any officer or principal of your organization ever been an officer or principal of another organization when it failed to complete a construction contract? (If the answer is yes, please describe in full.)

Yes____No____

Has there been in the last ten years, or is there now pending or threatened, any litigation, arbitration, investigation, or governmental or regulatory proceeding involving claims in excess of \$100,000 or requesting a declaratory judgment or injunctive relief with respect to the construction or operation of any building which your firm, its principals, predecessors or affiliates constructed?

Yes____No____

Are all city, county, state and Federal taxes of any type, including real estate, FICA and Workmen's Compensation paid to date?

Yes____No____

Is there any potential claim, demand, litigation, arbitration, investigation, governmental proceeding or regulatory proceeding involving your firm, or its principals, predecessors or affiliates? If the answer to either of the preceding questions is "Yes," please describe in full in an attachment.

Yes____No____

In addition to the litigation, arbitration, investigation or governmental or regulatory proceeding referred to in the preceding paragraphs, is there any litigation, arbitration, investigation or governmental or regulatory proceeding now pending or threatened to which your firm is or may be a party, or are you aware of any potential claim or demand, which might otherwise affect the capacity of your firm to perform with respect to your involvement with the Owner, whether or not it concerns other work which you have undertaken? If so, please describe in full.

Yes____No____

Bankruptcy

Has your firm, its principals, predecessors, or affiliates been the subject of any proceeding under the federal bankruptcy laws or any other proceedings under state or federal law in which a court or government agency has assumed jurisdiction over any of the assets or business of your firm, its principals, predecessors or affiliates? If so, please identify the proceedings, the court or governmental body and the date such jurisdiction was assumed in an attachment.

Yes____No____

Change Order History

Describe each instance within the last five (5) years where change orders applied for during construction amounted in the aggregate to more than five percent (5%) of the contract price for any building which your firm constructed, or in which actual construction costs exceeded the contract price by more than five percent (5%) in an attachment.

Financial Condition

Please attach your organizations' last two (2) years' financial statements including your latest balance sheet and income statement showing the following:

Current assets (e.g., cash, joint venture accounts, receivable, accrued income, deposits, materials inventory and prepaid expenses):

Net Fixed Assets:

Other Assets:

Current Liabilities (e.g., accounts payable, notes payable, accrued expenses, provision for income taxes, advances, accrued salaries and accrued payroll taxes): List all older than 60 days.

Other Liabilities (e.g., capital stock, authorized and outstanding shares per values, earned surplus and retained earnings):

Name and address of firm preparing attached financial statement and date thereof.

References

Please list below Trade References:

Please list below Bank References:

Authorized Signature

X_____

Print Name

X_____

Date

X_____

SECTION 01 11 00 – SUMMARY OF WORK

PART 1 — GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including the Conditions of the Contract and Division 01 Specification Sections apply to this Section.

1.2 SUMMARY

- A. Section includes modified bituminous roofing system.
- B. Related Work Specified Elsewhere:
 - 1. Section 06 - Rough Carpentry
 - 2. Section 07: Modified Built-up Roofing
 - 3. Section 07: Acrylic Coating
 - 4. Section 07: Metal Roofing
 - 5. Section 07: Sheet Metal Flashing and Trim
 - 6. Section 09: Painting

1.3 WORK COVERED BY CONTRACT DOCUMENTS

- A. Project Identification: Berenda Elementary School Reroofing Project, Bid # 141503
- B. Project Location(s):
 - 1. Berenda Elementary School 26820 Club Drive, Madera, CA 93637
- C. Owner: Madera Unified School District, 1902 Howard Road, Madera, CA 93637
- D. Work described in this section includes all labor, equipment, temporary facilities, and materials to install a complete roofing system complete with new perimeter and flashing details for a complete watertight roof system, including but not limited to;
 - 1. **Re-Coating at Equipment Wells & Breezeway -**
 - 2. Preparation of existing roof system for restoration.
 - 3. At equipment wells only - remove approximately 12” of built-up roofing membrane from the perimeter edge as part of the roof removal process.

4. Install new 2 ply SBS roofing system per specification section 07 52 00 to match the existing insulation size, type, and thickness approximately 18”to 24” back onto the existing roofing system.
5. Install new 24 gauge gravel stop and 22 gauge cleat flashing in the new SBS roofing system.
6. Repair all loose membrane at edge flashing and through field along with all details.
7. Repair and three course all blisters and repair all details per specification.
8. At breezeway’s only - cut existing roofing back from gravel stop edge 2”. Prime with garla prime voc allow to dry. Install one layer of silverflash mastic, apply one layer of garmesh 6” reinforcement, apply one more layer of silverflash mastic.
9. Pressure wash existing roofing system and allow to dry for 24 hours.
10. Install Pyramic Acrylic Coating per specification at a total rate of 4 gallons per square at equipment wells and breezeway’s.

11. Classrooms Composition Shingles

12. Includes removal and disposal of existing roofing system(s), insulation board, gutters, flashings, copings, etc. for a complete prepared roof surface.
13. Removal and disposal at designated areas of the existing composition shingle roofing system to the roof deck.
14. Replacement of all dryrot decking shall be done by per square foot or per lineal foot basis based on the existing decking. Costs are to be provided with the bid form. All dryrot which is found to be in need of replacement will need to be inspected by the district or the districts representative. Photos of before and after will need to be submitted with the billing.
15. Installation of one layer Aqua Shield Underlayment over the entire roof deck.
16. Install new 24 gauge pre finished drip edge metal to match existing size, type, and, color. Paint per specification section 09 91 00.
17. Install new lead flashings at all pipe penetrations.
18. Installation of new composition shingle roofing per specification section 07 31 01.

19. Equipment Screen Fences

20. Includes removal and disposal of existing roofing / wall system(s), insulation board, gutters, flashings, copings, etc. for a complete prepared wall surface.
21. Inspect the existing steel framing system for damage.

22. Install a rust-go primer to the existing steel framing system.
23. Install new 24 gauge kynar coated standing seam metal panels per specification section 07 41 00 to the existing framing system.
24. Frame one doorway per building, install metal panels, properly hinge, and make operable for access to the equipment well.
25. Install all new 24 gauge kynar coated trim flashing per manufacturer's instructions.

1.4 WORK COMPLETED BY THE DISTRICT

- A. No work will be completed by the district.

1.5 TYPE OF CONTRACT

- A. Work will be completed under a single prime contract.

1.6 USE OF PREMISES

- A. General: Contractor will have limited use of premises for construction operations.
- B. Use of site: Limit use of premises to work areas required. Do not disturb portions of the project site beyond areas in which the work is indicated.
 - A. The building interior is off limits to the contractor. All access shall be from the exterior.
 - B. The point of exterior access must be approved by the owner.
- C. Entrances: Keep all entrances serving the building clear and available to the owner, owner's employees, and emergency vehicles.
- D. Use of existing building: Maintain existing building in a weather tight condition throughout the construction period. Repair damage caused by construction operations. Protect building and occupants during construction.
- E. Vehicle Parking: Contractor parking is available on site and will need to be approved by the owner.
- F. Assume full responsibility for protection and safekeeping of materials stored on premises. Coordinate the location of materials and equipment to be stored on premises. Provide barricades, barriers, and enclosures as required to ensure safety.

1.7 OWNERS OCCUPANCY REQUIRMENTS

- A. The owner will occupy the building during the entire construction phase. Cooperate with the owner during construction operations to minimize owner conflicts and facilitate owner usage. Perform the work as to not interfere with owners operations.
- B. A minimum of 72 hours notice is needed for all activities that will affect the owners operations.

1.8 WORK RESTRICTIONS

- A. On site work hours: Work shall generally be performed from the hours of 7:00 am – 5:00 pm Monday through Friday except as otherwise indicated or approved by the owner.
 - 1. Weekend hours, early morning hours, utility shut down, and noisy activity requires owner's authorization a minimum of 72 hours in advance.

1.9 UNIT PRICES

- A. The following unit prices will be used to add or deduct from the total contract amount.
 - A. Unit-1 Replacement of dryrot wood roof decking, add a line items per square foot cost to proposal form.
 - B. Unit-2 Replacement of dryrot wood fascia board, add a line item per square foot cost to proposal form.

1.10 SCHEDULE OF ALTERNATES

- A. No alternates have been identified for this project.

1.11 PROJECT CONDITIONS

- A. Proceed with roofing work only when existing and forecasted weather conditions will permit a unit of work to be installed in accordance with manufacturer's recommendations and warranty requirements.
- B. Do not apply roofing insulation or membrane to damp deck surface.
- C. Do not expose materials subject to water or solar damage in quantities greater than can be weatherproofed during same day.

1.12 SEQUENCING AND SCHEDULING

- A. Sequence installation of roofing with related units of work specified in other sections to ensure that roof assemblies, including roof accessories, flashing, trim and joint sealers, are protected against damage from effects of weather, corrosion and adjacent construction activity.

- B. Complete all roofing field assembly work each day. Phased construction will not be accepted.

END OF SECTION 01 11 00 – SUMMARY OF WORK

26820 Club Dr, Madera, CA 93638, USA

Building 1, 2, 3, & 4 -

1. Classroom Composition Shingles
2. Equipment Screen Fences
3. Re Coating at Equipment Wells & Breezeway

SECTION 06 10 00 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification sections, apply to work of this section.
- B. Related work specified elsewhere:
 - 1. Division 01: Summary of Work
 - 2. Division 07: Built-up Roofing Restoration
 - 3. Division 07: Asphalt Shingle Roofing
 - 4. Division 07: Modified Built-up Roofing
 - 5. Division 07: Sheet Metal Flashing and Trim
 - 6. Division 09: Painting

1.2 SUMMARY:

- A. This portion of the specification sets forth the general requirements, including the quality and type of materials required for the installation of all pressure treated and non pressure treated lumber used for wood curbs, nailing strips, miscellaneous blocking material, unexposed fillers, fascia, edging strips, deck replacement, etc

1.3 STORAGE:

- A. All material specified herein shall be stored (after delivery to the site) so that it will be fully protected from damage and weather, and shall be stacked to prevent damage. All lumber shall be fully protected to maintain the original required moisture content as specified in item titled "Moisture Content".

1.4 OTHER REQUIREMENTS:

- A. Dimensions indicated on the drawings are nominal dimensions (except where details show actual sizes) and shall be subject to the standard reductions required for surfacing or tolerances permitted by the grading rules. Unless otherwise indicated on drawings, all material shall be S4S (surfaced four sides).

1.5 PROTECTION:

- A. All finished work shall be adequately protected against damage from any source.

1.6 COORDINATION:

- A. Carpenters shall coordinate their work with that of the other trades so that progress continues without interruption.

PART 2 - PRODUCTS

2.1 WOOD - FRAMING AND CURBS:

A. GRADING RULES, GRADES, AND SPECIES

- 1. Lumber: Southern Pine, yellow pine, Douglas fir, spruce, ponderosa pine, larch or Hemlock and shall meet the following minimum grade requirement of construction standard (75% #1 and 25% #2); free from warping and visible decay. Lumber shall be graded according to the standard grading rules of the Southern Pine Inspection Bureau, the West Coast Lumber Inspection Bureau, or the Western Wood Products Association.

B. MOISTURE CONTENT

- 1. All lumber shall be air-dried or kiln-dried before treatment, so that the moisture content is not more than 19%. After treatment, it shall be kiln-dried at temperatures not exceeding 160 degrees F. (71 degrees C) so that the moisture content is not more than 19% at time of shipment

C. DECAY-RESISTANT TREATMENT:

- 1. Lumber in contact with roofing or acting as fascias, and all other exterior lumber, shall be pressure-treated with a waterborne preservative in accordance with AWPAs Specification P5. Creosote and oil-borne preservatives are not acceptable.
- 2. Treating processes, material conditions, plant equipment, and other pertinent requirements shall conform to AWPAs Specifications C1 and C2 for specific kind of lumber and type of preservative to be used. Retention shall be as required for intended use.
- 3. All treated lumber shall bear the mark of a code recognized third party agency such as the AWPAs.

D. PLYWOOD:

Grade: CDX or Cyme exterior Grade. Description: 5/8" thick

E. WOOD SIDING:

1. T 111 or approved equal.

2.2 MECHANICAL FASTENERS:

A. WOOD TO STEEL:

1. Acceptable Manufacturers:
 - a. Roofgrip screw with Climaseal coating; plastic disc - Buildex Div. of ITW, Itasca, IL.
 - b. Dekfast screw with Sentri coating: plastic disc – Construction Fasteners, Inc., Wyomissing, PA.
 - c. Fabco Fastening Systems, West Newton, PA: Insul-Fixx screw with Fabcote coating; plastic plate, Plate-Fixx screw with Fabcote coat; plastic disc.
 - d. Kwik-Deck screw with Oxyseal coating; plastic disc - Atlas Bolt & Screw Div., Trans Union Fastener Corp., Ashland, OH.
 - e. Olympic #12-11 Standard Steel Deck Screw or #14-10 Heavy Duty All Purpose Screw with CR-10 coating; three inch diameter plastic - Olympic Manufacturing Group, Inc., Agawam, MA.
 - f. Glasfast (plastic disc) - Owens-Corning Fiberglas Corp., Toledo, OH.
 - g. Perma Fastener screw with permaseal coating; plastic plate - International Permalite, Inc., Oak Brook, IL.
2. Screw Length: Sufficient to engage steel, wood deck 1 inch.

B. WOOD TO WOOD:

1. Type: Galvanized, common, annular ring nail. Length: Sufficient to penetrate underlay blocking 1-1/4 inches.
2. Acceptable Manufacturers:
 - a. Hillwood Manufacturing Co., Cleveland, OH.
 - b. Independent Nail, Inc., Bridgewater, MA.
 - c. W.H. Maze Co., Peru, IL.
 - d. National Nail Corp., Grand Rapids, MI.

C. WOOD TO MASONRY:

1. Acceptable Manufacturers:

- a. Tapcon 1/4" diameter, Phillips pan head anchor - Buildex Div. of ITW, Itasca, IL.
- b. Confas - Construction Fasteners, Inc., Wyomissing, PA.
- c. Con-fixx - Fabco Fastening Systems, West Newton, PA.
- d. #14-10 Heavy Duty all Purpose Screw – Olympic Manufacturing Group, Inc., Agawam, MA.
- e. Tru-Fast fastener (stainless steel) - The Tru-Fast Corp., Bryan, OH.

2. Length: Sufficient to provide 1-1/2 inch embedment.

D. WOOD TO HOLLOW MASONRY:

1. Acceptable Manufacturers:

- a. Sleeve Anchor by Hilti Fastening Systems, Tulsa, OK.
- b. Rawly Hollow Masonry Anchor by the Rawlplug Co., Inc., New Rochelle, NY.

2. Length: As recommended by manufacturer

PART 3 - EXECUTION

3.1 CARPENTRY:

- A. At roof edge to receive metal fascia, around all roof top penetration perimeters, and under any flashing component that is to have a roof flange mechanically fastened to roofing substrate; mechanically attach wood blocking. Blocking thickness: Equal to common 1 x 4", 1 x 6" 2x4", 2x6", 2x8", 2x10", 2x12".
- B. Fasteners shall be installed in two rows staggered. Spacing in any one row shall not exceed 24 inches. Within eight feet of outside corners, spacing shall not exceed twelve inches in any one row.
- C. Where required, offset blocking layers twelve inches, weave corners.
- D. When preservative treated wood is cut, the cut end shall be treated in accordance with AWPAC Specification M4.
- E. Lumber shall be accurately cut to the work requirements and shall be well fastened.
- F. Bolted fastenings shall have washers of adequate size under both heads and nuts. Nails shall be of correct size and quantity for proper fastening. Oversized nails

that will result in splitting shall not be used. All fasteners shall be galvanized per ASTM A 153.

