Project Manual
Bid Set

Project: Berkley Schools 2026 Roof Project
Districtwide

Owner: Berkley Schools
14501 Talbot
Oak Park, MI 48237

Date: 01/06/26

Prepared by:
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PROJECT DIRECTORY

BERKLEY SCHOOLS:

Berkley Schools
14501 Talbot
Oak Park, MI 48237

Contact: Meghan Ashkanani,
Assistant Superintendent of Instruction
Email: Meghan.Ashkanani@berkleyschools.org

ROOFING CONSULTANT:

Weathertech Consulting Group, Inc.
7747 Auburn Road
Utica, MI 48317

Contact: Ann Crippen, Principal
Phone: (586) 731-3095
Email: acrippen@wtcg.net

SECTION 00 01 13

INSTRUCTIONS TO BIDDERS

GENERAL CONDITIONS:

1. Proposal/Intent

Furnish materials and labor to provide all materials and installation associated with the attached drawings and specifications.

Manufacturers' numbers are shown for convenience in identifying items. Manufacturers' description constitutes requirements for each such item or component.

Use of Manufacturers' numbers and other requirements set forth in Specifications are not intended to preclude use of any other approved manufacturer's products or procedures which may be equivalent, solely as determined by the Owner, but are given for the purpose of establishing standards for design, function and quality of materials, construction and workmanship.

2. Types of Proposals
See bid proposal form.

3. Receipt of Bids

Sealed bids should be submitted to the Owner's representative, per instructions at the Mandatory Pre-Bid Meeting.

4. Bidders' Qualifications

Bidders shall be able to demonstrate the following:

Shall be reputable, recognized organization with at least five (5) years of successful experience on work of this type & scope, of equal or better quality than this project.

The District, as part of the bidder's qualifications, can include as part of the criteria for determining which vendor to recommend to the Board, information on whether the vendor or the owner is a taxpayer in the District (local vendor consideration). Bid form has a place for the bidder to indicate if they fall within this criterion. If necessary, the District will ask for information documenting this bidder's status after the bid opening.

5. Warranty

Contractor shall warranty materials and installation of all components for a period of 18 months from date of acceptance by the owner of job completion.

Work Schedule

Substantial Completion: No later than August 14, 2026

Final Completion:	Thirty days after substantial completion
Normal Work Hours:	7:00 AM to 6:00 PM Monday through Friday; Make-up Day is Saturday

6. Clean-up and Disposal

The Contractor shall be responsible to clean-up all debris and dispose of it off-site. This MUST BE DONE DAILY. If the District has to provide clean up after contractors, there will be a $500 per event fee in addition to disposal costs.

7. Damage Repair

Survey of the site will be conducted, and documented by the contractor to determine current site conditions. Survey to be provided to the District prior to the start of construction. Contractor shall be responsible to repair any damage to the site, that occurs during this project.

Contractors and their Sub Contractors shall park their work vehicles in the area(s) designated for parking. Contractors and their Sub Contractors shall not park or drive on sidewalks or landscape areas. Failure to repair, District will complete, and Contractor will be responsible for all costs.

8. Submittal of Bid

Before submitting a bid, bidders shall carefully read all the bid documents in order to avoid omission or duplications. To ensure a complete project, bidders shall visit the premises, verify site conditions and conditions under which work under the contract must be conducted. Submission of a bid signifies that the bidder has visited the project premises, has made examinations and verifications and is fully conversant with all conditions under which the work is to be performed. No claims for additional compensation will be considered or paid to the successful bidder, due to said successful bidder's failure to be so informed.

Any exceptions to the terms and conditions contained in this RFP or the form Contract attached to this RFP, if there is one attached, or any other special considerations or conditions requested or required by the bidder MUST be specifically enumerated by the bidder and be submitted and accepted prior to the bid due date, together with an explanation as to the reason such terms and conditions of this RFP or form of Contact cannot be met by, or in the bidder's opinion should not be applicable to, the bidder. The bidder shall be required and expected to meet the bid documents and the requirements as set forth in this RFP and the form of Contract in their entirety, except to the extent exceptions or special considerations or conditions are expressly set forth in the bidder's Proposal and those exceptions or special considerations or conditions are expressly accepted by the District.

9. Familial Relationship

All bidders must provide familial disclosure in compliance with MCL 380.1267 and attach this information to the bid. The bid shall be accompanied by a sworn statement disclosing any familial relationship that exists between the owner or any employee of the bidder and any member of the board or the superintendent of the school district. The District shall not accept a bid that does not include this sworn disclosure statement.

10. Iran Economics Sanctions Act

Each bid must be accompanied by a sworn statement certifying that the Contractor is not an "Iran linked business" within the meaning of the Iran Economic Sanctions Act, PA 516 of 201.

11. Withdrawal of Bids

Any bidder may withdraw his bid at any time prior to the scheduled time for receipt of bids. No proposals may be withdrawn for at least sixty (60) days after the scheduled closing time of the bid.

12. Firm Prices

Prices and notations must be typed or in ink. No erasures are permitted. Mistakes may be crossed out and corrections entered and initialed, in ink, by the person signing the proposal.

In the event of discrepancy between the unit price and the extension, the UNIT PRICE SHALL GOVERN. The price inserted must be net including all freight, discounts, rebates, and allowances.

13. Permits, Fees, Regulations and Taxes

The Contractor shall obtain and pay for all permits, assessments, fees, bonds, and other charges as necessary to perform and complete the work of this contract, including disconnection charges, capping and unplugging utilities.

The Contractor shall be responsible for obtaining all permits and licenses necessary for the proper completion of project. Permits and licenses are available from the appropriate agencies having jurisdiction. The Contractor shall give all notices, pay all fees and comply with all laws, ordinances, rules and regulations bearing on the work.

At the completion of the project, the contract will provide to the District all paperwork related to the full execution of the permits(s), including all payments and inspections.

If any of the work of the Contractor is done contrary to such laws, ordinance rules and regulations without such notice, he shall bear all costs arising therefrom. The Contractor shall include all cost and taxes in its bid and make proper provisions for payment of all other State and Federal applicable taxes, fees or other costs.

The bid amount shall INCLUDE sales tax.

14. Delivery/Installation

Time of delivery is part of the consideration. It is understood that the bidder agrees to deliver prepaid to the schools, specified from the resulting contract, all items. All cost of delivery, drayage, freight, packing, unpacking, and setup are to be included in the prices bid.

The Contractor is responsible for removing from the project all waste materials and rubbish resulting from his operations and installation including all packing cartons and debris. Removal is to occur on a daily basis. Failure to do so will result in the Owner doing so and the cost thereof shall be charged to the Contractor as a deduction in his contract price.

The Contractor shall provide an adequate number of qualified, experienced installers, in harmony with other works at the site.

15. Bonds

Bid Bond, money order or certified check, for an amount not less than five percent (5%) of the amount of the bid, must accompany each bid. The check and money order of each unsuccessful bidder will be returned within ten (10) days after the bid is awarded. Failure of any accepted bidder to enter into a contract to complete the specified work may forfeiture of their bid security. Failure to submit proper bid security shall constitute rejection of bid.

16. Performance Bond/Payment Bond

Within fourteen (14) days after date of issuance of written notice of selection for the award of a contract, which shall be considered as the notice to proceed, the successful bidder shall enter into a contract with the Owner and shall execute and file with the Owner, the following in the amount 100% equal to full contract sum.

The Performance Bond must insure the faithful performance of all provisions of the contract and satisfactory completion of the specified work, within the time agreed upon.

The **Payment Bond** must insure the payment and protection of claimants supplying labor or materials to the principal contractor or his subcontractors in the prosecution of the work provided for in the contract. The successful contractor's bond company must be listed by the State of Michigan as a licensed carrier and have an excellent or superior rating from AM Best Company.

17. Safety

Under the "General Conditions of the Contract for Construction" of the contract to be awarded, the Contractor;

a. shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures;
b. shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the contract;
c. shall take reasonable precautions for safety of all persons who may be affected, including employees of the Contractor and Subcontractor; and
d. shall have an accident prevention representative at the site.
e. Shall have and follow their Corporate Safety Plan/Program

The general conditions of the contract for construction and the agreement also require that the Contractor indemnify the Owner, its officers, agents, servants, volunteers and employees in the event of certain claims arising out of the performance of the work.