END OF SECTION

SECTION 07 31 01 – ASPHALT SHINGLE ROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes asphalt shingle roofing and related work as shown and specified.
- B. Removal and disposal of roofing system, insulation, flashings, scuppers, and associated debris for a complete prepared roof surface.
- C. Install specified underlayment per manufacturer's instructions.
- D. Install specified asphalt shingles per manufacturer's instructions.
- E. Install new 24 gauge 4" x 4" drip edge over cleat metal, paint per section 09.
- F. Install specified low profile dormer vents per manufacturer's instructions.
- G. Related Sections include the following:
 - 1. Section 01 – Summary of Work
 - 2. Section 06 – Rough Carpentry
 - 3. Section 07 – Modified Bitumen Roofing
 - 4. Section 07 – Sheet Metal Flashing and Trim
 - 5. Section 09 – Painting

1.3 DEFINITIONS

- A. Roofing Terminology: Refer to ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" for definitions of terms related to roofing work in this Section.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for Initial Selection: For each type of asphalt shingle, ridge and hip cap shingles ridge vent and exposed valley lining indicated.
 - 1. Include similar Samples of trim and accessories involving color selection.
- C. Samples for Verification: For the following products, of sizes indicated, to verify color selected.
 - 1. Asphalt Shingle: Full-size asphalt shingle strip.
 - 2. Ridge and Hip Cap Shingles: Full-size ridge and hip cap asphalt shingle.
 - 3. Ridge Vent: 12-inch- (300-mm-) long Sample.
 - 4. Exposed Valley Lining: 12 inches (300 mm) square.
 - 5. Self-Adhering Underlayment: 12 inches (300 mm) square.
- D. Qualification Data: For Installer, including certificate signed by asphalt shingle manufacturer stating that Installer is approved, authorized, or licensed to install roofing system indicated.
- E. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency or by manufacturer and witnessed by a qualified testing agency, for asphalt shingles.
- F. Maintenance Data: For asphalt shingles to include in maintenance manuals.
- G. Warranties: Special warranties specified in this Section.

1.5 **QUALITY ASSURANCE**

- A. Source Limitations: Obtain specified products as required from warranting manufacturer as outlined in the specifications.
- B. Fire-Test-Response Characteristics: Provide asphalt shingle and related roofing materials with the fire-test-response characteristics indicated, as determined by testing identical products per test method below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.
 - 1. Exterior Fire-Test Exposure: Class A; ASTM E 108 or UL 790, for application and roof slopes indicated.
- C. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."

D. **MANUFACTURER'S INSPECTIONS**

- A. When the project is in progress, the manufacturer will provide the following:

1. Keep the Owner informed as to the progress and quality of the work as observed.
2. Provide job site inspections two (2) days per week during installation.
3. Report to the Owner in writing any failure or refusal of the Contractor to correct unacceptable practices called to the Contractor's attention.
4. Confirm after completion that manufacturer has observed no applications procedures in conflict with the specifications other than those that may have been previously reported and corrected.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store roofing materials in a dry, well-ventilated, weather-tight location according to asphalt shingle manufacturer's written instructions. Store underlayment rolls on end on pallets or other raised surfaces. Do not double-stack rolls.
 1. Handle, store, and place roofing materials in a manner to avoid significant or permanent damage to roof deck or structural supporting members.
- B. Protect unused underlayment from weather, sunlight, and moisture when left overnight or when roofing work is not in progress.

1.7 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit asphalt shingle roofing to be performed according to manufacturer's written instructions and warranty requirements.
 1. Install self-adhering sheet underlayment within the range of ambient and substrate temperatures recommended by manufacturer.

1.8 WARRANTY

- A. Material Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace asphalt shingles that fail in materials or workmanship within specified warranty period. Materials failures include manufacturing defects and failure of asphalt shingles to self-seal after a reasonable time.
 1. Material Warranty Period: 30 years
 2. Wind-Speed Warranty Period: Asphalt shingles will resist blow-off or damage caused by wind speeds up to 130 mph.
 3. Algae-Discoloration Warranty

- B. **Installer Warranty:** Roofing Installer's warranty, on warranty form at end of this Section, signed by roofing Installer, covering Work of this Section, in which roofing Installer agrees to repair or replace components of asphalt shingle roofing that fail in materials or workmanship within the following warranty period:

- 1. **Warranty Period:** Two (2) years from date of Substantial Completion.

1.9 **EXTRA MATERIALS**

- A. **Furnish extra materials** described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

- 1. **Asphalt Shingles:** 100 sq. ft of each type, in unbroken bundles.

PART 2 - PRODUCTS

2.1 **MANUFACTURERS**

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:

- 1. **Available Products:** Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products specified.

2.2 **GLASS-FIBER-REINFORCED ASPHALT SHINGLES**

- A. **Laminated-Strip Asphalt Shingles:** ASTM D 3462, laminated, multi-ply overlay construction, glass-fiber reinforced, mineral-granule surfaced, and self-sealing.

- 1. **Available Products:**
 - a. **GAF Materials Corporation – Timberline Ultra**
 - 2. **Butt Edge:** Straight cut.
 - 3. **Strip Size:** Manufacturer's standard.
 - 4. **Algae Resistance:** Granules treated to resist algae discoloration.
 - 5. **Color and Blends:** Match Architect's samples.

- B. **Hip and Ridge Shingles:** Manufacturer's standard units to match asphalt shingles.

2.3 **UNDERLAYMENT MATERIALS**

- A. **Self-Adhering Sheet Underlayment, Granular Surfaced:** ASTM D 1970, minimum of 60-mil-thick sheet; glass-fiber-mat-reinforced, SBS-modified asphalt; mineral-granule

surfaced; with release paper backing; cold applied. Provide primer for adjoining concrete or masonry surfaces to receive underlayment.

1. As recommended by:
 - a. The Garland Company, Inc. – HPR Aqua Shield

2.4 VENTS

- A. Vent: Manufacturer's standard low profile dormer vent.
 1. Available Products:
 - a. CMI, Construction Metals, low profile attic vent or equal.

2.5 ACCESSORIES

- A. Asphalt Roofing Cement: ASTM D 4586, Type II, asbestos free.
- B. Roofing Nails: ASTM F 1667; aluminum, stainless-steel, copper, or hot-dip galvanized steel wire shingle nails, minimum 0.120-inch- (3-mm-) diameter, barbed shank, sharp-pointed, with a minimum 3/8-inch- (9.5-mm-) diameter flat head and of sufficient length to penetrate 3/4 inch (19 mm) into solid wood decking or extend at least 1/8 inch (3 mm) through OSB or plywood sheathing.
 1. Where nails are in contact with metal flashing, use nails made from same metal as flashing.
- C. Underlayment Nails: Aluminum, stainless-steel with low profile capped heads or disc caps, 1-inch (25-mm) minimum diameter.

2.6 METAL FLASHING AND TRIM

- A. Sheet Metal Flashing and Trim: Comply with requirements in Division 7 Section "Sheet Metal Flashing and Trim."
 1. Sheet Metal:
- B. Fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item.
 1. Step Flashings: Fabricate with a headlap of 2 inches (50 mm) and a minimum extension of 5 inches (125 mm) over the underlying asphalt shingle and up the vertical surface.

2. Cricket Flashings: Fabricate with concealed flange extending a minimum 24 inches (600 mm) beneath upslope asphalt shingles and 6 inches (150 mm) above the roof plane.
 3. Open Valley Flashings: Fabricate in lengths not exceeding [10 feet (3 m)] with 1-inch- (25-mm-) high inverted-V profile at center of valley and equal flange widths of 10 inches (250 mm).
 4. Drip Edges: Fabricate in lengths not exceeding [10 feet (3 m)] with 2-inch (50-mm) roof deck flange and 1-1/2-inch (38-mm) fascia flange with 3/8-inch (9.6-mm) drip at lower edge.
- C. Vent Pipe Flashings: ASTM B 749, Type L51121, at least 1/16 inch (1.6 mm) thick. Provide lead sleeve sized to slip over and turn down into pipe, soldered to skirt at slope of roof and extending at least 4 inches (100 mm) from pipe onto roof.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.
1. Examine roof sheathing to verify that sheathing joints are supported by framing and blocking or metal clips and that installation is within flatness tolerances.
 2. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and completely anchored; and that provision has been made for flashings and penetrations through asphalt shingles.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 UNDERLAYMENT INSTALLATION

- A. Self-Adhering Sheet Underlayment: Install self-adhering sheet underlayment, wrinkle free, on roof deck. Comply with low-temperature installation restrictions of underlayment manufacturer if applicable. Install over the entire roof area, lapped in direction to shed water. Lap sides not less than 3-1/2 inches (89 mm). Lap ends not less than 6 inches (150 mm) staggered 24 inches (600 mm) between courses. Roll laps with roller. Cover underlayment within seven days.
1. Prime concrete and masonry surfaces to receive self-adhering sheet underlayment.
 2. Eaves: Extend from edges of eaves 36 inches beyond interior face of exterior wall.
 3. Rakes: Extend from edges of rake 36 inches beyond interior face of exterior wall.
 4. Valleys: Extend from lowest to highest point 18 inches on each side.
 5. Hips: Extend 18 inches on each side.

6. Ridges: Extend 36 inches on each side.
 7. Sidewalls: Extend beyond sidewall 18 inches and return vertically against side-wall not less than 4 inches
 8. Dormers, Chimneys, Skylights, and other Roof-Penetrating Elements: Extend beyond penetrating element 18 inches and return vertically against penetrating element not less than 4 inches.
 9. Roof Slope Transitions: Extend 18 inches on each roof slope.
- B. Metal-Flashed Open Valley Underlayment: Install one layers of 36-inchwide self-adhering underlayment centered in valley. Stagger end laps between layers at least 72 inches. Lap ends of each layer at least 12 inches in direction to shed water, and seal with asphalt roofing cement. Fasten each layer to roof deck with roofing nails.
1. Lap roof deck felt underlayment over first layer of valley felt underlayment at least 6 inches.

3.3 METAL FLASHING INSTALLATION

- A. General: Install metal flashings and other sheet metal to comply with requirements in Division 7 Section "Sheet Metal Flashing and Trim."
1. Install metal flashings according to recommendations in ARMA's "Residential Asphalt Roofing Manual" and asphalt shingle recommendations in NRCA's "The NRCA Roofing and Waterproofing Manual."
- B. Apron Flashings: Extend lower flange over and beyond each side of downslope asphalt shingles and up the vertical surface.
- C. Step Flashings: Install with a headlap of 2 inches and extend over the underlying asphalt shingle and up the vertical surface. Fasten to roof deck only.
- D. Cricket Flashings: Install against the roof-penetrating element extending concealed flange beneath upslope asphalt shingles and beyond each side.
- E. Open Valley Flashings: Install centrally in valleys, lapping ends at least 8 inches in direction to shed water. Fasten upper end of each length to roof deck beneath overlap.
1. Secure hemmed flange edges into metal cleats spaced 2 inches apart and fastened to roof deck.
- F. Rake Drip Edges: Install rake drip edge flashings over underlayment and fasten to roof deck.
- G. Eave Drip Edges: Install eave drip edge flashings below underlayment and fasten to roof sheathing.
- H. Pipe Flashings: Form flashing around pipe penetrations and asphalt shingles. Fasten and seal to asphalt shingles as recommended by manufacturer.

3.4 ASPHALT SHINGLE INSTALLATION

- A. Install asphalt shingles according to manufacturer's written instructions, recommendations in ARMA's "Residential Asphalt Roofing Manual," and asphalt shingle recommendations in NRCA's "The NRCA Roofing and Waterproofing Manual."
- B. Install starter strip along lowest roof edge, consisting of an asphalt shingle strip with tabs removed with self-sealing strip face up at roof edge.
 - 1. Extend asphalt shingles 1/2 inch over fascia at eaves and rakes.
 - 2. Install starter strip along rake edge.
- C. Install first and remaining courses of asphalt shingles stair-stepping diagonally across roof deck with manufacturer's recommended offset pattern at succeeding courses, maintaining uniform exposure.
- D. Fasten asphalt shingle strips with a minimum of five roofing nails located according to manufacturer's written instructions.
 - 1. When ambient temperature during installation is below 50 deg F, seal asphalt shingles with asphalt roofing cement spots.
- E. Closed-Cut Valleys: Extend asphalt shingle strips from one side of valley 12 inches beyond center of valley. Use one-piece shingle strips without joints in the valley. Fasten with extra nail in upper end of shingle. Install asphalt shingle courses from other side of valley and cut back to a straight line 2 inches short of valley centerline. Trim upper concealed corners of cut-back shingle strips.
 - 1. Do not nail asphalt shingles within 6 inches of valley center.
 - 2. Set trimmed, concealed-corner asphalt shingles in a 3-inch-wide bed of asphalt roofing cement.
- F. Vents: Install vents over within the asphalt shingle roofing system according to manufacturer's written instructions. Fasten with roofing nails of sufficient length to penetrate sheathing. Install vents at the eave and ridge as needed to promote proper air flow and meet the current building code in regards to attic venting.
- G. Ridge and Hip Cap Shingles: Maintain same exposure of cap shingles as roofing shingle exposure. Lap cap shingles at ridges to shed water away from direction of prevailing winds. Fasten with roofing nails of sufficient length to penetrate sheathing.

3.5 OWNER SUPPLIED MATERIALS

- A. Contractor must submit all quantities of owner supplied materials; per the list supplied below required to complete the project per specification section 07 31 01 with their bid.
1. Contractor must provide all labor and incidental materials to install owner supplied materials as part of their bid.
 2. All materials not specifically included in the owner supplied materials section will be the responsibility of the contractor to provide and install in compliance with section 07 31 01.
 3. Contractor must provide an accurate list of owner supplied materials to the Owner, overages will be returned to the owner and under estimated quantities will be the full responsibility of the contractor to supply and install in full compliance with this section.
 4. Freight charges of owner supplied materials will be the responsibility of the owner. Contractor must take delivery of materials, properly protect, cover and store at jobsite.
 5. Contractor must be able to provide certification in writing from roof system manufacturer that the contractor is approved to install the specified roof system and provide all warranty requirements of section 07 31 01.
- B. Materials specifically provided by the Owner;
- HPR Aqua Shield SA Underlayment (200 sq ft per roll)
 - Flashing Bond Mastic (5 gal pail)
 - Garmesh (150' x 6")
 - Rust-Go Primer
 - Freight to jobsite

END OF SECTION

SECTION 07 41 00.003 - MANUFACTURED METAL ROOF PANELS

PART 1 — GENERAL

1.1 RELATED DOCUMENTS

- A.** Drawings and general provisions of the Contract, including the Conditions of the Contract and Division 01 Specification Sections apply to this section.

1.2 SUMMARY

- A.** Section includes pre-formed metal roof system complete with perimeter and flashing details.
 - a. This Section includes metal roofing and related work as shown, specified, and discussed at mandatory pre bid meeting.
 - b. Removal and disposal of roofing system, underlayment, insulation, flashings, scuppers, and associated debris for a complete prepared roof surface.
 - c. Install new standing seam metal roofing system and associated flashing to match existing construction for a complete watertight roof assembly.
- B.** Related Sections:
 - 1. Refer to General Conditions Section Price and Payment Procedures for requirements related to unit prices, measurement, and payment.
 - 2. Division 07 Section Reroof Preparation.
 - 3. Division 07 Section Modified Bituminous Membrane Roofing.
 - 4. Division 07 Section Sheet Metal Flashing and Trim

1.3 REFERENCES

- A.** American Iron and Steel Institute (AISI):
 - 1. Specification for the Design of Cold-Formed Steel Structural Members.
- B.** American Society of Civil Engineers (ASCE):
 - 1. ASCE 7-05 Minimum Design Loads for Buildings and Other Structures.
- C.** American Society for Testing and Materials (ASTM):
 - 1. ASTM A792 Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.