18. Insurance Requirements

The Contractor shall protect, defend and indemnify the Owner, its officers, agents, servants, volunteers, and employees from any and all liabilities, claims, liens, demands, and costs of whatsoever kind and nature which may result in injury or death to any persons, and for any result in injury or death to any person, and for loss or damage to any property, including property owned or in the care, custody, or control of the Owner in connection with or in any way incident to or arising out of the occupancy, use, with this Agreement resulting in whole

or in part from negligent acts or omissions of the Contractor, any Subcontractor, or any employee, agent or representative of the Contractor or any Subcontractor.

The Contractor shall maintain, at its expense, during the term of this contract the following insurance:

a. Worker's Compensation Insurance with statutory limits and Employer's Liability Insurance with a minimum limit of $1,000,000 each occurrence.

b. Comprehensive General Liability Insurance with a minimum combined single limit of $1,000,000 per occurrence, $2,000,000 aggregate, in the same amount made for bodily injury and property damage. The policy is to include products and completed operations, cross liability, broad form property damage, independent contractors, and contractual liability coverage. The policy shall be endorsed to provide sixty (60) days written notice to the District of any material change of coverage, cancellation, or non-renewal of coverage.

c. If Subcontractors are likely to be used, the Comprehensive General Liability policy shall include coverage for independent Contractors.

d. Owner's Contractor's Protective Policy-comprehensive in the name of the Owner, with a minimum combined single limit of $1,000,000 per occurrence in the same amount for bodily injury or property damage.

e. Automobile Liability insurance covering all owned, hired, and non-owned vehicles with personal protection insurance and property insurance to comply with the provisions of the Michigan no-fault Insurance Law, including residual liability insurance with a minimum combined single limit of $1,000,000 each occurrence of bodily injury and property damage.

f. All insurance policies shall be issued by companies licensed to do business in the State of Michigan. The companies issuing the policies must be domestic (on-shore) companies and have an A rating by AM Best.

g. The Contractor shall be responsible for payment of all deductibles contained in any insurance policy required in this contract.

19. Compliance with School Safety Initiative Legislation

Meeting the requirements of the School Safety Initiative Legislation, being MCL 380.1230, 380.1230a, 380.1230c, 380.1230d and 380.1230g.

The Bidder acknowledges and agrees that the Bidder will have any and all its installation personnel (including sub-contractors) subjected to criminal history and background checks. Criminal history and background checks will be done within a year of the beginning of the project and should be completed before worked begins on this project.

The Bidder is required to provide written documentation for all on site personnel. The documentation will also verify that none of the personnel have a "listed offense" as indicated below. This documentation is to be provided before the beginning of the project and updated as necessary for any additions or subtractions from the list as long as the project lasts.

The Bidder shall indemnify, defend and hold the District, its employees, Board of Education, and each member thereof, agents and consultants, harmless from and against any and all claims, counter-claims, suits, debts, demands, actions, judgments, liens, liabilities, costs, expenses, including actual attorney's fees and actual expert witness fees, arising out of or in connection with any violation of, or the Bidder's failure to comply with the above paragraphs. The Bidder shall be responsible for all costs and expenses associated with the above-required criminal history and background checks.

LISTED OFFENSES

a. MCL 750.145a - Accosting, enticing or soliciting child (less than 16 years of age) for immoral purposes.
b. MCL 750.145b - Accosting, enticing or soliciting child (less than 16 years of age) immoral purposes – second or subsequent offenses.
c. MCL 750.145c - Involvement in child sexually abusive activity or material, including possession of child sexually abusive material ("child" is a person less than 18 years of age who has not been legally emancipated.)
d. MCL 750.158 - Crime against nature (i.e., sodomy and beastiality) if the victim is an individual less than 18 years of age.

A third of subsequent violation of any combination of the following:

i. MCL 750.167(1)(f) - indecent or obscene conduct in a public place;
ii. MCL 750.335a - indecent exposure;
iii. A local ordinance of a municipality substantially corresponding to a section described in (a) or (b), *supra.*

e. Except for juvenile disposition or adjudication, a violation of:
i. MCL 750.338 - gross indecency between males; fellatio or masturbation;
ii. MCL 750.338a - gross indecency between females; oral sex;
iii. MCL 750.338b - gross indecency between male and female persons;
iv. if the victim is an individual less than 18 years of age.
f. MCL 750.349 - Kidnapping, if victim is an individual less than 18 years of age.
g. MCL 750.350 - Kidnapping; child under 14 years of age with intent to detain or conceal from child's parent or legal guardian.
h. MCL 750.448 - Soliciting or accosting by a person 16 years of age or older, if victim is an individual less than 18 years of age.
i. MCL 750.455 - Pandering
j. MCL 750.520b - First degree criminal sexual conduct.
k. MCL 750.520c - Second degree criminal sexual conduct.
l. MCL 750.520d - Third degree criminal sexual conduct.
m. MCL 750.520e - Fourth degree criminal sexual conduct.
n. MCL 750.520g - Assault with intent to commit criminal sexual conduct.
o. Any other violation of a law of the state or a local ordinance of municipality that by its nature constitutes a sexual offense against an individual who is less than 18 years of age.
p. MCL 750.10a - Offense by sexually delinquent person (i.e., "any person whose sexual behavior is characterized by repetitive or compulsive acts which indicate a disregard of consequences or the recognized rights of others, or by the use of force upon another person in attempting sexual relations of either a heterosexual or homosexual nature, or by the commission of sexual aggressions against children under the age of 16").
q. An attempt or conspiracy to commit an offense described in (1) through (17).
r. An offense substantially similar to an offense described in (1) through (17) under a law of the United States, any state, or any country or any tribal or military law.

20. Termination by the District for Convenience

The District may, at any time, terminate the Contract for the District's convenience and without cause.

Upon receipt of written notice from the District of such termination for the District's convenience, the Contractor shall:

a. Cease operations as directed by the District in the notice;
b. Take actions necessary, or that the District may direct, for the protection and preservation of the Work; and
c. Except for Work directed to performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further Subcontracts and purchase orders.

21. Bids, Notifications, Claims and Statements shall be signed as follows:

The person who has signed the proposal form shall have the authority to do so under the structure of the Bidder.

22. Owner Is An Equal Opportunity Employer

The Owner is an Equal Opportunity Employer. Pursuant to the Executive Order 11246 as amended, you are advised that under the provisions of this order, Contractors and Subcontractors are obligated to take affirmative action to provide equal opportunity without regard to race, creed, color, national origin, age or sex.

23. Michigan Right to Know Law

Berkley Schools will comply with the Michigan Right to Know Law by informing Contractors of hazardous chemicals to which they may be exposed. All Contractors will be required to provide Material Safety Data Sheets for any hazardous chemicals brought to the workplace. The Contractor shall comply with all applicable provisions of the Occupational Safety and Health Act for the duration of the specified work.

24. Asbestos Hazard Emergency Response Act

As required by the Environmental Protection Agency Asbestos Hazard Emergency Response Act, each school district is responsible for providing contractors with information regarding locations of known or assumed asbestos containing material prior to the Contractor entering a building under the school district's jurisdiction. The successful bidder will be required to complete the school district's Contractor Notification forms.

25. Notification of Assumed Lead-Containing Materials

The intent of this section is to formally notify all Contractors and Sub-Contractors applying for or bidding on work covered within this specification that, due to the age of the facilities within this District, there is the presumption that building components do contain lead-based paint pursuant to OSHA definition. The District has not conducted lead-based paint inspections. As a result, all Contractors and Sub-Contractors bidding must assume that building components do contain lead-based paint.

Furthermore, all awarded Contractors and Sub-Contractors shall be responsible to comply with all applicable Federal and Michigan State lead regulations including, but not limited to,

29 CFR Part 1926.62 of the OSHA Lead Construction Standard, (Part 603 of the Michigan State Standards). All costs associated with regulatory compliance shall be borne by the Contractor and/or Sub-Contractor.

26. General Conditions

The District reserves the right to accept or reject any or all proposals, to waive irregularities, and to accept a proposal which, in the District's opinion, is in the District's best interest.