2. ASTM A875 Specification for Steel Sheet, Zinc-5% Aluminum Alloy-Coated by the Hot Dip Process.
 3. ASTM B209 Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
 4. ASTM D1056 Specification for Flexible Cellular Materials - Sponge or Expanded Rubber.
 5. ASTM D3575 Test Methods for Flexible Cellular Materials made from Olefin Polymers.
 6. ASTM E283 Standard Test Method for Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
 7. ASTM E331 Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
 8. ASTM E1592 Standard Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference.
 9. ASTM E1646 Standard Test Method for Water Penetration of Exterior Metal Roof Panel Systems by Uniform Static Air Pressure Difference.
 10. ASTM E1680 Standard Test Method for Rate of Air Leakage Through Exterior Metal Roof Panel Systems.
- D.** Sheet Metal and Air Conditioning Contractors National Association (SMACNA):
1. Architectural Sheet Metal Manual.
- E.** Underwriters' Laboratories (UL):
1. UL-263 Fire Tests of Building Constructions and Materials.
 2. UL-580 Tests for Uplift Resistance of Roof Assemblies.
 3. UL-790 Tests for Fire Resistance of Roof Covering Materials.

1.4 SUBMITTALS FOR REVIEW

- A.** Shop Drawings showing layout of every roof panel and structural supporting member required in the installation with side laps and end laps marked within 1% deviation of their actual location.
1. Provide details for edge conditions, seams, joints, corners, panel profiles, assembly anchoring techniques, round and square flashings and counter flashings.

- B.** Samples illustrating thickness, finish, color and textures of materials.
- C.** Product Data: Include manufacturer's detailed material and system description, panel and field seam installation instructions, engineering performance and finish specifications. Indicate hat channel and fastener spacing.
- D.** Specimen Warranty: Provide an unexecuted copy of the warranty specified for this Project, identifying the terms and conditions required of the Manufacturer and the Owner.
- E.** Any material submitted as equal to the specified material must be accompanied by a report signed and sealed by a professional engineer licensed in the state in which the installation is to take place. This report shall show that the submitted equal meets the Design and Performance criteria in this specification. Substitution requests submitted without licensed engineer approval will be rejected for non-conformance.

1.5 SUBMITTALS FOR INFORMATION

- A.** Design and Test Reports: Provide the following certified test reports from an independent testing laboratory:
 - 1.** Independent laboratory testing report for system design load and seam integrity.
 - 2.** Professional engineer's documentation that roofing system incorporates sufficient allowance for stress and movement.
 - 3.** A letter from an officer of the manufacturing company certifying that the materials furnished for this project are the same as represented in tests and supporting data.
 - 4.** Manufacturer's verifications that the panels are factory roll formed.
 - 5.** ASTM E1592: Test results must clearly demonstrate compliance with the following requirements:
 - a.** The ultimate test failure load shall be reduced by the safety factor specified in article 1.9 to determine the allowable working load for the panel system.
 - b.** The proposed system has been tested to insure that the allowable working load of the panel system meets or exceeds the specified negative wind uplift pressures listed in article 1.9 of this specification for all roof zones.
 - c.** The test results are applicable for the thickness, width, and profile specified. Results are not applicable for systems that are thicker or wider than the system which was tested. If the tested material was not the specialty material specified herein (for instance, the tested material was galvalume steel), then the test results shall be reduce by the ratio of the yield strength (F_y) of the specified material to the tested material.

- d.** The results must clearly show that the allowable clip spacing meets or exceeds the requirements specified in article 3.3 C for all roof areas. Clip spacing shall not be reduced for any roof zone from that which is specified.
- 6.** ASTM E283 and E331: Test results must clearly demonstrate compliance with the performance requirements specified in article 1.9.
- 7.** ASTM E1646 and E1680: Test results must clearly demonstrate compliance with the performance requirements specified in article 1.9. Results are not applicable for systems that are thinner, wider, lower grade, or different material/profile than the system which was tested. The differential test pressures must be identical to those specified in article 1.9.
- 8.** UL 580: The proposed roof panel shall be listed as UL 580, Class 1-90.
- 9.** UL 790: The proposed roof panel shall be listed as a non-combustible roof covering material and be approved for use in a UL classification assembly.
- 10.** UL 263: The proposed roof panel shall be listed for use in a UL fire rated construction assembly.
- B.** Mill production reports certifying that the steel thicknesses are within allowable tolerances of the nominal or minimum thickness or gauge specified.
- C.** Design Loads: Submit copy of manufacturer's minimum design load calculations according to ASCE 7-10, Method 2 for Components and Cladding. In no case shall the design loads be taken to be less than those detailed in Design and Performance Criteria article.
- D.** Qualification Data for Roofing Installer. Refer to Quality Assurance Article below.
- E.** Certification of work progress inspection frequency. Refer to Quality Assurance Article below.
- F.** Pre-installation Roofing Conference Proceedings. Refer to Quality Assurance Article below.
- G.** Test Reports: Submit third party validation of environmental claims, prepared UL Environment, for all metal roof panels containing recycled content and/or bio based content.

1.6 CONTRACT CLOSEOUT SUBMITTALS

- A.** General: Comply with Requirements of Division 01 Section Closeout Submittals.
- B.** Special Project Warranty: Provide specified warranty for the Project, executed by the authorized agent of the Manufacturer.

- C.** **Roofing Maintenance Instructions:** Provide a manual of manufacturer's recommendations for maintenance of installed roofing systems.
- D.** **Insurance Certification:** Assist Owner in preparation and submittal of roof installation acceptance certification as may be necessary in connection with fire and extended coverage insurance on roofing and associated work.
- E.** **Demonstration and Training Schedule:** Provide a schedule of proposed dates and times for instruction of Owner's personnel in the maintenance requirements for completed roofing work. Refer to Part 3 for additional requirements.

1.7 QUALITY ASSURANCE

- A.** **Installer Qualifications:** Engage an Installer who has completed the Manufacturer's Approved Roofing Contractor course and is currently certified for the installation of this roof system.
- B.** If required, fabricator/installer shall submit work experience and evidence of adequate financial Responsibility. The Owner's representative reserves the right to inspect fabrication facilities in determining qualifications.
- C.** **Source Limitations:** Obtain all components of roof system from a single manufacturer, including roll goods materials if required. Secondary products that are required shall be recommended and approved in writing by the roofing system Manufacturer.
 - 1.** Upon request of the Architect or Owner, submit Manufacturer's written approval of secondary components in list form, signed by an authorized agent of the Manufacturer.
 - 2.** Manufacturer shall have direct authority and control over all fabrication of steel components as well as the raw materials used in their fabrication.
- D.** **Source Quality Control:** Manufacturer shall have in place a documented, standardized quality control program such as ISO-9001 approval.
- E.** Engage the Manufacturer's Field Representative to conduct required periodic inspections of work in progress as described herein and shall furnish written documentation of all such inspections.
- F.** Manufacturer shall provide the Owner project with a written statement that they will provide a site inspection two (2) day's per week that confirms that the project is being constructed as specified, by an experienced, full time employee of the company.
- G.** **Alternate Manufacturers:** The following manufacturer criteria must be submitted. Alternate systems will not be considered for approval unless each of these items has been submitted for review at least 10 business days prior to bid opening:

1. Submit each item listed in article 1.4 (A through E) for evaluation of the proposed system.
2. Tests shall have been made for identical systems within the ranges of specified performance criteria.
3. Empirical calculations for roof performance shall only be acceptable for positive loads.
4. A list of a minimum of five (5) jobs where the proposed alternate material was used under similar conditions. The reference list shall include date of project, size of project, project address, and telephone number of architect/owner contact.
5. A financial statement demonstrating a minimum of a 3:1 ratio of assets to liabilities.
6. A written statement from the manufacturer stating that they will provide the building owner with a daily site inspection for a minimum of one (1) hour per day by an experienced, full time employee of the company.
7. A written statement from the manufacturer stating that they will provide the engineer of record with a daily site inspection by an experienced full time employee of the company.
8. A written statement from a corporate officer of the manufacturing company stating that he or she has reviewed the specifications and confirms that the proposed system meets or exceeds all performance requirements listed as well as meets the panel size, gauge, weight, clip design, sealant design, uplift pressures and height of the vertical seam
9. A copy of manufacturer's 30 year warranty. Warranty must include coverage for all trim, flashing, and penetrations associated with this roof.
10. Proof that the manufacturer has been in business for a minimum number of years equal to the warranty period required for this project.

1.8 PRE-INSTALLATION CONFERENCE

- A.** Convene a pre-roofing conference approximately two (2) weeks before scheduled commencement of roofing system installation and associated work.
- B.** Require attendance of installer of each component of associated work, installers of deck or substrate construction to receive roofing work, installers of rooftop units and other work in and around roofing which must precede or follow roofing work (including mechanical work if any), Architect, Owner, roofing system manufacturer's representative, and other representatives directly concerned with performance of the Work, including (where applicable) Owner's insurers, testing agencies and governing authorities.

- C.** Objectives of conference to include:
- 1.** Review foreseeable methods and procedures related to roofing work, including set up and mobilization areas for stored material and work area.
 - 2.** Tour representative areas of roofing substrates (decks); inspect and discuss condition of substrate, roof drains, curbs, penetrations and other preparatory work performed by others.
 - 3.** Review structural loading limitations of deck and inspect deck for loss of flatness and for required attachment.
 - 4.** Review roofing system requirements (drawings, specifications and other contract documents).
 - 5.** Review required submittals both completed and yet to be completed.
 - 6.** Review and finalize construction schedule related to roofing work and verify availability of materials, installer's personnel, equipment and facilities needed to make progress and avoid delays.
 - 7.** Review required inspection, testing, certifying and material usage accounting procedures.
 - 8.** Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions, including possibility of temporary roofing (if not mandatory requirement).
 - 9.** Record discussion of conference including decisions and agreements (or disagreements) reached. Furnish a copy of records to each party attending. If substantial disagreements exist at conclusion of conference, determine how disagreements will be resolved and set date for reconvening conference.
 - 10.** Review notification procedures for inclement weather or non-working days.
- D.** The Owner's Representative will designate one of the conference participants to record the proceedings and promptly distribute them to the participants for record.
- E.** The intent of the conference is to resolve issues affecting the installation and performance of roofing work. Do not proceed with roofing work until such issues are resolved the satisfaction of the Owner and Engineer of Record. This shall not be construed as interference with the progress of Work on the part of the Owner or Engineer of Record.

1.9 DELIVERY, STORAGE, AND HANDLING

- A.** Manufacturer's responsibilities:

1. All roof panels shall be shipped from the manufacturer with strippable film or similar packaging material separating the individual panels to minimize flexing, stressing, scratching or otherwise damaging the material during transit to the job.
 2. Fully cover steel with tarpaulins or similar protective cover during transit to prevent dirt and debris from coming in contact with the finished goods.
- B.** Installer's responsibilities:
1. Stack pre-finished materials to prevent twisting, bending, abrasion and denting and elevate one end to facilitate moisture run-off.
 2. Unload roof panels using a boom or crane, supporting the panels in at least two locations during lifting, and never lift more than three panels at a time.
 3. Protect moisture-sensitive materials and water-based from the weather.
 4. Inspect materials upon delivery. Reject and remove physically damaged or marred material from project site.

1.10 PROJECT CONDITIONS

- A.** Determine that work of other trades will not hamper or conflict with necessary fabrication and storage and protection requirements for roofing system.
1. Protection:
 - a. Protect completed roofing from subsequent construction operations. Comply with Manufacturer's recommendations.
 - b. Do not overload roof with stored materials.
 - c. Support no roof-mounted equipment directly on the roofing system.
- B.** Ascertain that work of other trades which penetrates the roof or is to be made watertight by the roof is in place and approved prior to installation of roofing.

1.11 DESIGN AND PERFORMANCE CRITERIA

- A.** Thermal Expansion and Contraction.
1. Completed metal roofing and flashing system shall be capable of withstanding expansion and contraction of components caused by changes in temperature without buckling, producing excess stress on structure, anchors or fasteners, or reducing performance ability.
 2. The design temperature differential shall be not less than 200 °F.

3. Interface between panel and clip shall provide for unlimited thermal movement in each direction along the longitudinal direction.
 4. Location of metal roofing rigid connector shall be at roof ridge unless otherwise approved by the Project Architect. Metal ridge connector may require design as per job conditions by specified manufacturer.
- B.** Uniform Wind Uplift Load Capacity.
1. Installed roof system shall withstand negative (uplift) design wind loading pressures complying with the following criteria. Anchor clips shall be installed exactly as spacing given in Part 3.
 - a. Design Code: ASCE 7-10, Method 2 for Components and Cladding.
 2. Capacity shall be determined using pleated airbag method in accordance with ASTM E 1592, testing of sheet metal roof panels. Allowable safe working loads shall be determined by dividing the ultimate test load by the safety factor specified above. In order to comply with the building code, panel system must be tested to withstand these listed pressures at clip spacing no closer than those listed in Part 3.
- C.** Uniform Positive Load Capacity:
1. The installed roof system shall be capable of resisting the following positive uniform roof loads: Roof Live Load of 20 psf.; Roof Snow Load of n/a psf.
 2. Capacity to resist positive loads shall be determined by empirical calculations in accordance with AISI. Calculation shall be sealed by a registered professional engineer.
 3. Installed roof system shall carry positive uniform design loads with a maximum system deflection of L/180 as measured at the rib (web) of the panel.
- D.** Underwriters' Laboratories, Inc., (UL) fire resistance P ratings for roof assemblies: If applicable, panel system shall be approved for use in an appropriate Construction Assembly, as defined by UL 263.
- E.** Underwriters' Laboratories, Inc., (UL), wind uplift resistance classification: Roof assembly shall be classified as Class 1-90, as defined by UL 580.
- F.** Underwriters' Laboratories, Inc., (UL) Class A fire rating per UL 790.
- G.** ASTM E283: Static pressure air infiltration (doors, windows, curtain walls):
1. Pressure Leakage Rate:
 - a. 6.24 PSF 0.006 cfm/sq.ft.

- b.** 12.0 PSF 0.012 cfm/sq.ft.
 - c.** 15.0 PSF 0.015 cfm/sq.ft.
 - H.** ASTM E331: Static pressure water infiltration (doors, windows, curtain walls):
 - 1.** Pressure Result:
 - a.** 5 Gal/Hr per S.F. and Static No Leakage
 - b.** Pressure of 20.0 Psf. for 15 minutes
 - I.** ASTM E1680: Static pressure air infiltration (roof panels):
 - 1.** Pressure Leakage Rate:
 - a.** 1.57 PSF 0.0054 cfm/sq.ft.
 - b.** 6.24 PSF 0.0054 cfm/sq.ft.
 - c.** 20.0 PSF 0.0027 cfm/sq.ft.
 - J.** ASTM E1646: Static pressure water infiltration (roof panels):
 - 1.** Pressure Result:
 - a.** 5 Gal/Hr per S.F. and Static No Leakage
 - b.** Pressure of 20.0 Psf. for 15 minutes
 - K.** Capacities for gauge, span, or loading other than those tested may be determined by interpolation of test results within the range of test data. Extrapolation for conditions outside the test range is not acceptable.

1.12 MANUFACTURER'S INSPECTIONS

- A.** When the project is in progress, the roofing system manufacturer will provide the following:
 - 1.** Keep the Architect or Owner informed as to the progress and quality of the work as observed.
 - 2.** Provide job site inspections a minimum of two (2) days per week.
 - 3.** Report to the Architect in writing any failure or refusal of the Contractor to correct unacceptable practices called to the Contractor's attention.

4. Confirm after completion that manufacturer has observed no applications procedures in conflict with the specifications other than those that may have been previously reported and corrected.

1.13 WARRANTIES

- A. Owner shall receive one (1) warranty from manufacturer of roof panels covering all of the following criteria. Multiple warranties are unacceptable.
 1. Manufacturer's thirty (30) year watertight warranty, including coverage for all trim, flashings, and penetrations associated with the standing seam roof area.
 2. Twenty (20) year coverage on finish including checking, crazing, peeling, chalking, fading and/or adhesion.
 3. Twenty (20) year material coverage.
 4. Warranty shall commence on date of substantial completion or final payment, whichever is agreed by contract.
 5. Installer shall provide manufacturer with two (2) year warranty covering roofing system installation and watertightness.
 6. One manufacturer shall provide a single warranty for standing seam roof areas, membrane roof areas, and transitions between the two material types.

PART 2 — PRODUCTS

2.1 PRODUCTS, GENERAL

- A. Refer to Division 01 Section "Common Product Requirements."
- B. Basis of Design: Materials, manufacturer's product designations, and/or manufacturer's names specified herein shall be regarded as the minimum standard of quality required for work of this Section. Comply with all manufacturer and contractor/fabricator quality and performance criteria specified in Part 1.
- C. Substitutions: Products proposed as equal to the products specified in this Section shall be submitted in accordance with Bidding Requirements and Division 01 provisions.
 1. Proposals shall be accompanied by a copy of the manufacturer's standard specification section. That specification section shall be signed and sealed by a professional engineer licensed in the state in which the installation is to take place. Substitution requests containing specifications without licensed engineer certification shall be rejected for non-conformance.
 2. Include a list of three (3) projects of similar type and extent, located within a one hundred mile radius from the location of the project. In addition, the three projects

must be at least five (5) years old and be available for inspection by the Architect, Owner or Owner's Representative.

3. Equivalency of performance criteria, warranty terms, submittal procedures, and contractual terms will constitute the basis of acceptance.
4. The Owner's decision regarding substitutions will be considered final. Unauthorized substitutions will be rejected.

2.2 ACCEPTABLE MANUFACTURERS

- A.** The design is based upon roofing systems engineered and manufactured by

The Garland Company
3800 East 91st Street
Cleveland, Ohio 44105
Telephone: (800) 762-8225 ext. 720
Local Representative: Richard Jones
Website: www.garlandco.com

2.3 STANDING SEAM ROOFING SYSTEM

- A.** General.

1. Basis of Design: R-MER Loc System manufactured by the Garland Company, Cleveland, OH.

- B.** Materials.

1. Panel material: 24 ga, Galvalume steel, type AZ-55 smooth as per ASTM A792-96.
2. Flashing and flat stock material: Fabricate in profiles indicated on drawings of same material, thickness, and finish as roof system, unless indicated otherwise.

- C.** Finish on surfaces:

1. Exposed surfaces for coated panels:
 - a. Two coat coil applied, baked-on full-strength (70% resin) fluorocarbon coating system (polyvinylidene fluoride, PVF2), applied by manufacturer's approved applicator.
 - b. Coating system shall provide nominal 1.0 mil dry film thickness, consisting of primer and color coat.
 - c. Color shall be GARLAND standard selection color classification].

2. Unexposed surfaces for coated panels shall be baked-on polyester coating with .20 - .30 dry film thickness (DFT).

D. Characteristics:

1. Panels shall be factory roll-formed from specified metal. Field rolled panels are unacceptable.
2. Provide the same panel profile from a single manufacturer for all standing seam roof areas.
3. Provide interlocking standing seam panels incorporating concealed anchor clips allowing unlimited thermal movement. Snap-on separate seam caps are unacceptable.
4. Seam must be one and three-fourths (1-3/4) inch minimum height and three-eighths (3/8) inch wide with a male leg one and five-eighths (1-5/8) inch high. Seam shall allow for unlimited expansion and contraction of panels due to thermal changes.
5. Seam shall have a factory applied hot melt sealant bead. Sealant shall be a SIS (Styrene-Isoprene-Styrene) block copolymer type thermoplastic rubber adhesive, non-fatigue water barrier.
6. Panel and clip shall be designed to prevent clip contact with the seam sealant, so that normal expansion and contraction of panel will not cause damage to integrity of the seal. Systems with contact between clip and sealant will not be allowed.
7. Panel shall have an internal gutter/anti-siphon feature on the male leg as additional protection against water infiltration.
8. The panel shall not have mechanical finishes present in the flat of the panel.
9. A three-sixteenth (3/16) inch high clearance between the panel and substrate is required to properly vent the system.
10. Standing Seam Panel Width: 18".
11. Panel clips shall be minimum eighteen (18) gauge, Galvanized steel designed to allow for unlimited thermal movement of the panel in each direction along the longitudinal dimension. Two-piece clips are unacceptable.

E. Accessories.

1. Gable anchor clips shall be minimum eighteen (18) gauge, Galvanized steel.
2. Fasteners:

- a. Concealed fasteners: Corrosion resistant steel fasteners (zinc plated or equal) designed to meet structural loading requirements. Provide #14 as minimum fastener size.
- b. Exposed fasteners: Series 410 stainless steel fasteners or one-eighth (1/8) inch diameter stainless steel waterproof rivets. All exposed fasteners shall be factory painted to match the color of the standing seam panels.
- 3. Closures: Factory precut closed cell foam meeting ASTM D1056 or ASTM D3575, with metal trim matching panels when used at hip, ridge, jamb, and rake.
- 4. Provide all miscellaneous accessories for complete installation.

2.4 ACCESSORY PRODUCTS

- A. Sealant:
 - 1. Acceptable product:
 - a. Concealed Application: Non-curing butyl sealant or equal.
 - b. Exposed Application: Exposed Application: Garland SS sealant or equal.
 - 2. Colors: As selected by architect from sealant manufacturer's standard selection.
- B. Underlayment:
 - 1. Not applicable to this project.

2.5 FABRICATION

- A. Shop fabricate metal roofing and flashing components to the maximum extent possible, forming metal work with clear, sharp, straight, and uniform bends and rises. Hem exposed edges of flashings.
- B. Form flashing components from full single width sheet in minimum ten (10) foot lengths. Provide shop fabricated, mitered corners, joined using closed end pop rivets and joint sealant.
- C. Fabricate roofing and related sheet metal work in accord with approved shop drawings and applicable standards.

PART 3 — EXECUTION

3.1 EXECUTION, GENERAL

- A. Comply with requirements of Division 01 Section "Common Execution Requirements."

3.2 PREPARATION

- A.** Design system so that the panel installation may be started and/or terminated at any given point in the area.
 - 1.** It is understood that the ongoing operations of the Owner are of a critical nature as to leak sensitivity. Do not work on more roof area than can be restored completely watertight in one day.
- B.** Remove existing loose material, dirt and debris from the roof area. All accumulations of asphalt or other repair materials shall be removed to provide a smooth, flat substrate without imperfections that will be evident in the finished work.
 - 1.** Existing metal details and other metal accessories specified for re-use that interfere with the installation of the new roof system shall be carefully removed and set aside for re-use.
 - 2.** Any metal described above that will come in contact with the new roof shall be checked for type and replaced or protected if galvanic action may be a problem.
- C.** Strip existing contaminating material from all metal components that are indicated to be re-utilized. Protect these metal components. Replace damaged components with new of similar type and dimension.
- D.** Replace wood blocks and/or sleepers indicated to be replaced with new pressure-treated wood, redwood, or other form of blocking acceptable to the Manufacturer.
 - 1.** Do not use pressure-treated wood containing salt-based preservatives or materials corrosive to steel. Provide Material Safety Data Sheets to the roofing manufacturer for verification prior to installation.
- E.** Remove pipes, conduits or equipment indicated to be abandoned and removed.
- F.** All curbs, soil stacks, and other interior flashing surfaces shall be extended to a minimum of 8" above the new horizontal roof surface or shall be pressure sealed at the top edge.

3.3 INSTALLATION, GENERAL

- A.** Install roof system when the atmospheric dry bulb temperature is minimum 40°F and rising.
- B.** Install all components of the roof system in exact accordance with the manufacturer's standard published procedures as applicable to these project conditions and substrates.
- C.** Install all required vapor retarder, air seals and preliminary tapered, insulating substrates required per enclosed specifications.

- D.** Lay out and anchor all roof framing sections or purlins according to the approved roof plan.
- E.** Inspection: Examine the alignment and placement of the building structure and substrate. Correct any objectionable warp, waves or buckles in the substrate before proceeding with installation of the pre-formed metal roofing. The installed roof panels will follow the contour of the structure and may appear irregular if not corrected.
- F.** Establish straight side and crosswise benchmarks.
- G.** Use proper size and length fastener for strength requirements. Approximately five-sixteenths (5/16) inch, is allowable for maximum fastener head size beneath the panel.
- H.** Rectangular shaped roofs shall be checked for square and straightness. Gable ends may require setting a true line for the gable clips and setting with string line.
- I.** Measure the roof lengthwise to confirm panel lengths, overhangs, coverage of flashings at eaves and ridges and verify clearances for thermal movement.
- J.** Pre-roofing conference:
 - 1.** Prior to beginning metal roofing work, a pre-roofing conference shall be held to review work to be accomplished.
 - 2.** Architect, contractor, metal roofing subcontractor, metal roofing system manufacturer's representative and all other subcontractors who have equipment penetrating roof or whose work involves access to roof shall be present.

3.4 ROOFING AND FLASHING INSTALLATION

- A.** Comply with all details and installation of roofing materials and flashings in accordance with approved shop drawings and manufacturer's product data, within specified erection tolerances.
- B.** Prepare roof for the installation of standing seam panels, including:
 - 1.** Install all decking, framing, and/or furring members as indicated in this specification and bid documents.
 - 2.** Install all insulation, vapor retarder, and/or air infiltration barriers as indicated in this specification and bid documents.
 - 3.** Install all underlayments and/or temporary water proofing materials as required in this specification and bid documents.
- C.** Directly over the completed roof substrate, install one (1) piece panel anchor clips. [All anchor clips will be set on sixteen (16) gauge galvanized pre-punched bearing plates to

distribute the loads on the board insulation or All anchor clips will be fastened into the structural roof substrate based on the following spacing pattern]:

1. Clip spacing must be 4' for Zone 1 (field)
 2. Clip spacing must be 4' for Zone 2 (eave, <ridge, hip>and rake).
 3. Clip spacing must be 4' for Zone 3 (corners)
- D.** Installation of Roof Panels: Due to the asymmetrical design of the specified panel system, installation of panels must begin at one end of the roof and work toward the opposite end.
1. Two (2) stainless steel pop rivets shall be secured through the male panel leg and the panel clip located at the ridge of the system. The female panel leg will conceal these fasteners.
 - a. Be sure to capture all drilling debris during this operation with a rag or cloth placed on the panels at the drilling operation.
 - b. Panels are not securely attached to the roof until fixed to the anchor clip. To avoid damage and injury, all panels shall be fixed to the anchor clip immediately as they are installed.
 2. Un-installed panels which are temporarily stored on the ground or roof shall be secured in place at the end of each day's work to prevent possible damage or injury.
- E.** Isolate dissimilar metals and masonry or concrete from metals with bituminous coating. Use gasketed fasteners where required to prevent corrosive action between fastener, substrate, and panels.
- F.** Limit exposed fasteners to extent indicated on shop drawings.
- G.** Anchorage shall allow for temperature expansion/contraction movement without stress or elongation of panels, clips, or anchors. Attach clips to structural substrate using fasteners of size and spacing as determined by manufacturer's design analysis to resist specified uplift and thermal movement forces.
- H.** Seal laps and joints in accordance with roofing system manufacturer's product data.
- I.** Provide for temperature expansion/contraction movement of panels at roof penetrations and roof mounted equipment in accordance with system manufacturer's product data and design calculations.
- J.** Installed system shall be true to line and plane and free of dents, and physical defects. In light gauge panels with wide flat surfaces, some oil canning may be present. Oil canning does not affect the finish or structural integrity of the panel and is therefore not cause for rejection.

- K.** Maximum variation from true planes or lines shall be one-fourth (1/4) inch in twenty (20) feet and three-eighth (3/8) inch in forty (40) feet or more.
- L.** Form joints in linear sheet metal to allow for one-fourth (1/4) inch minimum expansion at twenty (20) feet on center maximum and eight (8) feet from corners.
- M.** At joints in linear sheet metal items, set sheet metal items in two (2) one-fourth (1/4) inch beads of butyl sealant. Extend sealant over all metal surfaces. Mate components for positive seal. Allow no sealant to migrate onto exposed surfaces.
- N.** Remove damaged work and replace with new, undamaged components.
- O.** Touch up exposed fasteners using paint furnished by roofing panel manufacturer and matching exposed panel surface finish.
- P.** Clean exposed surfaces of roofing and accessories after completion of installation. Leave in clean condition at date of substantial completion. Touch up minor abrasions and scratches in finish.

3.5 CLEANING

- A.** Clean installed work in accordance with the manufacturer's instructions.
- B.** Replace damaged work that cannot be restored by normal cleaning methods.

3.6 CONSTRUCTION WASTE MANAGEMENT

- A.** Remove and properly dispose of waste products generated during roofing procedures. Comply with requirements of authorities having jurisdiction

3.7 FINAL INSPECTION

- A.** At completion of roofing installation and associated work, meet with Contractor, Architect, installer, installer of associated work, Owner, roofing system manufacturer's representative, and other representatives directly concerned with performance of roofing system.
- B.** Inspect roofing work and flashing of roof penetrations, walls, curbs and other equipment. List all items requiring correction or completion and furnish copy of list to each party in attendance.
- C.** Repair or replace deteriorated or defective work found at time above inspection as required to produce an installation which is free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- D.** Notify the Owner upon completion of corrections.

- E.** Following the final inspection, provide written notice of acceptance of the installation from the roofing system manufacturer.
- F.** Immediately correct roof leakage during construction. If the Contractor does not respond within twenty four (24) hours, the Owner will exercise rights to correct the Work under the terms of the Conditions of the Contract.

3.8 DEMONSTRATION AND TRAINING

- A.** At a time and date agreed to by the Owner, instruct the Owner's facility manager, or other representative designated by the Owner, on the following procedures:
 - 1.** Roof troubleshooting procedures.
 - 2.** Notification procedures for reporting leaks or other apparent roofing problems.
 - 3.** Roofing maintenance.
 - 4.** The Owner's obligations for maintaining the roofing warranty in effect and force.
 - 5.** The Manufacturer's obligations for maintaining the roofing warranty in effect and force.