The District reserves the right to declare as non-responsive, and reject, any bid which is incomplete or where material information requested in not furnished, or where indirect or incomplete answers or information is provided.

Negligence in preparation, improper preparation, errors in, or omissions from, proposal shall not relieve a bidder from fulfillment of any and all obligations and requirements of the proposed Contract Documents.

The District expects that the awarded bidder will complete the work as outlined in the bid documents for the amount bid by the bidder. Any additional costs above the amount bid and awarded, must be approved by the District in advance of any work.

Voluntary alternates for bids are acceptable but should NOT be put in the space for the Base Bid on the Bid Response Form but on an attached sheet, clearly labeled Voluntary Alternative. Such Alternates should be described in enough detail for the District to understand the Bidder's intent.

Owner may choose to conduct testing to verify correct products and installation. If the materials and installation are found not to be per spec, Owner will require subsequent tests to be performed by Owners testing company at contractors' expense.

No responsibility shall attach to the District, or the authorized representatives of either one, for the premature opening of any proposal, which is not properly addressed and identified.

The Contract Documents, as outlined in the executed Agreement, shall imply the inclusion of the entire agreement between the parties thereto, and the Contractor shall not claim any modification thereof resulting from any representation or promise made at any time by an officer, agent or employee of the District or by any other person.

27. DAVIS BACON WAGE RATES

Davis Bacon Wage Rates must be paid for all work at this location. You will be required to submit Certified Payroll Reports with your invoicing for this project.

SECTION 00 02 00

SUMMARY OF WORK

PART 1 - GENERAL

1.01 INTRODUCTION

A. This section summarizes the scope of roofing work to be performed for the Berkley Schools and facilities identified as Berkley Schools 2026 Roof Project Districtwide.

B. Information in this section is provided as a general overview of the project scope, and as such, does not grant authority for deviation from the specifications for product, executions, or quality assurance contained in other related sections. The Roofing Contractor shall remain solely responsible for comprehensive review of the entire contract documents to include the contract drawings in preparation of his bid.

1.02 WORK COVERED BY CONTRACT DOCUMENTS

A. The Roofing Contractor shall be considered the prime contractor and include in his base bid, all cost relating to:

School/Bldg	Address	Reroofing Sq. Ft.	Roof Area(s)	Project Time Frame
Administration Building	14501 Talbot Oak Park, MI 48237	**25,400**	**Entire Building**	**6/13/26-8/14/26**
Norup International School	14450 Manhattan Street Oak Park, MI 48237	**35,700**	**RA A1, A2, A3, D, E, G and I**	**6/13/26-8/14/26**
The Den	2119 Catalpa Drive Berkley, MI 48072	**14,500**	**Entire Building**	**Upon Receipt of Contract or Agreed Upon with District - 8/14/26**
Total Roof Area (Sq. Ft.)		**75,600**		

GENERAL PROJECT REQUIREMENTS

A. The following paragraphs are generally applicable requirements for performance of Work on this project.
   1. Construction details for the Work of these specifications are as noted on the contract drawings and as contained in other related sections and photographs. Installation shall conform to contract details. The specifications and details designed specifically for this project may supersede manufacturer's printed literature. Contract drawings shall be used mutually with requirements set forth in contract specifications and photographs. In the event, where provisions of codes, safety orders, contract documents, referenced manufacturers specifications or industry standards are in conflict, the more restrictive and higher quality shall govern. In instances where specific conditions exist that vary from the contract construction details or the manufacturer's details, the Contractor shall submit a Manufacturer approved shop drawing for consideration by the Owner. Installation shall not begin until approval by the Owner has been given in writing.

2. Unless otherwise shown or noted on the Contract Drawings, existing, functional and salvageable, sheet metal counter flashings or coping metals shall be carefully handled to allow reuse after the specified roofing work is complete. Damage done to otherwise salvageable metal flashings shall be repaired via replacement with new metal to match existing in the damaged area of section at no additional cost to owner.

3. As stated elsewhere in the contract documents, all safety, health, and environmental regulation of either local or national legislative bodies, as well as those of the product manufacturers, shall be complied with by the successful bidder for the project work. The cost of compliance with such regulations shall be included in the bidder's base bid without exception for compliance waiver or change order.

4. The Contractor shall exercise all due precaution to prevent disruption to the occupancy of the facility interior or grounds. Every effort must be employed to prevent causing additional damage to the existing roofing assembly while working in an adjacent area, point overloading of the roof deck, damage to roof areas not in this contract. In the event that new leaks or other such disruptive or damaging conditions are brought on as a result of the contractor's negligence, poor judgement, or failure to comply with the contract specification requirements, the Contractor shall repair such damage to the satisfaction of the Owner at no additional charge to the Owner.

5. During periods of precipitation, the Contractor shall be responsible for performing, at least daily, interior-building inspections for leaks in the area of his work. Contractor's representative shall report to the Owner's facility manager to inquire about known building roof leaks. Should there be any such leaks, the contractor shall repair them immediately to prevent interior building damage. All leak-related damage to the building under areas the contractor has worked on, or is working on, shall be repaired to the satisfaction of the Owner at no cost to the Owner.

6. The Contractor shall maintain a complete set of Contract Specifications, Contract Drawing, and other items identified in the contract documents on the rooftop during the course of work on this facility. Failure of proper installation by the contractor, due to unavailability of Contract Specifications or Drawings on the roof, constitutes negligence.

7. Protection of all operations, merchandise, inventory, equipment and personnel shall be provided by the contractor.

1.03 CONTRACTOR USE OF SITE AND PREMISES

A. Reference Section 01 14 19 Use of Site

B. Reference Instructions to Bidders

C. Reference Supplemental Conditions.

1.04 FUTURE WORK

A. None scheduled at this time.

1.05 WORK HOURS AND SEQUENCE

A. As agreed to between Owner and Contractor.

1.06 OWNER OCCUPANCY

A. The owner will occupy the site during the entire period of work for the conduct of normal operations.
   1. Reference General Conditions
   2. Cooperate with Owner to minimize conflict, and to facilitate Owner's operations.
   3. Schedule the Work to accommodate owner occupancy.
   4. Coordinate with Owner for any additional insurance and/or bond requirements regarding Owner Occupancy.

PART 2 – PRODUCTS: NOT USED

PART 3 – EXECUTION: NOT USED

END OF SECTION 00 02 00/SUMMARY OF WORK

Section 00 03 00
Bid Form

TO: Berkley Schools
14501 Talbot
Oak Park, MI 48237
attn: Meghan Ashkanani

PROJECT: Berkley Schools 2026 Roof Project Districtwide

PROFESSIONAL: WeatherTech Consulting Group, Inc.

Name of Bidding Co.: Contact

Name:

Email Address:

Business Address:

Phone No.

Base Bid: The undersigned proposes to furnish all labor and materials and provide all equipment and manpower necessary to perform all work for the various parts of the construction in accordance with the above referenced documents for the considerations of the following amount(s):

Bids for each individual school to include specified Reroofing work plus specified Allowances in bid documents. All bids to include state and local taxes; licensing, allowances, bonds and permitting fees.

Please Note: Davis-Bacon wage rates are required for all work performed at this location. Certified Payroll Reports must be submitted with each invoice for this project.

BASE BIDS

1. Bid Administration Building, Roof Replacement A

A. $_____ Total Bid

Manf _____ Work Days: _____

2. Bid Norup International School, Reroof Roof Area(s) RA A1, A2, A3, D, E, G and I

A. $_____ Total Bid

Manf _____ Work Days: _____

3. Bid The Den Building Roof Replacement

A. $_____ Total Bid
Manf _____ Work Days: _____

All bid proposals enumerated in this Bid Proposal Form include overhead, profit and all other expenses involved in the execution and completion of the work described in the

Contract Documents.

Bid prices in this Bid DO include applicable sales tax.

If awarded a contract, I propose to contract with the following subcontractors for listed work and further agree that subcontractors may not be changed without owners' written consent. See attachment 00 43 36 List of Subcontractors. Subcontractors required to attend Post Award Conference. Named subcontractors must have a reputation of competency in their fields of work. I assume responsibility for quality of work performed by my subcontractors.