3.9 OWNER SUPPLIED MATERIALS

- A.** Contractor must submit all quantities of owner supplied materials; per the list supplied below required to complete the project per specification section 07 41 00 with their bid.
 - 1.** Contractor must provide all labor and incidental materials to install owner supplied materials as part of their bid.
 - 2.** All materials not specifically included in the owner supplied materials section will be the responsibility of the contractor to provide and install in compliance with section 07 41 00.
 - 3.** Contractor must provide an accurate list of owner supplied materials to the Owner, overages will be returned to the owner and under estimated quantities will be the full responsibility of the contractor to supply and install in full compliance with this section.
 - 4.** Freight charges of owner supplied materials will be the responsibility of the owner. Contractor must take delivery of materials, properly protect, cover and store at jobsite.
 - 5.** Contractor must be able to provide certification in writing from roof system manufacturer that the contractor is approved to install the specified roof system and provide all warranty requirements of section 07 41 00.
 - 6.** Materials specifically provided by the Owner;
 - 1.** R-Loc 18", 24 gauge, Standing Seam Metal Panel, measurements by contractor.

2. Field Clips
3. Head Closures Trim
4. Rivets
5. Flat Stock 4' x 10 '
6. Freight to jobsite

END OF SECTION 07 41 00.003 - MANUFACTURED METAL ROOF PANELS

SECTION 07 56 31 - ROOFING RESTORATION – ACRYLIC

PART 1 — GENERAL

1.1 RELATED DOCUMENTS

- A.** Drawings and general provisions of the Contract, including the Conditions of the Contract and Division 01 Specification Sections apply to this section.

1.2 SUMMARY

- A.** Section includes:

1. Preparation of existing roof system for restoration.
2. Pressure wash existing roofing system and allow to dry for 24 hours.
3. Breezeway - Cut existing roofing back from gravel stop edge 2". Prime with garla prime voc allow to dry. Install one layer of silverflash mastic, apply one layer of garmesh 6" reinforcement, apply one more layer of silverflash mastic.
4. Equipment Wells – Modify perimeter edge to add new 24 gauge galvanized gravel stop and 22 gauge cleat per.
5. Repair all loose membrane at edge flashing and through field along with all details.
6. Three course all blisters and repair all details per specification.
7. Install Pyramic Acrylic Coating per specification at a total rate of 4 gallons per square.

- B.** Related Sections:

1. Section 01 – Summary of Work
2. Section 07 – Asphalt Composition Shingles
3. Section 07 – Modified Bituminous Membrane Roofing
4. Sheet Metal Flashing and Trim: Section 07 - Sheet Metal Flashing and Trim.
5. Sheet Metal Roof Accessories: Section 07 - Roof Specialties.

1.3 REFERENCES

- A.** American Society for Testing and Materials (ASTM):

1. ASTM D1079, Terminology Relating to Roofing, Waterproofing, and Bituminous Materials.

B. National Roofing Contractors Association (NRCA):

1. Roofing and Waterproofing Manual.

1.4 MATERIALS OWNERSHIP

- A.** Except for items or materials indicated to be reused, reinstalled, or otherwise indicated to remain Owner's property, demolished materials become Contractor's property and shall be removed from Project site.

1.5 SUBMITTALS

- A.** Product Data: Provide manufacturer's technical product data for each type of roofing product specified. Include data substantiating that materials comply with specified requirements.
- B.** Documentation of Existing Conditions: Document existing conditions of adjoining construction and site improvements, including exterior and interior finish surfaces that might be misconstrued as having been damaged by re-coating operations. Submit before work begins. Use high-resolution digital photographs or video tape supplemented by written commentary for preparing reports.

1.6 QUALITY ASSURANCE

- A.** Regulatory Requirements: Comply with governing EPA notification regulations before beginning membrane roofing removal. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B.** Installer: Company specializing in roof restoration with a minimum 5 years experience and certified by roofing system manufacturer as qualified to install manufacturer's roofing materials.
- C.** Installer's Field Supervision: Maintain a full-time Supervisor/Foreman on job site during all phases of roofing work and at any time roofing work is in progress. Maintain proper supervision of workmen. Maintain a copy of the specifications in the possession of the Supervisor/Foremen and on the Site at all times.
- D.** Insurance Certification: Assist Owner in preparation and submittal of roof installation acceptance certification as may be necessary in connection with fire and extended coverage insurance on roofing and associated work.

1.7 PRE-INSTALLATION CONFERENCE

- A.** Preliminary Re-roofing Conference: Convene a pre-roofing conference approximately two (2) weeks before scheduled commencement of reproofing installation and associated work.
- B.** Require attendance of installer of each component of associated work, installers of deck or substrate construction to receive roofing work, installers of rooftop units and other work in and around roofing which must precede or follow roofing work (including mechanical work if any), Architect, Owner, roofing system manufacturer's representative, and other representatives

directly concerned with performance of the Work, including (where applicable) Owner's insurers, testing agencies and governing authorities. Objectives of conference include:

1. Review foreseeable methods and procedures related to re-roofing work.
2. Tour representative areas of roofing substrates (decks), inspect and discuss condition of substrate, roof drains, curbs, penetrations and other preparatory work performed by others.
3. Review structural loading limitations of deck and inspect deck for loss of flatness and for required attachment.
4. Review re-roofing system requirements (drawings, specifications and other contract documents).
5. Review required submittals both completed and yet to be completed.
6. Review and finalize construction schedule related to re-roofing work and verify availability of materials, installer's personnel, equipment and facilities needed to make progress and avoid delays.
7. Review required inspection, testing, certifying and material usage accounting procedures.
8. Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions, including possibility of temporary roofing (if not mandatory requirement).
9. Record discussion of conference including decisions and agreements (or disagreements) reached and furnish a copy for record to each party attending. If substantial disagreements exist at conclusion of conference, determine how disagreements will be resolved and set date for reconvening conference.
10. Review notification procedures for weather or non-working days.

1.8 PROJECT CONDITIONS

- A. Owner will occupy portions of building immediately below the work area. Conduct coating so Owner's operations will not be disrupted. Provide Owner with not less than 72 hours notice of activities that may affect Owner's operations
 1. Coordinate work activities daily with Owner so Owner implement protective dust or water leakage covers over sensitive equipment or furnishings, shut down HVAC and fire-alarm or -detection equipment if needed, and evacuate occupants from below the work area.
 2. Before working over structurally-impaired areas of deck, notify Owner to evacuate occupants from below the affected area. Verify that occupants below the work area have been evacuated prior to proceeding with work over the impaired deck area.

- B.** Protect building whose roof is to be restored, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from coating operations.
- C.** Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.
- D.** Owner assumes no responsibility for condition of areas to be restored. Conditions existing at time of inspection for bidding will be maintained by Owner as far as practical.
- E.** Weather Condition Limitations: Do not apply roofing restoration materials during inclement weather or when a 40% chance of precipitation is expected.
- F.** Proceed with roofing work only when existing and forecasted weather conditions will permit unit of work to be installed in accordance with manufacturer's recommendations and warranty requirements.
- G.** Materials shall be stored at room temperature until immediately prior to application. Discontinue the application if the material cannot be stored at a temperature, which permits even distribution during application.
- H.** Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during same day.
- I.** When applying materials with spray equipment, take precautions to prevent over spray and/or solvents from damaging or defacing surrounding walls, building surfaces, vehicles or other property. Care should be taken to do the following:
 - 1.** Close air intakes into the building.
 - 2.** Have a dry chemical fire extinguisher available at the jobsite.
 - 3.** Post and enforce "No Smoking" signs.
- J.** Do not inhale spray mist; take precautions to ensure adequate ventilation.
- K.** Protect completed roof sections from foot traffic for a period of at least 48 hours at 75°F (24°C) and 50% relative humidity or until fully cured.
- L.** Take precautions to ensure that materials do not freeze.
- M.** Minimum temperature for application is 60°F and rising.

1.9 WARRANTY

- A.** Upon completion of installation, and acceptance by the Owner and Architect, the manufacturer will supply to the Owner the specified warranty.
- B.** Installer will submit a two (2) year warranty to the membrane manufacturer with a copy directly to Owner.

- C.** Manufacturer will provide the Owner with a ten (10) year warranty.
- D.** Warranty shall commence on date of substantial completion or final payment, whichever is agreed by contract.
- E.** Manufacturer will provide the following services at no cost to the owner at years 5, & 10.
 - a. Inspection by a technical service representative and delivery of a written inspection report documenting roof conditions.
 - b. General rooftop housekeeping and clean-up, subject to limits, but generally including removal of incidental debris.

1.10 DELIVERY, STORAGE AND HANDLING

- A.** Deliver products to site with seals and labels intact, in manufacturer's original containers, dry and undamaged.
- B.** Store and handle roofing sheets in a dry, well-ventilated, weather-tight place to ensure no possibility of significant moisture exposure. Store rolls of felt and other sheet materials on pallets or other raised surface. Stand all roll materials on end. Cover roll goods with a canvas tarpaulin or other breathable material (not polyethylene).
- C.** Do not leave unused materials on the roof overnight or when roofing work is not in progress unless protected from weather and other moisture sources.
- D.** It is the responsibility of the contractor to secure all material and equipment on the job site. If any material or equipment is stored on the roof, the contractor must make sure that the integrity of the deck is not compromised at any time. Damage to the deck caused by the contractor will be the sole responsibility of the contractor and will be repaired or replaced at his expense.

1.11 MANUFACTURER'S INSPECTIONS

- A.** When the project is in progress, the roofing system manufacturer will provide the following:
 - 1.** Keep the Owner and Architect informed as to the progress and quality of the work as observed.
 - 2.** Provide job site inspections a minimum of two (2) days a week.
 - 3.** Report to the Architect in writing any failure or refusal of the Contractor to correct unacceptable practices called to the Contractor's attention.
 - 4.** Confirm after completion that manufacturer has observed no applications procedures in conflict with the specifications other than those that may have been previously reported and corrected.

PART 2 — PRODUCTS

2.1 PRODUCTS, GENERAL

- A.** Basis of Design: Materials, manufacturer's product designations, and/or manufacturer's names specified herein shall be regarded as the minimum standard of quality required for work of this Section. Comply with all manufacturer and contractor/fabricator quality and performance criteria specified in Part 1.
- B.** Substitutions: Products proposed as equal to the products specified in this Section shall be submitted in accordance with Bidding Requirements and Division 01 provisions.
 - 1.** Proposals shall be accompanied by a copy of the manufacturer's standard specification section. That specification section shall be signed and sealed by a professional engineer licensed in the state in which the installation is to take place. Substitution requests containing specifications without licensed engineer certification shall be rejected for non-conformance.
 - 2.** Include a list of three (3) projects of similar type and extent, located within a one hundred mile radius from the location of the project. In addition, the three projects must be at least five (5) years old and be available for inspection by the Architect, Owner or Owner's Representative.
 - 3.** Equivalency of performance criteria, warranty terms, submittal procedures, and contractual terms will constitute the basis of acceptance.
 - 4.** The Architect and Owner's decision regarding substitutions will be considered final. Unauthorized substitutions will be rejected.

2.2 ACCEPTABLE MANUFACTURERS

- A.** The design is based upon roofing systems engineered and manufactured by The Garland Company or approved equal:

The Garland Company
Telephone: (800) 762-8225 ext. 720
Website: www.garlandco.com
Local Representative: Richard Jones

2.3 DESCRIPTION

- A.** Restoration work including but not limited to:
 - 1.** White Elastomeric Roof Coating: Pyramic; Energy Star, CRCC, & Title 24 approved white acrylic roof coating:
 - 1.** Weight/Gallon 12 lbs./gal. (1.44 g/cm³)
 - 2.** Non-Volatile % (ASTM D 1644) 66 min

3. Reflectance 81%
4. Emittance 89%
5. SRI 101

2.4 WASHES FOR MEMBRANE PREPARATION

A. Cleaner wash for preparing surface for coating.

1. TSP (Tri Sodium Phosphate): A heavy duty degreaser and all purpose cleaner
2. Simple Green: All-purpose Industrial degreaser/cleaner

2.5 RELATED MATERIALS

A. Sealants and Repair Materials for use in field and flashing repairs.

1. Silverflash Mastic: Cold Applied, Silver trowel grade mastic used in three course applications as approved and furnished by the membrane manufacturer for moving joints.
2. Garmesh Reinforcement: SBR Coated fiberglass scrim used as reinforcement for roof repairs.
3. Polyester Soft Reinforcement: Strong elastic polyester reinforcement
4. Urethane Sealant: One part, non-sag sealant as approved and furnished by the membrane manufacturer for moving joints.
 - A. Tensile Strength (ASTM D412): 250 psi
 - B. Elongation (ASM D412): 950%
 - C. Hardness, Shore A (ASTM C920): 35
 - D. Adhesion-in-Peel (ASTM C920): 30 pli

PART 3 — EXECUTION

3.1 EXAMINATION

- ### **A. Examine substrate surfaces to receive coating and associated work and conditions under which roofing will be installed. Do not proceed with roofing until unsatisfactory conditions have been corrected in a manner acceptable to Installer.**

3.2 GENERAL INSTALLATION REQUIREMENTS

- A.** Cooperate with manufacturer, inspection and test agencies engaged or required to perform services in connection with installing the roof system.
- B.** Insurance/Code Compliance: Where required by code, install and test the roofing system to comply with governing regulation and specified insurance requirements.
- C.** Protect other work from spillage of roofing materials and prevent materials from entering or clogging drains and conductors. Replace or restore other work damaged by installation of the roofing system.
- D.** Acrylic coating rate: Acrylic coating shall be applied at no less than four (4) gallons per square in a two coat application.
- E.** Apply roofing materials as specified herein unless recommended otherwise by manufacture's instructions. Keep roofing materials dry during application. Do not permit phased construction.

3.3 CLEANING AND SURFACE PREPARATION

- A.** All defects such as deteriorated roof decks must be repaired; saturated insulation board must be replaced, etc. per manufacturer's specifications prior to application of the coating materials. Verify that existing conditions meet the following requirements:
 - 1.** The existing membrane is either fully adhered or that the membranes mechanical fasteners are secured and functional.
 - 2.** Application of roofing materials over a brittle roof membrane is not recommended.
- B.** Remove all loose dirt and foreign debris from the roof surface.
- C.** Do not damage roof membrane in cleaning process.
- D.** Clean and seal all parapet walls, gutters and coping caps, and repair any damaged metal where necessary. Seal watertight all fasteners, pipes, drains, vents, joints and penetrations where water could enter the building envelope.
- E.** Clean the entire roof by removing all dirt, algae, paint, oil, talc, rust or foreign substance. Use a 10% solution of TSP (tri-sodium phosphate), Simple Green and warm water. Scrub heavily soiled areas with a brush. Rinse with fresh water to remove all TSP solution. In ponding areas be sure to rinse at least twice to make sure all cleaning solution is rinsed clean. Cleaning residue will act as a bond breaker if not properly rinsed. Allow roof to dry before continuing.
- F.** Repair existing roof membrane as necessary to provide a sound substrate for the liquid membrane. All surface defects (cracks, blisters, tears) must be repaired with similar cured material.
- G.** Repair existing roof membrane as necessary to provide a sound substrate for the liquid membrane. Repair all surface defects (cracks, blisters, tears):

H. Blister Repairs & General Repairs

1. Clean the repair area.
2. All blisters must be cut and opened. Use a roofer's knife to open the blister with an "X" or "H" cut. Fold the flaps and remove any existing moisture. Permit the area to dry before applying repair materials.
3. After positioning the six (6) inch reinforcement to roll out, apply acrylic coating about 8 in (20 cm) wide to surface where reinforcement ply is going to be applied. Do not apply acrylic coating too far ahead of fabric or coating may dry before fabric can be embedded. The minimum application rate should be 1.5 gallons/square (0.61 liters/m²). Immediately roll 6 in (15 cm) width reinforcement into coating. Care should be taken to lay the fabric tight to the roof surface without air pockets, wrinkles, fishmouths, etc.
4. Apply acrylic coating about 8 in (20 cm) wide to surface where the repair was made. The minimum application rate should be 2.0 gallons/square (0.82 liters/m²). Care should be taken to avoid air pockets, wrinkles, fishmouths, etc. Allow to dry for a minimum of 24 hours before applying finish coats.
5. After embedding reinforcement into the acrylic coating, apply additional coating to completely saturate the fabric at minimum application rate of 1.0 gallon/square (0.41 liters/m²). This saturation coat should be applied as soon as possible after embedding reinforcement into the coating.

3.4 PRE-TREATMENTS

- A. Known Growth - General Surfaces: After areas of moss, mold, algae and other fungal growths or vegetation have been removed and surfaces have been thoroughly cleaned, apply a biocidal wash (TSP, Simple Green) at a maximum spread rate of 0.2 gallons/square (0.1 liters/m²), to guard against subsequent infection. Allow to dry onto absorbent surfaces before continuing with the application. On non-absorbent surfaces, allow to react before thoroughly rinsing to remove all traces of the solution. Note: See Health & Safety data before use.

3.5 SYSTEM APPLICATION

- A. Application of Pyramic Acrylic Base & Finish Coats:
 1. Before application of base coat then again prior to finish coat contact your local Garland Representative needs to inspect application.
 2. After repair applications have been completed and allowed to dry, apply Pyramic Acrylic Coating in a uniform manner at minimum application rate of two (2) gallons per square over the entire roof, back roll entire base coat. Allow base coat to completely dry a minimum of 24 hours and then apply acrylic top coat at a minimum rate of two (2) gallons per square over the entire roof.
 3. During final application of the coating special attention should be given to coating flashings and other critical areas to build adequate membrane thickness. Multiple coats

may be necessary on verticals to prevent sagging. In any event all specified material must be applied and minimum membrane thickness achieved.

C. Membrane Deterioration:

- 1.** It is recommended that fiberglass/polyester mat be used over areas of the membrane that are in deteriorated condition.

D. Coating shall be applied in strict accordance with manufacture's published directions and instructions.

1. Manual Application:

- a.** Pour coating onto roof in 24 in. rows and spread with ½ in. nap or foam roller.
- b.** Back roll coating with an 18 in. (45 cm) wide ½ in. nap roller for even application. Quality check that coating meets 2 gallons per square, 32 mil wet film thickness.

1. Spray Application:

- a.** Spray across roof, back-roll to ensure uniform coverage, then back spray across the same area to complete application.
- b. Spray Pump Recommendations:**
 - 1) Pump Ratio 45:1
 - 2) Hose ¾ ID Hose first 100 ft. (30 m) with swivel connections and ½ in. ID Hose for second 100 ft. (30 m).
 - 3) Pressure 5000 psi.
 - 4) Working pressure is 2700 to 3000 at the gun. Depending on equipment setup, you may be able to spray the coating as low as 1800 psi. Based on tip size, raise pressure to remove fingers in spray pattern.
 - 5) High pressure fittings.
 - 6) Input flow 100 psi.
 - 7) Tip = .032 - .037 for a 8 in. (20 cm) pattern at 12 in. (30 cm) distance.
 - 8) Recommended 12 in. (30 cm) extension with swivel tip.
 - 9) Tip and pump sizes will change depending on temperature and pattern concerns.

- c. Keep wet film gauges on-hand at all times during the application process to ensure proper coverage. Coverage rates below will designate gallons, wet mils, and dry mils.
 - 1) 1.0 gallons will equal 16 wet mils and 12 dry mils
 - 2) 1.5 gallons will equal 24 wet mils and 19 dry mils
 - 3) 2.5 gallons will equal 40 wet mils and 32 dry mils
 - 4) 4.5 gallons will equal 72 wet mils and 57 dry mils

3.6 FIELD QUALITY CONTROL

- A. Require attendance of roofing materials manufacturers' representatives at site during installation of the roof coating system. Perform field inspection a minimum of two (2) days per week.
- B. Correct defects or irregularities discovered during field inspection.

3.7 CLEANING

- A. Remove dirt and debris from all walls, windows, floors, ladders and finished surfaces.
- B. In areas where finished surfaces are soiled by dirt, debris or any other sources of soiling caused by work of this section, consult manufacturer of surfaces for cleaning instructions and conform to their instructions.
- C. Repair or replace defaced or disfigured finishes caused by work of this section.

3.8 CONSTRUCTION WASTE MANAGEMENT

- A. Remove and properly dispose of waste products generated during roofing procedures. Comply with requirements of authorities having jurisdiction

3.9 FINAL INSPECTION

- A. At completion of roofing installation and associated work, meet with Contractor, Architect, installer, installer of associated work, Owner, roofing system manufacturer's representative, and other representatives directly concerned with performance of roofing system.
- B. Walk roof surface areas of the building, inspect perimeter building edges as well as flashing of roof penetrations, walls, curbs and other equipment. List all items requiring correction or completion and furnish copy of list to each party in attendance.
- C. The roofing system manufacturer reserves the right to request a thermographic scan of the roof during final inspection to determine if any damp or wet materials have been installed. The thermographic scan shall be provided by the Roofing Contractor.

- D. If core cuts verify the presence of damp or wet materials, the Roofing Contractor shall be required to replace the damaged areas at his own expense.
- E. Repair or replace deteriorated or defective work found at time above inspection as required to produce an installation which is free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- F. Notify the Contractor, Architect, Owner upon completion of corrections.
- G. Following the final inspection, provide written notice of acceptance of the installation from the roofing system manufacturer.
- H. Immediately correct roof leakage during construction. If the Contractor does not respond within twenty four (24) hours, the Owner will exercise rights to correct the Work under the terms of the Conditions of the Contract.

3.10 DEMONSTRATION AND TRAINING

- A. At a time and date agreed to by the Owner, instruct the Owner's facility manager, or other representative designated by the Owner, on the following procedures:
 - 1. Roof troubleshooting procedures.
 - 2. Notification procedures for reporting leaks or other apparent roofing problems.
 - 3. Roofing maintenance.
 - 4. The Owner's obligations for maintaining the roofing warranty in effect and force.
 - 5. The Manufacturer's obligations for maintaining the roofing warranty in effect and force.

3.11 OWNER SUPPLIED MATERIALS

- A. Contractor must submit all quantities of owner supplied materials; per the list supplied below required to complete the project per specification section 07 56 31 with their bid.
- B. Contractor must provide all labor and incidental materials to install owner supplied materials as part of their bid.
- C. All materials not specifically included in the owner supplied materials section will be the responsibility of the contractor to provide and install in compliance with section 07 56 31.
- D. Contractor must provide an accurate list of owner supplied materials to the Owner, overages will be returned to the owner and under estimated quantities will be the full responsibility of the contractor to supply and install in full compliance with this section.
- E. Freight charges of owner supplied materials will be the responsibility of the owner. Contractor must take delivery of materials, properly protect, cover and store at jobsite.

- F. Contractor must be able to provide certification in writing from roof system manufacturer that the contractor is approved to install the specified roof system and provide all warranty requirements of section 07 56 31.
- G. Materials specifically provided by the Owner;

- Flashing Bond Mastic (5 gal pail)
- Tuff Stuff Urethane Sealant (10.1 oz tube)
- Garla-Prime VOC (5 gal pail)
- Garmesh (150' x 6")
- Pyramic Acrylic Coating, Base Coat (55 gal drum)
- Pyramic Acrylic Coating, Top Coat (55 gal drum)
- WhiteKnight Plus WC, Urethane Top Coat (5 gallon pail)
- Freight to jobsite

END OF SECTION

SECTION 07 62 00 - SHEET METAL FLASHING AND TRIM

PART 1 — GENERAL

1.1 RELATED DOCUMENTS

- A.** Drawings and general provisions of the Contract, including the Conditions of the Contract and Division 01 Specification Sections apply to this section.

1.2 SUMMARY

- A.** Provide all labor, equipment, and materials to fabricate and install all related sheet metal flashing components for a complete roofing assembly.
- B.** Related Sections:
 - 1.** Division 07 Section Common Work Results for Thermal and Moisture Protection.
- C.** Related Work Specified Elsewhere:
 - 1.** Division 01: Section Summary of Work
 - 2.** Division 07: Built-up Roofing Restoration
 - 3.** Division 07: Asphalt Shingle Roofing
 - 4.** Division 09: Painting
 - 5.** Division 07: Modified Built up Roofing

1.3 REFERENCES

- A.** American Society for Testing and Materials (ASTM)
 - 1.** ASTM A653 Standard Specification for Steel Sheet, Zinc-Coated (galvanized) or Zinc-Iron Alloy-Coated (galvannealed) by the Hot-Dip Process.
 - 2.** ASTM A792 Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy Coated by the Hot-Dip Process.
 - 3.** ASTM B209 Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
 - 4.** ASTM B221 Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.

- 5. ASTM D692 Standard Specification for Coarse Aggregate for Bituminous Paving Mixtures.
- B. American National Standards Institute and Single Ply Roofing Institute (ANSI/SPRI)
 - 1. ANSI/SPRI ES-1 Testing and Certification Listing of Shop Fabricated Edge Metal.
- C. Warnock Hersey International, Inc., Middleton, WI (WH)
- D. Factory Mutual Research Corporation (FMRC)
- E. Underwriters Laboratories (UL)
- F. Sheet Metal and Air Conditioning Contractors National Association (SMACNA)
 - 1. 1993 Edition Architectural Sheet Metal Manual
- G. National Roofing Contractors Association (NRCA)
 - 1. Roofing and Waterproofing Manual
- H. American Society of Civil Engineers (ASCE)
 - 1. ASCE 7-05 Minimum Design Loads for Buildings and Other Structures.

1.4 SUBMITTALS FOR REVIEW

- A. Product Data:
 - 1. Provide manufacturer's specification data sheets for each product.
 - 2. Metal material characteristics and installation recommendations.
 - 3. Submit color chart prior to material ordering and/or fabrication so that equivalent colors to those specified can be approved.
- B. Samples: Submit two (2) samples, illustrating typical metal edge, coping, gutters, fascia extenders for material and finish.
- C. Shop Drawings
 - 1. For manufactured and ANSI/SPRI approved shop fabricated gravel stops, fascia, scuppers, and all other sheet metal fabrications.
 - 2. Indicate material profile, jointing pattern, jointing details, fastening methods, flashing, terminations, and installation details.

- 3. Indicate type, gauge and finish of metal.
- D. Specimen Warranty: Provide an unexecuted copy of the warranty specified for this Project, identifying the terms and conditions required of the Manufacturer and the Owner.

1.5 SUBMITTALS FOR INFORMATION

- A. Design Loads: Any material submitted as equal to the specified material must be accompanied by a report signed and sealed by a professional engineer licensed in the state in which the installation is to take place. This report shall show that the submitted equal meets the wind uplift and perimeter attachment requirements according to ASCE 7-05 and ANSI/SPRI ES-1. Substitution requests submitted without licensed engineer approval will be rejected for non-conformance.
- B. Factory Mutual Research Corporation's (FMRC) wind uplift resistance classification: The roof perimeter flashing shall conform to the requirements as defined by the FMRC Loss Prevention Data Sheet 1-49.
- C. A letter from an officer of the manufacturing company certifying that the materials furnished for this project are the same as represented in tests and supporting data.:
- C. Mill production reports certifying that the steel thicknesses are within allowable tolerances of the nominal or minimum thickness or gauge specified.
- D. Certification of work progress inspection. Refer to Quality Assurance Article below.
- E. Certifications:
 - 1. Submit roof manufacturer's certification that metal fasteners furnished are acceptable to roof manufacturer.
 - 2. Submit roof manufacturer's certification that metal furnished is acceptable to roofing manufacturer as a component of roofing system and is eligible for roof manufacturer's system warranty.
- F. Test Reports: Submit third party validation of environmental claims, prepared UL Environment, for all metal flashing and trim containing recycled content and/or bio based content.

1.6 CONTRACT CLOSEOUT SUBMITTALS

- A. General: Comply with Requirements of Section 01 78 00 - Closeout Submittals.
- B. Special Project Warranty: Provide specified warranty for the Project, executed by the authorized agent of the Manufacturer.
- C. Roofing Maintenance Instructions. Provide a manual of manufacturer's recommendations for maintenance of installed roofing systems.

- D. Insurance Certification: Assist Owner in preparation and submittal of roof installation acceptance certification as may be necessary in connection with fire and extended coverage insurance on roofing and associated work.

1.7 QUALITY ASSURANCE

- A. Engage an experienced roofing contractor specializing in sheet metal flashing work with a minimum of five (5) years experience.
- B. Maintain a full-time supervisor/foreman who is on the job-site at all times during installation. Foreman must have a minimum of five (5) years experience with the installation of similar system to that specified.
- C. Source Limitation: Obtain components from a single manufacturer. Secondary products which cannot be supplied by the specified manufacturer shall be approved in writing by the primary manufacturer prior to bidding.
- D. Upon request fabricator/installer shall submit work experience and evidence of financial responsibility. The Owner's representative reserves the right to inspect fabrication facilities in determining qualifications.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in manufacturer's original, unopened containers or packages with labels intact and legible.
- B. Stack pre-formed and pre-finished material to prevent twisting, bending, or abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
- C. Prevent contact with materials which may cause discoloration or staining.

1.9 PROJECT CONDITIONS

- A. Determine that work of other trades will not hamper or conflict with necessary fabrication and storage requirements for pre-formed metal edge system.

1.10 DESIGN AND PERFORMANCE CRITERIA

- A. Thermal expansion and contraction:
 - 1. Completed metal edge flashing system shall be capable of withstanding expansion and contraction of components caused by changes in temperature without buckling, producing excess stress on structure, anchors or fasteners, or reducing performance ability.

1.11 WARRANTIES

- A.** Owner shall receive one (1) warranty from manufacturer of roofing materials covering all of the following criteria. Multiple warranties are not acceptable.
 - 1.** Pre-finished metal material shall require a written twenty (20)-year non-prorated warranty covering fade, chalking and film integrity. The material shall not show a color change greater than 5 NBS color units per ASTM D2244 or chalking excess of 8 units per ASTM D659. If either occurs material shall be replaced per warranty, at no cost to the Owner.
 - 2.** Changes: Changes or alterations in the edge metal system without prior written consent from the manufacturer shall render the system unacceptable for a warranty.
 - 3.** Warranty shall commence on date of substantial completion or final payment, whichever is agreed by contract.
 - 4.** The Contractor shall provide the Owner with a notarized written warranty assuring that all sheet metal work including caulking and fasteners to be watertight and secure for a period of two years from the date of final acceptance of the building. Warranty shall include all materials and workmanship required to repair any leaks that develop, and make good any damage to other work or equipment caused by such leaks or the repairs thereof.
 - 5.** Installing roofing contractor shall be responsible for the installation of the edge metal system in general accordance with the membrane manufacturer's recommendations.
 - 6.** Installing contractor shall certify that the edge metal system has been installed per the manufacturer's printed details and specifications.
 - 7.** One manufacturer shall provide a single warranty for all accessory metal for flashings, metal edges and copings, along with the warranty for metal roof areas, membrane roof areas, and any transitions between two different material types.

PART 2 — PRODUCTS

2.1 PRODUCTS, GENERAL

- A.** Refer to Division 01 Section "Common Product Requirements."
- B.** Basis of Design: Materials, manufacturer's product designations, and/or manufacturer's names specified herein shall be regarded as the minimum standard of quality required for work of this Section. Comply with all manufacturer and contractor/fabricator quality and performance criteria specified in Part 1.