WARRANTY:
Roof Replacement:
1. Contractor to provide a five (5) year guarantee (Performance Agreement) covering contractor provided materials and workmanship for installation of those materials in all roof areas.
2. Manufacturer of roof membrane to provide a 30 year "No-Dollar-Limit" material and installation warranty covering the roof system including roof membrane, flashings, insulation, prefabricated and other accessories. (Except where specified in documents.)

Note: All other subcontractors shall be submitted within _21___ days of bid due date, if requested.

TIME OF COMPLETION:

The undersigned agrees, if awarded the contract, work shall be substantially completed within _____ working days commencing when Work at Project Site begins. The Undersigned further agrees that the owner that work will progress on a continuous basis Monday thru Friday (Saturday as weather make up day) maximum 10 hours per day during the execution of the contract unless delayed due to weather. Definition of weather delays will be agreed to between Berkley Schools and Contractor prior to start of work.

The undersigned agrees, if awarded the contract, work shall be substantially completed within _____ working days of the Owner's written Notice to Proceed. The Undersigned further agrees that the owner may retain, from the compensation otherwise due, the sum of $500.00 for each calendar working day (Monday through Friday) expiring beyond the fixed time of substantial completion (substantial completion is defined in the Bid Documents), this sum not to be construed as a penalty, but as a fixed, agreed liquidated damages amount which the owner shall sustain in case of failure of the undersigned to substantially complete the work within the time stipulated.

The Contractor shall have five business days to deliver a Payment and Performance Bond in the format detailed.
Receipt of Pre-Bid and Addenda (List by number and date appearing on Addenda):

Pre-Bid Minutes **Date: _____**

Addendum #_____ **Date: _____**

Addendum #_____ **Date: _____**

Addendum #_____ **Date: _____**

EXECUTION OF BID:

NAME OF BIDDING COMPANY: _____
TYPE OF CORPORATE ENTITY:_____
EXECUTED BY:_____

SIGNATURE:
DATE:_____

SECTION 00 03 01
UNIT PRICES

Date: _____

To: Berkley Schools
14501 Talbot
Oak Park, MI 48237

Attn: Meghan Ashkanani

Project: Berkley Schools 2026 Roof Project Districtwide

In the event changes are made in the plans and specifications, we agree the total contract price will be adjusted on the basis of the unit prices (including overhead and profit) for those items listed below.

A Unit Price is an amount proposed by Bidders and stated on the Bid Form as a price per unit of measurement for materials or services that will be added to or deducted from the Contract Sum by Change Order in the event the estimated quantities of Work required by the Contract documents are increased or decreased.

Unit prices include necessary materials, overhead, profit, and applicable taxes.

The Owner or Consultant reserve the right to reject the Contractor's measurement of work-in place that involves use of established unit prices, and to have this work measured by an independent surveyor acceptable to the Contractor at the Owner's expense.

All allowances calculated using unit pricing values.

In order for our bid to be acceptable, unit prices are given for each item shown:

1. Labor Rate:
   Unit cost per hour including labor, overhead, profit, insurance and transportation to address latent conditions.
   Add $_____ per hour

2. Roof Walkway: Unit cost per 30 in. X 30 in. pad for installation at other areas not specified.
   Add $_____ per lf

3. Replacement Roof Drain Bowl: Unit price per drain (15 in. dia.) including, clamping ring, strainer all cast iron; all necessary piping and hook ups to match existing.
   Add $_____ per drain

4. Replacement Roof Drain Clamping Ring: Unit price per universal cast iron clamping ring (15 in. dia. drain) and accessories including drilling and retapping as necessary.
   Add $_____ per ring

5. Replacement Roof Drain Strainer: Unit price per cast iron strainer (15 in. dia. drain).
   Add $_____per strainer.

6. Replacement Wood Nailer: Unit cost per linear foot to replace deteriorated wood nailers with new wood nailers to match existing.
   Add $_____ per ln. ft. 2x4
   Add $_____ per ln. ft. 2x6
   Add $_____ per ln. ft. 2x8
   Add $_____ per ln. ft. 2x10

7. Interior Protection: Unit cost per square foot to install a minimum 7 mil reinforced polyethylene sheet covering contents of interior from any water or debris damage (applies to IP beyond requirements for deck repair areas).
   Add $_____per sq. ft.

8. Paint Rusted Steel Deck: Unit cost per square foot to prepare and prime paint (2 coats) surface rusted steel decking.
   Add $_____per sq. ft.

9. Repair Steel Deck with Sheet Metal: Unit cost per square foot to prepare and prime paint steel decking and install 20 gage galvanized steel sheet metal patch material.
   Add $_____per sq. ft

10. Replace Steel Deck: Unit cost **per square foot** to replace deteriorated steel deck with new deck to match existing.
    Add $_____per sq. ft for 22 ga. painted Type B deck.
    Add $_____per sq. ft for 22 ga. painted Type A deck.

11. Replace Steel Deck: Unit cost per panel (**use 3' wide by 20'-3" panel or approx. 60 sf**) to replace deteriorated steel deck with new deck to match existing.
    Add $_____per 60 sq. ft. for 22 ga. painted Type B deck.
    Add $_____per 60 sq. ft. for 22 ga. painted Type A deck.

12. Drain Inserts: Unit price per 3 inch drain insert.
    Add $_____ per drain insert.

13. Gypsum Deck Replacement: Unit cost per 10 sq. ft. to remove existing damaged or otherwise nonfunctional gypsum deck (and as applicable gypsum form board) and replace w/ 22 ga. gal. Type B metal deck fastened to purlins and install polyisocyanurate insulation fill approx. 4.0 thick to match height of existing deck.
    Add $_____ per 10 sf of gypsum deck replacement.

14. Tapered Insulation: Unit cost per 100 sq ft to furnish and install ½ in. sloped tapered insulation
    Add $_____ per 100 sf of new tapered insulation.

15. New Roof Drain: Unit per per drain to install new 3" diameter roof drain, including tie-in to existing plumbing inside the building below.
    Add $_____ per new drain.

16. New Drain Lines: Unit price per 10 linear foot to install new insulated 3" Schedule 40 PVC drain lines, including hangers and integral vapor retarder.
    Add $_____ per 10 lf of drain pipe lines.

17. Polyisocyanurate Insulation: Unit price per 2 in. x 4ft x 8 ft board to furnish and install.
    Add $_____ per 2 in. x 4ft x 8 ft board.

18. Cementitious Wood Fiber (CWF): Replacement: Unit cost per 24 in x 48 in x 2 in. panel to remove existing damaged or otherwise nonfunctional CWF panel match height of existing deck.

    Add $_____ per panel of Cementitious Wood Fiber deck replacement.

_____
Company

_____
Contractor Signature

_____
Contractor Name Print

_____
Date

PAYMENT BOND

Know all men by these presents: That

_____

_____, the Contractor ("Principal") whose principal place of business is located at

_____

_____ and

_____("Surety") are held and firmly bound unto

_____

_____ _____, the Owner ("Obligee") in the amount of

_____

_____dollars ($_____) for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Whereas, Principal has by written agreement dated

_____ entered into a contract with Obligee for

_____

_____which contract (the "Contract") is by reference expressly made a part hereof.

Now therefore, the condition of this obligation is such that, if the Principal shall promptly make payment to all claimants as hereinafter defined, for labor performed and material furnished in the prosecution of the Work provided for in the Contract, then this obligation shall be void; otherwise it shall remain in full force and effect; subject, however, to the following conditions.

The Principal and Surety, jointly and severally, hereby agree with Obligee as follows:

1. A claimant is defined as one having a direct contract with the Principal or with a subcontractor of the Principal for labor, material, or both for use in the performance of the Contract. A "subcontractor" of the Principal, for the purposes of this bond only, includes not only those subcontractors having a direct contractual relationship with the Principal, but also any other contractor who undertakes to participate in the Work which the Principal is to perform under the aforesaid Contract, whether there are one or more intervening subcontractors contractually positioned between it and the Principal (for example, a subcontractor). "Labor" and "material" shall include, but not be limited to, public utility services and reasonable rentals of equipment, but only for periods when the equipment rented is actually used at the work site.