- C.** Substitutions: Products proposed as equal to the products specified in this Section shall be submitted in accordance with Bidding Requirements and Division 01 provisions.
- 1.** Proposals shall be accompanied by a copy of the manufacturer's standard specification section. That specification section shall be signed and sealed by a professional engineer licensed in the state in which the installation is to take place. Substitution requests containing specifications without licensed engineer certification shall be rejected for non-conformance.
 - 2.** Include a list of three (3) projects of similar type and extent, located within a one hundred mile radius from the location of the project. In addition, the three projects must be at least five (5) years old and be available for inspection by the Architect, Owner or Owner's Representative.
 - 3.** Equivalency of performance criteria, warranty terms, submittal procedures, and contractual terms will constitute the basis of acceptance.
 - 4.** The Owner's decision regarding substitutions will be considered final. Unauthorized substitutions will be rejected.

2.2 MATERIALS

A. Materials:

- 1.** Minimum gauge of steel or thickness of Aluminum to be specified in accordance with Architectural Sheet Metal Manual, Sheet Metal and Air Conditioning Contractor's National Association, Inc. recommendations
 - A.** Zinc-coated steel, ASTM A653, coating designation G-90, in thickness of 24 gauge, commercial or lock-forming quality.
- 2.** Exposed and unexposed surfaces for mill finish flashing, fascia, and coping cap, shall be as shipped from the mill.
- 3.** Exposed and unexposed surfaces for anodized aluminum flashing, fascia, and coping cap, shall be as shipped from mill.

2.4 RELATED MATERIALS AND ACCESSORIES

- A.** Metal Primer: Zinc chromate type.
- B.** Plastic Cement: ASTM D 4586
- C.** Sealant: Specified in Section 07900 or on drawings.
- D.** Underlayment: ASTM D2178, No15 asphalt saturated roofing felt.
- E.** Slip Sheet: Rosin sized building paper.

F. Fasteners:

1. Corrosion resistant screw fastener as recommended by metal manufacturer. Finish exposed fasteners same as flashing metal.
2. Fastening shall conform to Factory Mutual requirements or as stated on section details, whichever is more stringent.

G. Gutter and Downspout Anchorage Devices: Material as specified for system.

PART 3 — EXECUTION

3.1 EXECUTION, GENERAL

- A.** Refer to Division 07 Section Common Work Results for Thermal and Moisture Protection.

3.2 PROTECTION

- A.** Isolate metal products from dissimilar metals, masonry or concrete with bituminous paint, tape, or slip sheet. Use gasketed fasteners where required to prevent corrosive reactions.

3.3 GENERAL

- A.** Secure fascia to wood nailers at the bottom edge with a continuous cleat.
- B.** Fastening of metal to walls and wood blocking shall comply with building code standards.
- C.** All accessories or other items essential to the completeness of sheet metal installation, whether specifically indicated or not, shall be provided and of the same material as item to which applied.
- D.** Allow sufficient clearances for expansion and contraction of linear metal components. Secure metal using fasteners as required by the system. Exposed face fastening will be rejected.

3.4 INSPECTION

- A.** Verify that curbs are solidly set and nailing strips located.
- B.** Perform field measurements prior to fabrication.
- C.** Coordinate work with work of other trades.
- D.** Verify that substrate is dry, clean and free of foreign matter.
- E.** Commencement of installation shall be considered acceptance of existing conditions.

3.5 MANUFACTURED SHEET METAL SYSTEMS

- A.** Furnish and install manufactured fascia and coping cap systems in strict accordance with manufacturer's printed instructions.
- B.** Provide factory-fabricated accessories including, but not limited to, fascia extenders, miters, scuppers, joint covers, etc. Refer to Source limitation provision in Part 1.

3.6 SHOP-FABRICATED SHEET METAL

- A.** Metal work shall be shop fabricated to configurations and forms in accordance with recognized sheet metal practices.
- B.** Hem exposed edges.
- C.** Angle bottom edges of exposed vertical surfaces to form drip.
- D.** Lap corners with adjoining pieces fastened and set in sealant.
- E.** Form joints for gravel stop fascia system, coping cap with a 3/8" opening between sections. Back the opening with an internal drainage plate formed to the profile of fascia piece.
- F.** Install sheet metal to comply with referenced ANSI/SPRI, SMACNA and NRCA standards.

3.7 FLASHING MEMBRANE INSTALLATION

- A.** Scupper Through Roof Edge
 - 1.** Install scupper box in a one fourth (1/4) inch bed of mastic. Assure all box seams are soldered and have minimum four (4) inch flange. Make sure all corners are closed and soldered.
 - 2.** Prime metal edge at a rate of one hundred (100) square feet per gallon and allow to dry.
- B.** Drip Edge Detail
 - 1.** Position base plies of the Modified Roofing membrane over the roof edge covering nailers completely, fastening eight (8) inches on center. Install membrane and cap sheet with proper material and procedure according to manufacturer's recommendations.
 - 2.** Install continuous cleat on face of nailer and fasten six (6) inches on center.

3. Install new Drip Edge hooked to continuous cleat. Set metal flange into roofing cement, nail every three (3) inches on center, and prime at a rate of one hundred (100) square feet per gallon.
4. Drip Edge flange with base flashing membrane extending six (6) inches into roof field, followed with a cap sheet extending nine (9) inches into the roof field. Install membrane and cap sheet with proper material and procedure according to manufacturer's recommendations.

C. Gravel Stop Detail

1. Position base plies of the Built-Up and/or Modified Roofing membrane over the roof edge covering nailers completely, fastening eight (8) inches on center. Install membrane and cap sheet with proper material and procedure according to manufacturer's recommendations.
2. Install continuous cleat on face of nailer and fasten six (6) inches on center.
3. Install new Gravel Stop hooked to continuous cleat. Set metal flange into roofing cement, nail every three (3) inches on center, and prime at a rate of one hundred (100) square feet per gallon.
4. Strip in Gravel Stop flange with base flashing membrane extending six (6) inches into roof field, followed with a cap sheet extending nine (9) inches into the roof field. Install membrane and cap sheet with proper material and procedure according to manufacturer's recommendations.

D. Edge Metal With Gutter

1. Position base plies of the Built-Up and/or Modified Roofing membrane over the roof edge covering nailers completely, fastening eight (8) inches on center. Install membrane and cap sheet with proper material and procedure according to manufacturer's recommendations.
2. Install gutter and strapping fastening six (6) inches on center.
3. Install continuous cleat on face of nailer and fasten six (6) inches on center.
4. Install new edge metal hooked to continuous cleat. Set metal flange into roofing cement, nail every three (3) inches on center, and prime at a rate of one hundred (100) square feet per gallon.
5. Strip in edge metal with base flashing membrane extending six (6) inches into roof field, followed with a cap sheet extending nine (9) inches into the roof field. Install membrane and cap sheet with proper material and procedure according to manufacturer's recommendations.

E. Snap-On Coping Cap Detail

1. Install Miters first.
2. Position base flashing of the Built-Up and/or Modified Roofing membrane over the wall edge covering nailers completely, fastening eight (8) inches on center. Install membrane and cap sheet with proper material and procedure according to manufacturer's recommendations.
3. Install minimum sixteen (16) gauge, sixteen (16) inch long by specified width anchor chair at [Contact Garland Representative] feet on center.
1. 4. Install six (6) inch wide splice plate by centering over sixteen (16) inch long by specified width anchor chair. Apply two beads of sealant to either side of the splice plate's center. Approximately two (2) inches from the coping cap joint. Install Coping Cap by hooking outside hem of coping on outside face of anchor chair. Press downward on inside edge of coping until "snap" occurs and hem is engaged on the entire chair.

3.8 CLEANING

- A. Clean installed work in accordance with the manufacturer's instructions.
- B. Replace damaged work than cannot be restored by normal cleaning methods.

3.9 CONSTRUCTION WASTE MANAGEMENT

- A. Remove and properly dispose of waste products generated. Comply with requirements of authorities having jurisdiction

3.10 FINAL INSPECTION

- A. At completion of installation and associated work, meet with Contractor, Architect, installer, installer of associated work, Owner, roofing system manufacturer's representative, and other representatives directly concerned with performance of roofing system.
- B. Inspect work and flashing of roof penetrations, walls, curbs and other equipment. List all items requiring correction or completion and furnish copy of list to each party in attendance.
- C. Repair or replace deteriorated or defective work found at time above inspection as required to a produce an installation which is free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- D. Notify the Owner upon completion of corrections.
- E. Following the final inspection, provide written notice of acceptance of the installation from the roofing system manufacturer.

- F.** Immediately correct roof leakage during construction. If the Contractor does not respond within twenty-four (24) hours, the Owner will exercise rights to correct the Work under the terms of the Conditions of the Contract.

3.11 DEMONSTRATION AND TRAINING

- A.** At a time and date agreed to by the Owner, instruct the Owner's facility manager, or other representative designated by the Owner, on the following procedures:
 - 1.** Troubleshooting procedures.
 - 2.** Notification procedures for reporting leaks or other apparent roofing problems.
 - 3.** Maintenance.
 - 4.** The Owner's obligations for maintaining the warranty in effect and force.
 - 5.** The Manufacturer's obligations for maintaining the warranty in effect and force.

END OF SECTION 07 62 00 - SHEET METAL FLASHING AND TRIM

SECTION 09 91 00 – PAINTING

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Surface preparation and field painting of fascia board and sheet metal items and surfaces as specified, including mechanical and electrical equipment that do not have a factory-applied finish.
- B. Surface preparation and field painting of exposed exterior items and surfaces.

1.2 RELATED SECTIONS

- A. Section 06 Rough Carpentry
- B. Section 07 Modified Bitumen Roofing
- C. Section 07 Modified Roofing Restoration
- D. Section 07 Asphalt Shingle Roofing
- E. Section 07 Sheet Metal Flashing and Trim

1.3 REFERENCES

- A. American Society for Testing and Materials (ASTM) D 16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications.
- B. Steel Structures Painting Council (SSPC) SP6 - Commercial Blast Cleaning Procedures.
- C. Steel Structures Painting Council (SSPC) SP10 - Near White Blast Cleaning Procedure.

1.4 SUBMITTALS

- A. Submit under provisions of General Conditions.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Material List: An inclusive list of required coating materials. Indicate each material and cross-reference specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.
 - 2. Preparation instructions and recommendations.
 - 3. Manufacturer's Information: Manufacturer's technical information, including label analysis and instructions for handling, storing, and applying each coating material.

- C. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- D. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: A firm or individual experienced in applying paints and coatings similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.
- B. Obtain block fillers and primers for each coating system from the same manufacturer as the finish coats.
- C. Paint exposed surfaces. If an item or a surface is not specifically mentioned, paint the item or surface the same as similar adjacent materials or surfaces. If a color of finish is not indicated, Architect will select from standard colors and finishes available.
- D. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels.
- E. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
 - 3. Refinish mock-up area as required to produce acceptable work.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label.
- B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 degree F (7 degree C). Maintain storage containers in a clean condition, free of foreign materials and residue.
- C. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
- D. Apply waterborne paints only when temperatures of surfaces to be painted and surrounding air are between 50 and 90 degree F (10 and 32 degree C), unless manufacturer's instructions specifically states.
- E. Apply solvent-thinned paints only when temperatures of surfaces to be painted and surrounding air are between 45 and 95 degree F (7 and 35 degree C).

- F. Do not apply paint in or when snow, rain, fog, or mist; or when relative humidity exceeds 85 percent or is imminent; or at temperatures less than 5 degree F (3 degree C) above the dew point; or to damp or wet surfaces.
 - 1. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by manufacturer during application and drying periods.
- G. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.7 PROJECT CONDITIONS

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

1.8 EXTRA MATERIALS

- A. Furnish extra paint materials from the same production run as the materials applied and in the quantities described below. Package with protective covering for storage and identify with labels describing contents. Deliver extra materials to Owner.
- B. Quantity: Furnish Owner with an additional three percent, but not less than 1 gal (3.8 l) or 1 case, as appropriate, of each material and color applied.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: BEHR Process Corporation, which is located at: 3400 W. Segerstrom Ave.; Santa Ana, CA 92704; Tel: 714-545-7101; Fax: 714-241-1002
- B. Or owner and architect approved equal.

2.2 PAINT MATERIALS - GENERAL

- A. Material Compatibility: Provide block fillers, primers, and finish-coat materials that are compatible with one another and with the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
- B. VOC Classification: Provide materials, including primers, undercoats, and finish-coat materials, that meet local air quality management district regulations.
- C. Color: Refer to Finish Schedule and Paint Legend for paint colors.
- D. Application Rate: Coating thickness for primer, intermediate, barrier and finish coats

shall be measured as Dry Film Thickness (DFT) and comply with manufacturer's published recommendations.

2.3 EXTERIOR PAINT SYSTEMS

- A. Ferrous Metal - Steel / Iron:
 - 1. One Prime Coat:
 - a. BEHR PREMIUM PLUS Interior/Exterior Oil-Based Primer & Sealer No. 434.
 - 2. Two finish coats:
 - a. BEHR PREMIUM PLUS ULTRA Exterior Paint.
- B. Non-Ferrous Metal - Galvanized / Aluminum:
 - 1. One Prime Coat: (If primer is required per product instruction)
 - a. BEHR PREMIUM PLUS Exterior Water-Based Primer & Sealer No. 436.
 - 2. Two finish coats:
 - a. BEHR PREMIUM PLUS ULTRA Exterior Paint.
- C. Wood - Stain-Blocking / Tannin Bleed (i.e. Cedar and Redwood) - Solid Color Staining (If primer is required per product instruction)
 - 1. One Prime Coat:
 - a. BEHR PREMIUM PLUS Exterior Water-Based Primer & Sealer No. 436.
- D. Wood - Floors, Decks and Steps:
 - 1. One Prime Coat: (If primer is required per product instruction)
 - a. BEHR PREMIUM PLUS Exterior Water-Based Primer & Sealer No. 436.
 - 2. Two finish coats:
 - a. BEHR PREMIUM SOLID COLOR DECK, FENCE & SIDING

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- C. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.
 - 1. Notify Architect about anticipated problems when using the materials specified over substrates primed by others.
 - 2. If a potential incompatibility of primers applied by others exists, obtain the

following from the primer Applicator before proceeding:

- a. Confirmation of primer's suitability for expected service conditions.
- b. Confirmation of primer's ability to be top coated with materials specified.

3.2 PREPARATION

- A. General: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of size or weight of the item, provide surface-applied protection before surface preparation and painting.
 1. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.
- B. Cleaning: Before applying paint or other surface treatments, clean substrates of substances that could impair bond of the various coatings. Remove oil and grease before cleaning.
 1. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.
- C. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.
 1. Provide barrier coats over incompatible primers or remove and reprime.
 2. Provide barrier coats over incompatible primers or remove primers and re-prime substrate.
 3. Cementitious Substrates: Prepare concrete, brick, concrete masonry block, and cement plaster surfaces to be coated. Remove efflorescence, chalk, dust, dirt, grease, oils, and release agents. Roughen as required to remove glaze. If hardeners or sealers have been used to improve curing, use mechanical methods to prepare surfaces.
 - a. Use abrasive blast-cleaning methods if recommended by coating manufacturer.
 - b. Determine alkalinity and moisture content of surfaces by performing appropriate tests. If surfaces are sufficiently alkaline to cause the finish paint to blister and burn, correct this condition before application. Do not coat surfaces if moisture content exceeds that permitted in manufacturer's written instructions.
 4. Wood Substrates: Clean surfaces of dirt, oil, and other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Smoothly sand surfaces exposed to view and dust off.
 - a. Scrape and clean small, dry, seasoned knots, and apply a thin coat of white shellac or other recommended knot sealer, before applying primer.
 - b. Immediately on delivery, prime edges, ends, faces, undersides, and backsides of wood to be coated.
 - c. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.
 - d. Determine moisture content of surfaces by performing a moisture test.