2. Subject to the provisions of paragraph 3, any claimant who has performed labor or furnished material in accordance with the Contract documents in the prosecution of the Work provided in the Contract, who has not been paid in full therefore before the expiration of ninety (90) days after the day on which such claimant performed the last of such labor or furnished the last of such materials for which he claims payment, may bring action on this bond to recover any amount due

him for such labor or material, and may prosecute such action to final judgment and have execution on the judgment. The Obligee need not be a party to such action and shall not be liable for the payment of any costs, fees, or expenses of any such suit.

3. Any claimant who has a direct contractual relationship with any subcontractor of the Principal from whom the Principal has not required a subcontractor payment bond, but who has no contractual relationship, express or implied, with the Principal, may bring an action on this bond only if he has performed the last of the labor or furnished the last of the materials for which he claims payment, stating with substantial accuracy the amount claimed and the name of the person for whom the Work was performed or to whom the material was furnished. Notice to the Principal shall be served by registered or certified mail, postage prepaid, in an envelope addressed to the Principal at any place where his office is regularly maintained for the transaction of business. Claims for sums withheld as retainages with respect to labor performed or materials furnished shall not be subject to the time limitations stated in this paragraph 3.

4. No suit or action shall be commenced hereunder by any claimant.

    a. Unless brought within one year after the day on which the person bringing such action last performed labor or last furnished or supplied materials, it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof, the limitation embodied within this bond shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

    b. Other than in a state court of competent jurisdiction, with a venue as provided by statute, or in the United States District Court for the district in which the project, or any part thereof, is situated.

5. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder.

Signed and sealed this _____ day of
_____, 20_____.

_____ (Seal)
Contractor/Principal

_____ By: _____
Witness *Signature in ink* *Date*

Title: _____

_____ (Seal)
Surety

By: _____

Attorney-in-fact *Date*

Name: _____
(Type)

My Power of Attorney is recorded in Office of the Register of Deeds/the Clerk's Office of the Circuit Court (select as appropriate for the local jurisdiction) of _____, state of _____,
and has not been revoked.

_____
Attorney-in-fact

Affidavit and acknowledgment of attorney-in-fact

State of _____

City and/or county of _____ to wit:

I, the undersigned notary public, do certify that _____ personally appeared before me in the jurisdiction aforesaid and made oath that he/she is the attorney-in-fact of _____ _____, the Surety, that he is duly authorized to execute on its behalf the foregoing Bond pursuant to the Power of Attorney noted above, and on behalf of said Surety, acknowledged the aforesaid Bond(s) as its act and deed.

Given under my hand this _____ day of _____, 20_____ .

Notary Public: _____(Seal)

My Commission expires: _____

Approved:

_____
Owner/designee *Date*

PERFORMANCE BOND

Know all men by these presents: That_____

_____, the Contractor ("Principal") whose principal place of business is located at

_____and

_____

("Surety") are held and firmly bound unto _____

_____, the Owner ("Obligee") in the amount of _____

_____dollars ($_____)

for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

Whereas,

Principal has by written agreement dated _____ entered into a contract with Obligee for_____

_____

which contract (the "Contract") is by reference expressly made a part hereof.

Now therefore, the condition of this obligation is such that, if the Principal shall promptly and faithfully perform said Contract in strict conformity with the plans, specifications, and conditions of the Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

Provided that any alterations which may be made in the terms of the Contract, or in the Work to be done under it, or the giving by the Obligee of any extension of time for the Contract, or any other alterations, extensions, or forbearance on the part of either or both of the Obligee or the Principal to the other shall not in any way release the Principal and the Surety, or either of them, their heirs, executors, administrators, successors, or assigns from their liability hereunder, notice to the Surety of any such alterations, extension, or forbearance being hereby waived.

No action shall be brought on this bond unless brought within one year after: (a) completion of the Contract and all Work thereunder, including expiration of all warrantees and guarantees, or (b) discovery of the defect or breach of warranty or guarantee if the action be for such.

The Surety represents to the Principal and to the Obligee that it is legally authorized to do business in the State in which the Work is being carried out.

Signed and sealed this day_____day of_____20_____

_____(Seal)
Contractor/Principal

_____ By:_____
Witness Signature in ink Date

_____
Title

_____**(**Seal)
Surety

By:_____
Attorney-in-fact Date

Name:_____
(type)

My Power of Attorney is recorded in Office of the Register of Deeds/the Clerk's Office of the Circuit Court (select as appropriate for the local jurisdiction) of _____, state of _____, and has not been revoked.

_____
Attorney-in-fact

Affidavit and acknowledgment of attorney-in-fact

State of _____

City and/or county of _____ to wit:

I, the undersigned notary public, do certify that _____ personally appeared before me in the jurisdiction aforesaid and made oath that he/she is the attorney-in-fact of _____, the Surety, that he is duly authorized to execute on its behalf the foregoing Bond pursuant to the Power of Attorney Noted above, and on behalf of said Surety, acknowledged the aforesaid Bond(s) as its act and deed.

Given under my hand this _____ day of _____ 20_____.

Notary public: _____(Seal)

My Commission expires: _____

Approved:

_____
Owner/designee *Date*

PARTIAL RELEASE OF LIEN AFFIDAVIT

The state of _____)

County of _____)

Before me, the undersigned authority, on this day personally appeared _____, known to me to be a credible person and officer of _____ ("Contractor") and who, being duly sworn, upon his oath declares and acknowledges as follows:

1. I am the duly authorized agent for Contractor, which has authorized me to make this affidavit, to enter into the agreements and to grant the lien waivers herein set forth, on its behalf and as its acts and deeds, and all the recitations herein are true and correct.

2. Pursuant to an agreement dated _____ , 20___ between Contractor and _____ _____ ("Owner"), Contractor has supplied materials and performed labor in connection with construction of improvements upon certain real property in _____ County, _____, described as _____. Said improvements are more particularly described as construction of _____ _____.

3. Contractor has received total payments to date in the amount of _____dollars ($_____) for all materials supplied and labor performed by Contractor in connection with the construction of the improvements during the period through _____ , 20__ *[Insert date of end of prior progress payment period.]*

4. In consideration of and conditioned upon receipt from Owner of_____dollars ($_____) *[insert amount requested in present application for payment]*, Contractor hereby waives and releases any and all liens, rights, and interests (whether choate or inchoate and including, without limitation, all mechanic's and materialman's liens under the constitution and statutes of the state/commonwealth of _____ owned, claimed, or held by Contractor in and to the land and improvements, whether or not affixed or severable from the land or from any other portion of the improvements.

5. Contractor warrants that all costs incurred and bills owed by Contractor to others for materials supplied or labor performed in connection with the improvements through _____ , 20___ *[insert date of end of prior progress payment period]* have been fully paid and satisfied.

Executed this_____ day of_____20 __ .

Contractor

By:_____
(Signature)

Title:_____

Subscribed and sworn to before me, the said _____ this _____ day of

_____, 20_____, to certify which witness my hand and seal of office

_____
(Signature) (Seal)

Notary public in and for _____County, _____.

My commission expires on the _____ day of _____, 20 __.

FINAL RELEASE OF LIEN AFFIDAVIT

The state of _____)

County of _____)

Before me, the undersigned authority, on this day personally appeared _____, known to me to be a credible person and officer of _____ ("Contractor") and who, being duly sworn, upon his oath declares and acknowledges as follows:

1. I am the duly authorized agent for Contractor, which has authorized me to make this affidavit, to enter into the agreements, and to grant the lien waivers herein set forth, on its behalf and as its acts and deeds, and all the recitations herein are true and correct.

2. Pursuant to an agreement dated _____ , 20___ between Contractor and _____ _____ ("Owner"), Contractor has supplied materials and performed labor in connection with the construction of improvements upon certain real property in _____ County, _____, described as _____. Said improvements are more particularly described as construction of _____.

3. Contractor hereby certifies it has received _____ dollars ($), which constitutes payment in full for any and all materials supplied and labor performed by Contractor on the above-described Improvements. Contractor does hereby waive and release any and all liens, claims, rights, and interests (whether choate or inchoate and including, without limitation, all mechanic's and supplier's liens under the constitution and statutes of the state/commonwealth of _____) owned, claimed, or held by Contractor in and to the land and improvements or any part thereby for reason of materials supplied or labor performed on said project.