- Do not coat if moisture content exceeds 15 percent.
5. Ferrous-Metal Substrates: Clean ungalvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with SSPC recommendations.
 - a. Blast-clean steel surfaces as recommended by coating manufacturer and according to SSPC-SP 10.
 - b. Treat bare and sandblasted or pickled clean metal with a metal treatment wash coat before priming.
 - c. Touch up bare areas and shop-applied prime coats that have been damaged. Wire brush, solvent clean, and touch up with same primer as the shop coat.
 6. Nonferrous-Metal Substrates: Clean nonferrous and galvanized surfaces according to manufacturer's written instructions for the type of service, metal substrate, and application required.
 - a. Remove pretreatment from galvanized sheet metal fabricated from coil stock by mechanical methods.
- D. Material Preparation: Carefully mix and prepare coating materials according to manufacturer's written instructions.
1. Maintain containers used in mixing and applying coatings in a clean condition, free of foreign materials and residue.
 2. Stir materials before applying to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into the material. Remove film and, if necessary, strain coating material before using.
 3. Use only the type of thinners approved by manufacturer and only within recommended limits.
 4. Tinting: Tint each undercoat a lighter shade to simplify identification of each coat when multiple coats of same material are applied. Tint undercoats to match the color of the finish coat, but provide sufficient differences in shade of undercoats to distinguish each separate coat.

3.3 APPLICATION

- A. General: Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.
- B. General: Apply high-performance coatings according to manufacturer's written instructions.
1. Use applicators and techniques best suited for the material being applied.
 2. Do not apply high-performance coatings over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to forming a durable coating film.
 3. Coating surface treatments, and finishes are indicated in the coating system descriptions.
 4. Provide finish coats compatible with primers used.
 5. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, convactor covers, grilles, covers for finned-tube radiation, and similar

components are in place. Extend coatings in these areas, as required, to maintain system integrity and provide desired protection.

- C. Application Procedures: Apply coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.
 - 1. The number of coats and film thickness required is the same regardless of application method.
 - 2. Completed Work: Match approved Samples for color, texture, and coverage. Remove, refinish, or recoat work that does not comply with specified requirements.

3.4 FIELD QUALITY CONTROL

- A. Owner reserves the right to invoke the following test procedure at any time and as often as Owner deems necessary during the period when paint is being applied:
 - 1. Owner will engage a qualified independent testing agency to sample paint material being used. Samples of material delivered to Project will be taken, identified, sealed, and certified in the presence of Contractor.
 - 2. Owner may direct Contractor to stop painting if test results show material being used does not comply with specified requirements. Contractor shall remove non-complying paint from Project site, pay for testing, and repaint surfaces previously coated with the non-complying paint. If necessary, Contractor may be required to remove non-complying paint from previously painted surfaces if, on repainting with specified paint, the two coatings are incompatible.

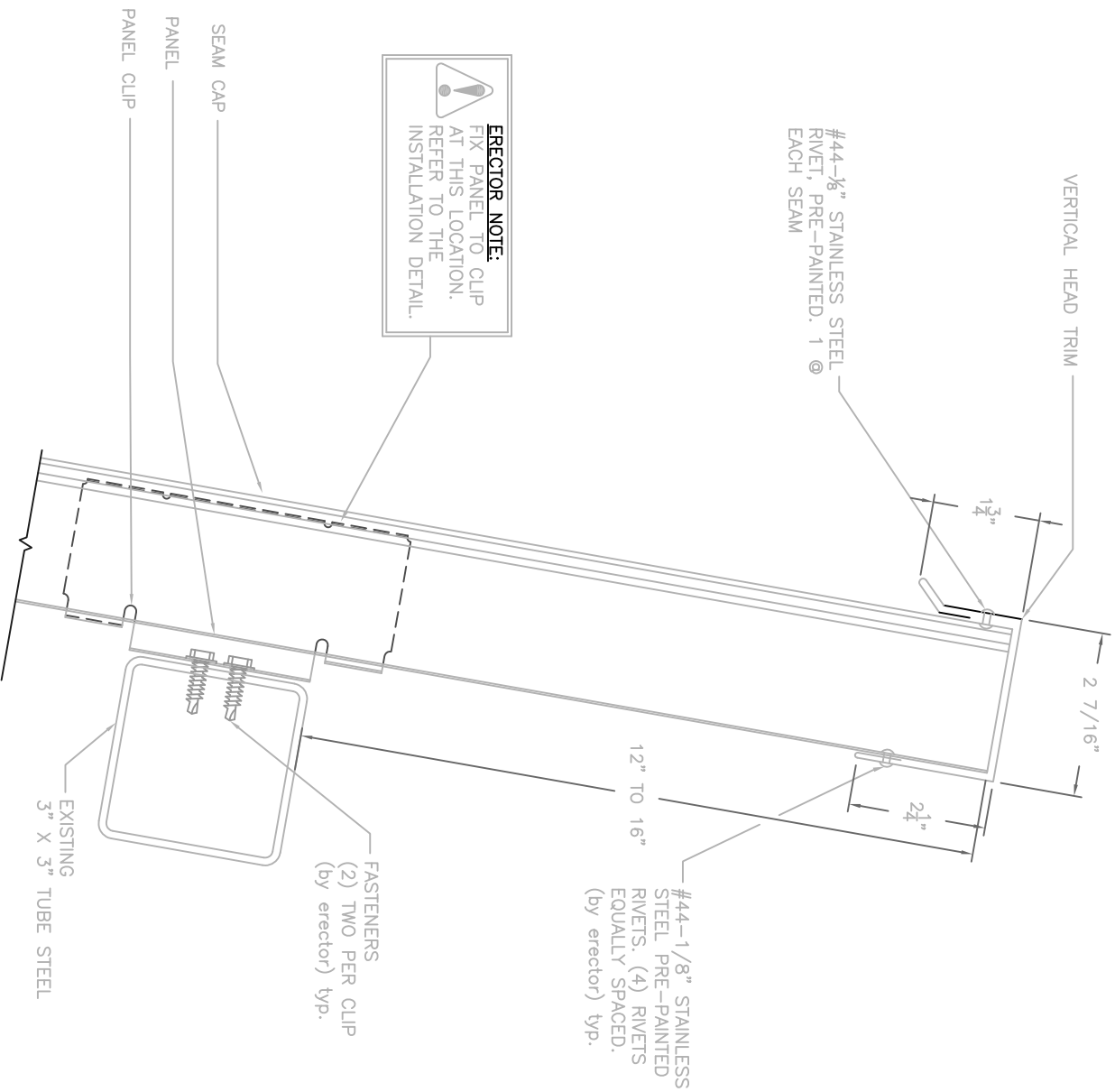
3.5 CLEANING

- A. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping without scratching or damaging adjacent finished surfaces.

3.6 PROTECTION

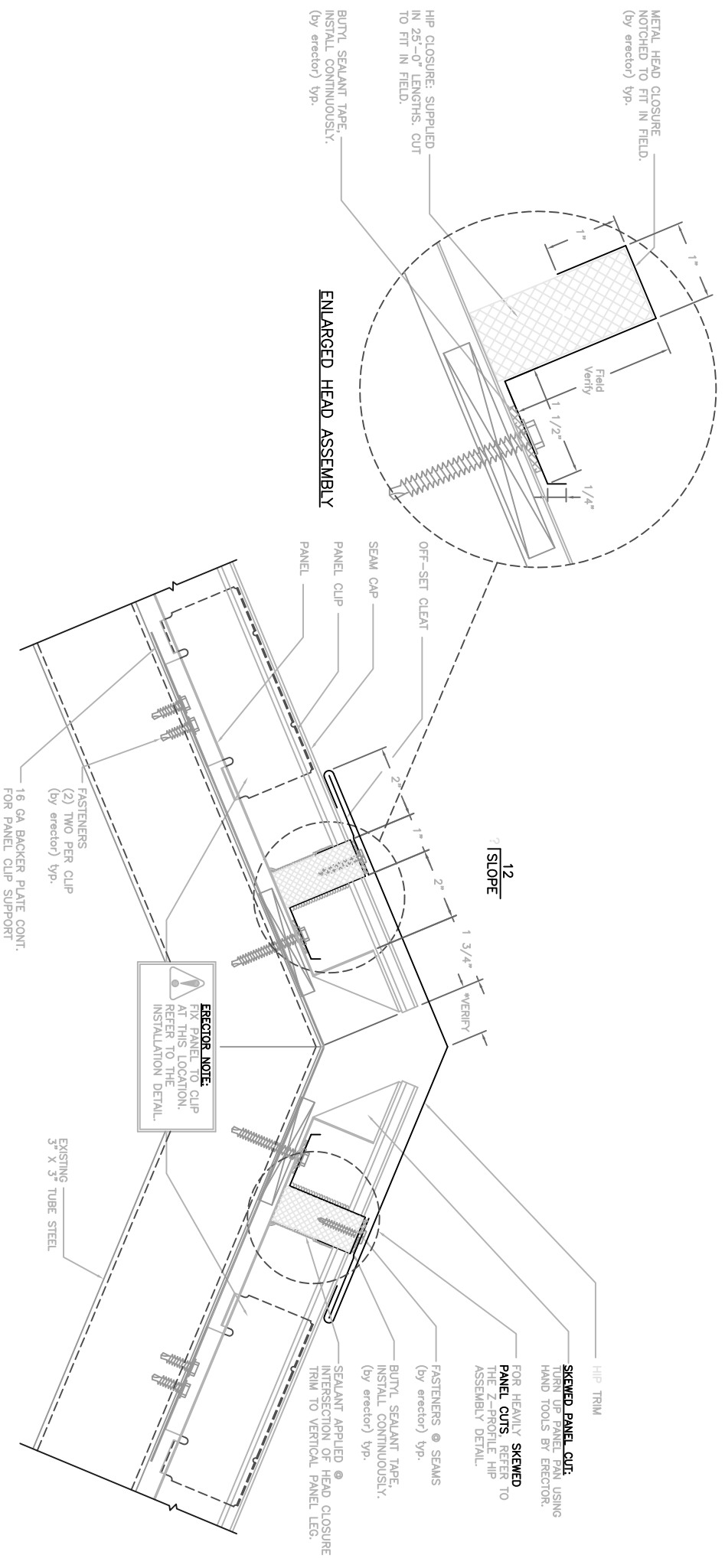
- A. Protect work of other trades, whether being painted or not, against damage from painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.
- B. Provide "Wet Paint" signs to protect newly painted finishes. After completing painting operations, remove temporary protective wrappings provided by others to protect their work.
- C. After work of other trades is complete, touch up and restore damaged or defaced painted surfaces.

END OF SECTION



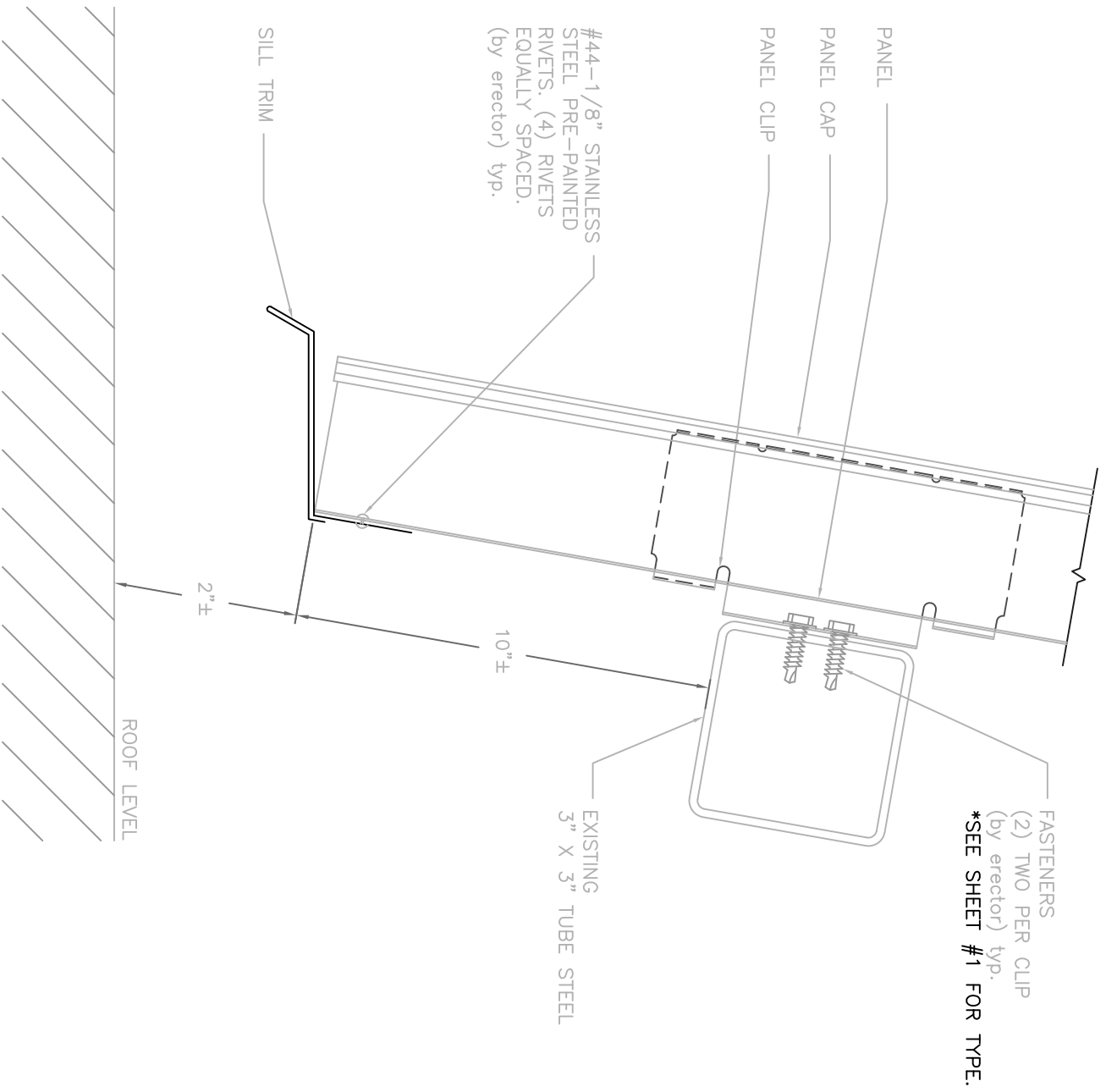
EXPANDING VERTICAL HEAD DETAIL

ARCH. REF.: NONE



FIXED HIP DETAIL (SKEWED CUT)

ARCH. REF.: NONE



#4-1/8" STAINLESS
STEEL PRE-PAINTED
RIVETS. (4) RIVETS
EQUALLY SPACED.
(by erector) typ.

FASTENERS
(2) TWO PER CLIP
(by erector) typ.
*SEE SHEET #1 FOR TYPE.

EXISTING
3" X 3" TUBE STEEL

10"±

2"±

ROOF LEVEL

EXPANDING VERTICAL SILL DETAIL



ARCH. REF.: NONE