4. Contractor warrants that all costs incurred and bills owed by Contractor to others for materials supplied or labor performed in connection with the Improvements have been fully paid and satisfied, except for those bills set forth on Attachment A. Contractor certifies that within seven (7) days hereafter, Contractor shall pay all sums due for those bills set forth on Attachment A. Contractor further warrants that should any claim or lien be filed for material supplied or labor performed in connection with the Improvements, Contractor will immediately furnish a Bond for the release of such liens, obtain settlement of any such liens, and furnish Owner a written, full release of such liens. Should Contractor be unable to obtain such release, Contractor agrees to fully indemnify and hold harmless Owner from any and all costs it may incur by reason of such liens.

Executed this_____ day of_____20 __ .

Contractor

By:_____
(Signature)

Title:_____

Subscribed and sworn to before me, the said _____ this _____ day of

_____ 20___, to certify which witness my hand and seal of office.

_____
(Signature) (Seal)

Notary public in and for _____County, _____.

My commission expires on the _____ day of _____, 20 __.

AFFIDAVIT OF COMPLIANCE – CRIMINAL BACKGROUND

The undersigned, the owner or authorized officer of the below-named vendor/contractor (the "Vendor/Contractor"), pursuant to the criminal background compliance certification requirements of the Berkley School District (the "School District") hereby represents and warrants that the Vendor/Contractor has performed and/or will perform, sufficient criminal background checks for all of its owners, employees, agents, representatives, vendors/contractors and or other personnel who will be on any School District premises to carry out the services contemplated by the Contract Documents. The Vendor/Contractor further hereby certifies that no owner, employee, agent, representative, vendor/contractor and/or other personnel of the Contractor will be on any School District premises if they are a registered criminal sexual offender under the Sex Offenders Registration Act, Public Act 295 of 1994, or have been convicted of a "Listed offense" as defined under Section 722 of the Sex Offenders Registration Act, MCL 28.722.

The Vendor/Contractor further acknowledges that if it is found to have submitted a false certification or otherwise fails to comply with the requirements of this certification, the School District may immediately terminate the Contract.

Vendor/Contractor:

_____
Name of Vendor/Contractor

By: _____

Its: _____

Date: _____

This instrument was acknowledged before me in _____ County, Michigan, on the

_____ day of _____, by _____.
(month/year) *(Notary name)*

_____
Notary Public - Signature

Acting in the County of: _____

My commission expires:_____

DISCLOSURE STATEMENT – FAMILIAL RELATIONSHIP

Pursuant to MCL 380.1267, a sworn and notarized statement disclosing any familial relationship that exists between the owner and any employee of the vendor/contractor and any member of the Berkley School District Board of Education or the Berkley School District Superintendent must be accompanied with the bid/proposal.

Bids and Proposals without this disclosure statement will not be accepted.

The members of the Berkley School District Board of Education are: **Roger Blake, Jason Deneau, Barrie Frankel, Jon Heger, Keith Logsdon, Sarah Mountain, and Mike Tripp.**
The Berkley School District Superintendent is **Mr. Scott Francis.**

□ **The following are the familial relationship(s):**

Owner/Employee Name	Related to:	Relationship
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____

Attach additional pages if necessary to disclose all familial relationships.

□ **There are no familial relationships that exist** between the owner and any employee of the vendor/contractor and any member of the Berkley School District Board of Education or the Berkley School District Superintendent.

The undersigned, the owner or authorized representative of bidder _____ does hereby represent and warrant that the disclosure statements herein contained are true.

_____ _____
Signature of Bidder Representative Print Name

_____
Title

This instrument was acknowledged before me in _____ County, Michigan, on the

_____ day of _____, by _____.
(month/year) *(Notary name)*

_____
Notary Public - Signature

Acting in the County of: _____

My commission expires:_____

AFFIDAVIT OF COMPLIANCE –
IRAN ECONOMIC SANCTIONS ACT
Michigan Public Act No. 517 of 2012

The undersigned, the owner or authorized officer of the below-named vendor/contractor (the "Vendor/Contractor"), pursuant to the compliance certification requirement provided in the Berkley School District's (the "School District") Request for Proposals for (the "RFP"), hereby certifies, represents and warrants that the Vendor/Contractor (including its officers, directors and employees) is not an "Iran linked business" within the meaning of the Iran Economic Sanctions Act, Michigan Public Act No. 517 of 2012 (the "Act"), and that in the event Vendor/Contractor is awarded a contract as a result of the aforementioned RFP, the Vendor/Contractor will not become an "Iran linked business" at any time during the course of performing any services under the contract.

The Vendor/Contractor further acknowledges that any person who is found to have submitted a false certification is responsible for a civil penalty of not more than $250,000,00 or 2 times the amount of the contract or proposed contract for which the false certification was made, whichever is greater, the cost of the School District's investigation, and reasonable attorney fees, in addition to the fine. Moreover, any person who submitted a false certification shall be ineligible to bid on a request for proposal for three (3) years from the date that it is determined that the person has submitted the false certification.

Vendor/Contractor:

_____
Name of Vendor/Contractor

By: _____

Its: _____

Date: _____

This instrument was acknowledged before me in _____ County, Michigan, on the

_____ day of _____, by _____.
(month/year) *(Notary name)*

_____
Notary Public - Signature

Acting in the County of: _____

My commission expires:_____

SECTION 00 07 30
SUPPLEMENTAL CONDITIONS

PART 1 – GENERAL

1.01 FACILITY RULES GOVERNING CONTRACTOR EMPLOYEES

A. Motor vehicles will be permitted at the designated areas to load or unload materials, equipment, tools, trash, etc. All motor vehicles while on Owner's and adjacent property shall be driven slowly with extreme caution obeying all posted traffic signs.

B. Contractor has the responsibility to protect all his personal property, materials, equipment, etc. from theft.

C. Contractors shall not leave materials, tools, etc. lying in an unsafe manner while working on the Owner's property. Do not store tools or materials that block an exit or path to exit.

D. Do not in any way block, hinder, or obstruct fire escape and/or other emergency egress routes of the structures (interior and exterior). Comply with regulations and requirements of local fire prevention codes.

E. Provide barricades and warning signs at all operations of the Work which are deemed hazardous by the Consultant to the movement of both Contractor's/Owner's personnel and pedestrians/passerby.

F. Maintain good housekeeping. Do not allow accumulation of rubbish or scrap materials. Remove rubbish and scrap daily.

G. No gambling, drugs, weapons or alcoholic beverages will be permitted on the site at any time. No individual under the influence of drugs or alcohol will be permitted on site.

H. Contact Owner or Consultant prior to placing or using any rigging, hoists, cranes, temporary stairs, towers, etc.

I. Provide the Owner with sufficient advance notice when planning to work outside of normal hours so that Owner's consultant, personnel, security forces, and other interested parties may be advised.

J. Live loads on the roof during the Work shall not exceed the designed live load at anytime. If there is any question or concern about the structural integrity of the roof deck or other component related to the Work the contractor shall immediately stop work and have a structural engineer evaluate the conditions prior to proceeding. Notify both the Owner and Consultant immediately of the condition.

K. Provide barricades and warning signs at outside excavations or at holes cut through walls, floors, or roofs in buildings, also as required about any working, lifting, or staging areas.

L. No smoking on school site.

M. Contractor is required to provide generators and all other sources of power, water, etc.

N. All emergency egress from the facility must be kept clear at all times.

1.02 SCAFFOLDING, LADDERS and RUNWAYS

A. The Contractor shall provide all necessary scaffolding, ladders and runways as required by current legislation/codes (national, state, city) and maintain them properly for the safe use of his employees and protection of tenants/public.

1.03 PROTECTION OF WORK AND BUILDING

A. The Contractor shall be responsible for the protection of the building interior and its contents from moisture, debris, and/or fume/odor penetration during all phases/operations of the Work.

B. Contractor shall also be responsible for the protection of Owner's merchandise, furnishings and equipment by covering all items that may be affected during the Work with suitable protection such as but not limited to plastic tarp or other protection as specified in other sections of the contract documents.

C. Provide protection of merchandise, equipment and personnel during operations creating dust/debris from roof tear-off and new roof installation, etc.

PART 2 - SCOPE AND CONTROL OF THE WORK

2.01 VERIFICATION OF EXISTING CONDITIONS

A. Before submitting their Bid, the Contractor will visit the project site and verify conditions, locations and dimensions of all existing equipment, structures and site conditions that pertain to this installation.

B. The Details shown and the information provided are not represented or guaranteed by Owner or Consultant as being accurate as to the actual "as built" and present conditions. Bidding Contractor will verify all conditions at the site and perform all Work to complete the project under this Contract, regardless of the variations that may be found, without additional cost.

C. Bidders visiting the site for estimating purposes while site is occupied will abide by Owner's rules and regulations. Any and all job site conditions will be determined by Owner and/or its consultant.

D. Failure to examine the project buildings and the sites and to become familiar with the existing conditions will not constitute cause for complaint or claim for extra payment or change order. Contractor agrees to accept project sites as they exist.

2.02 MEETINGS

A. Pre-Construction Conference:
   1. Prior to installation of the roofing system, representatives of the following entities will meet at each project site:
      a. Owner
      b. Consultant
      c. Roofing Contractor
      d. All Subcontractors
      e. Material Manufacturer
      f. Representatives of other entities directly concerned with installation or performance of the roofing system.
   2. Attendees will review all pertinent Details and Specification, noting any potential problems and making any changes, deletions or additions as deemed necessary. Included in the discussion will be the following:
      a. Nature and availability of roofing materials, guarantee and submittal requirements
      b. Scheduling
      c. Forecast weather conditions
      d. Regulatory requirements
      e. Protection of building, building components and completed roofing system
      f. Proposed installation procedures and any additional items related to the total roofing system.
   3. Attendees will tour roofing areas and discuss existing construction and general condition including roof slope, flashing details, drain locations and material compatibility.
   4. Discussions will be documented by the Consultant, including agreement or disagreement on matters of significance.

5. If the meeting ends with substantial disagreements, it will be determined how disagreements will be resolved and a date will be set for a reconvened meeting at the Owner's direction.
6. A copy of the recorded discussion will be furnished to all attendees.

B. Final Inspection:
1. Upon notification by the contractor that the work is complete, the Consultant will conduct a final inspection to review all Work to have been completed under the Contract Documents.
2. Contractor shall accompany Consultant on the final inspection and shall have workers and materials available to complete any remedial work items identified during the inspection, weather permitting.
3. If remaining remedial work items cannot be completed at the time of the final inspection the Contractor will address and complete all remaining work items within five (5) working days
4. Upon final completion of all work items contractor shall forward written notification to the Consultant that the project is finally complete and ready for close-out.

2.03 DRAWINGS AND SPECIFICATIONS

A. The Contractor will keep a complete and up to date copy of the project record documents at the job site, including, but not limited to; drawings and specifications, addenda, submittals, change orders, shop drawings, etc. The Consultant/Observer will have access to the site copy of documents at all times.

B. The Drawings, Specification and other Contract Documents are intended to be complementary and cooperative and to describe and provide for a complete project. Anything contained in the Specifications but not shown on the Drawings, or shown on the Drawings and not enumerated in the Specifications, will be construed to be as though shown or referenced in both documents.

C. Upon discovering any error or omission in the Drawings or Specifications, the contractor shall immediately bring the item to the attention of the Consultant.

D. The division of the Drawings into separate depictions, views, sections or sheets and the division of the Specifications into paragraphs, divisions and sections are for the ease of reference only and does not imply a division of the work between trades or subcontractors or priority of work.

E. Titles or names given to, or accompanying, the various divisions, sections and paragraphs of the specifications are provided for the reader's convenience and/or ease of reference only and are not intended to limit or restrict by inference the content of the accompanying division, section, or paragraph.

F. No prime Contractor, whose Bid is accepted, will substitute any person as a subcontractor in place of the subcontractor listed in the original Bid other than for cause, and when justified without the prior written authorization from the consultant and/or the Owner.

G. Where a specialty Contractor's license is required by local code or regulation, or is specifically required by the specifications in order to meet a particular performance or technical requirement that is part of the Work, the work may be undertaken by the Contractor using their own forces if the contractor holds the proper license(s) or certifications required. Otherwise, Contractor shall retain a properly licensed or certified subcontractor to perform that portion of the Work.

2.04 CONTRACTOR'S PERFORMANCE OF WORK

A. The Contractor will perform all Work necessary to complete the Contract in a manner that is consistent with the highest standards of the trade or industry.

B. Unless otherwise stipulated in the specifications or contract agreement with the Owner, the Contractor shall directly furnish or provide all materials, equipment, tools, labor and incidentals necessary to complete the Work.

C. Workmanship
1. All Work under the Contract will be performed in accordance with the highest standards prevailing in each trade or as otherwise specified within the Contract Documents. When more than one standard or performance criteria is given for a particular work item, the more stringent standard or criteria shall apply.
2. Unless otherwise specified, it is the intent of these specifications that completion of the Work shall result in a complete facility ready for the Owner's intended use.
3. If inclement weather is anticipated during the Work period the Contractor shall take all precautions necessary to ensure that all materials, previously installed roofing, building components not intended to be exposed to the weather, building interiors, furnishings, products/materials and equipment are protected from water intrusion, moisture damage or contamination.

4. Costs related to property damage caused by moisture contamination related to the contractor's roofing operations will be the sole financial responsibility of the Contractor.
5. The Contractor will be currently approved and/or licensed by the manufacturer of the roofing materials to be used.
6. The Contractor will use only skilled tradesmen completely familiar with the products and the manufacturer's current recommended methods of installation.
7. Except as modified and supplemented herein, Contractor will follow the published requirements and written recommendations of the manufacturer of the roofing system and other materials manufacturers related to the Work.
8. Where no other guidance or specification is given regarding the performance of the roofing work to be completed, the standards and methods promulgated by the latest edition of the National Roofing Contractor Association's *Roofing and Waterproofing Manual* shall provide the minimum requirements for the roofing work and the latest edition of the Sheet Metal and Air Conditioning Contractor National Association *Architectural Sheet Metal Manual* shall provide the minimum requirements for the roof related sheet metal work performed. All roofing and sheet metal work shall be performed in accordance with Factory Mutual Global (FMG) 1-60 wind uplift requirements and the applicable requirements stipulated for 1-60 wind uplift in FMG *Loss Prevention Data Sheets* 1-28 (roof deck), 1-29 (above roof deck components) and 1-49 (flashing and trim).
9. If, in the opinion of the Contractor, any Work is indicated on drawings or specified in such a manner that cannot be reproduced on the roof being worked on, or should discrepancies or conflicts arise from one drawing to another, between sections of the specifications, or between the Drawings and the Specifications regarding a particular work item, the Contractor will notify the Consultant and/or the Owner before proceeding that portion of the work.
10. The Contractor will furnish and maintain in good condition, all equipment and facilities as required for the proper execution and inspection of the Work. Such equipment and facilities will meet all requirements of the applicable ordinances and laws.

D. Contractor's Authorized Representative
1. Before starting the Work, the Contractor will designate, in writing, a representative who will have complete authority to act for the firm. An alternate representative may be designated as well.
2. The representative or alternate will be present at the Work site whenever the Work is in progress or whenever weather conditions necessitate their presence in order to protect the Work, persons, public or private property at the site related to the roof.

3. Any order or communication given to this representative will be deemed delivered to the Contractor.

E. Contractor's Responsibilities Related to Existing Facilities and Operations

1. Unless otherwise noted in these documents the Owner's existing facilities and/or operations not specifically related to the Work shall be off-limits to all contractor personnel during the course of the project.
2. The work site will be available to Contractor upon receipt of a written notice to proceed, unless otherwise indicated in this Specification. Care, custody and control of the site Work area, equipment area and material storage area are vested in the Contractor during the term of operations under the Contract.
3. Means of ingress or egress to the Owner's buildings and operations will not be blocked for any reason nor will the normal operation of the buildings be hampered in any way unless authorization is obtained in advance from the Owner.
4. Fire protection and immediate access for fire fighting equipment must be maintained at all times.
5. It is Owner's intention that the existing buildings and normal operations will be maintained in the usual manner in accordance with the normal schedule. The Contractor executing this Contract Work must schedule his/her Work so as to cause the least amount of interfere with the Owner's normal activities at the site. The Contractor will also closely coordinate roofing activities with the Owner when working over interior spaces having critical occupancy requirements.
6. Work that might interfere with the use of the facilities by Owner will be accomplished at a time approved beforehand by Owner.
7. Use of Owner's utilities or site resources of any kind will be at the discretion of Owner. At no time will utilities or site resources be wasted.
8. Water needed for the execution of this Contract will be furnished by Owner from available sources located near the building(s).
9. Maintaining proper material temperatures shall not require use of the Owner's facilities or storage spaces and shall be the sole responsibility of the the Contractor.
10. The utility services for the buildings will not be interrupted in any way by the Contractor unless agreed upon by Owner.
11. Disturbing the building's occupants or the Owner's employees during the course of the work, or work causing disruptive noise that interferes with the normal building occupancy, will not be permitted. Operations creating disruption or noise of this type must be coordinated with, and scheduled in advance with, the Owner through the Consultant.
12. Radios or other musical devices will not be allowed on any project.

F. Contractor's Liability and Responsibility
   1. Owner and the Consultant connected with the Work shall not be liable for:
      a. Any losses of, or damages to, the Work or a part thereof
      b. Any losses of, or damages to, any of the materials or other items used or employed in the performing of the Work
      c. Injury to or death of any person either workman or the public
      d. Damage to property from any cause which might have been prevented by the Contractor, or his/her workman or other workmen, or anyone employed by him/her or any subcontractor.
   2. The Owner and Consultant shall neither have control over, charge of, nor shall be responsible for, the means, methods, techniques, sequences or procedures used in the performance of the work, or for safety programs in connection with the Work.

2.05 PERMITS AND LICENSES

A. The Contractor will secure and pay for all permits relating to their Work, including governmental fees and licenses necessary for the proper execution and completion of the Work, which are applicable at the time the Bids are received.
   1. All required and approved sign-off permits shall be submitted to Owner as part of the conditions for final payment.

B. The Bidder to whom award is made must possess a Roofing Contractor's license valid in the state the Work is being performed, as is applicable for the locality of the project.

C. The Work shall be performed in accordance with all governing codes, ordinances, laws, regulations, safety orders and directives pertaining to construction work of this type, including specific local, county or state regulations or requirements. This includes handling and disposal of any hazardous or potentially hazardous materials encountered during the normal course of construction work of this type.

D. Cooperation and Collateral Work
   1. The Contractor will absorb in his/her Bid all costs involved in his/her part as a result of coordinating his/her Work with others. The Contractor will not be entitled to additional compensation from Owner for damages resulting from such simultaneous, collateral and essential Work. If necessary to avoid or minimize such damage, or delay, the Contractor will redeploy his/her Work force to other parts of the Work.

2. Should the Contractor be delayed by Owner and such delay could not reasonably have been foreseen and prevented by the Contractor, the Consultant will determine the extent of the delay, the effect of the delay on the project as a whole and any commensurate extension of time.
3. The Contractor submitting the Bid to Owner has the responsibility for coordinating the Work of subcontractors and for scheduling all Work so a watertight condition is maintained and all Work required by the Contract Documents is completed as scheduled.
4. The Contractor must coordinate Work of various trades employed by his/her firm so stated completion date is met.

2.06 PROTECTION AND RESTORATION OF EXISTING BUILDING AND SITE

A. Prior to start of Work, Contractor will perform a thorough inspection of each building's interior and exterior noting all existing damage, including past or current moisture related damage.
   1. Documentation of this inspection will be submitted to Owner's representative, through the Consultant, prior to beginning Work.
   2. The Contractor will be responsible for correction of any subsequent, undocumented moisture damages

B. Contractor will check all perimeter drains (where they exist) prior to start of Work in each roof area to determine if the drain assembly/drain line is plugged or if the drain body or any of its components are damaged or missing.
   1. Any of these items are to be brought to the attention of Owner, through the Consultant, prior to starting Work and will be Owner's responsibility for correction.
   2. Any previously undocumented plugged or damaged drains brought to the attention of Owner after Work has started will be the responsibility of the Contractor to correct.

C. The Contractor will be responsible for the protection of public and private property adjacent to the Work and will exercise due caution to avoid damage to such property.

D. The Contractor will repair or replace all existing building and landscaping components which are damaged or removed as a result of his/her operations and were not previously designated for removal (e.g., curbs, sidewalks, driveways, fences, walls, sign, utility installations, pavements, structures, etc.).
   1. The corrective work to damages, or the replacement of severely damaged items, will be performed so that the quality and condition of the repaired or replaced item is equal to the original item's condition and matches the original finish and dimensions of the repaired item.

E. Contractor will provide all necessary equipment, storage, etc. to temporarily remove any existing landscape material during the roofing project.
   1. Trees, lawns and shrubbery that are damaged or removed because of the Contractor's operation, will be restored or replaced in as nearly the original condition and location as is reasonably possible.

F. The Contractor will notify the Consultant if any seriously deteriorated hidden structural member is uncovered, prior to placement of new roofing materials. Replacement of any deficient structural member, not specifically designated for replacement, will be at the decision and expense of Owner.

G. Existing materials designated to remain, which are damaged or defaced as a result of the Work and are unsuitable for the use intended, will be replaced at the Contractor's expense to the satisfaction of Owner.

H. Where necessary to remove or alter existing construction, all construction affected will be properly patched and filled out to match existing, or new Work.

I. Patch defective or incomplete surfaces caused or exposed by Work at the project using approved procedures and materials.

J. Contractor will remove markings from finished surfaces. In areas where finished surfaces are soiled by any source, caused by Work of this section, consult manufacturer of surfaces for cleaning advice and conform to instructions.

K. Contractor is to keep the Work area and premises clean and free from accumulations of waste materials and rubbish at all times. Remove all debris, scrap and rubbish from the Work area daily.

L. Surplus materials and all equipment will be promptly removed from the site upon completion of the Work. In case of undue delay or dispute, Owner may remove rubbish, materials and equipment and charge cost to Contractor, with such action permissible by Owner forty-eight (48) hours after a written notice has been transmitted to Contractor.

M. Prior to final acceptance, Contractor will restore all areas affected by Owner Work to Owner original state of cleanliness and repair all damage done to the premises, including the grounds, by his/her workmen and equipment.

N. The Contractor will not discharge smoke, dust, or any other air contaminant into the atmosphere in such quantity as will violate the regulations of any legally constituted authority.

O. The Contractor will provide and maintain enclosed toilets for the use of employees engaged in the Work.
   1. These accommodations will be maintained in a neat and sanitary condition and placed in an area selected by the Owner. All sanitary facilities will comply with all applicable laws, ordinances and regulations pertaining to public health and sanitation of dwellings and camps.

P. The Contractor will at his/her own expense, furnish, install, maintain and remove all temporary light, power, and water, including piping, wiring, lamps and other equipment, necessary for the Work.
   1. The Contractor will not draw water from any fire hydrant, except to extinguish a fire, without first obtaining permission from the water agency concerned.

2.07 SAFETY AND HEALTH PROCEDURES

A. Public Safety
   1. Safety Orders
      a. The Contractor will have at the Work site, copies or suitable extracts of: Construction Safety Orders and general Industrial Safety Orders issued by the federal, state or municipality. Contractor will comply with the provisions of these and all other applicable laws, ordinances and regulations.
      b. Payment for performing all Work necessary to provide safety measures will be included in the prices Bid for other items of Work.
   2. Special Hazardous Substances and Processes
      a. Materials that contain hazardous substances or mixtures may be required on the Work. A Safety Data Sheet (SDS) as described in the federal, state and municipal codes will be requested by the Contractor from the manufacturer of any hazardous material used and provided to consultant per submittals.
      b. Material usage will be accomplished with strict adherence to federal, state municipal including and/or project requirements and all manufacturer's warnings and application instructions listed on the Safety Data Sheet and on the product container label.
      c. The Contractor will notify the Consultant if a specified product cannot be used under safe conditions.

3. The Contractor will restrict public access by installing opaque fencing, such as a green screen, around the setup or staging areas.

B. General
   1. These Construction Documents are to be governed, at all times, by applicable provisions of the State and Federal Law(s) including but not limited to the latest amendments of the following:
      a. William-Steiger Occupational Safety and Health Act of 1970, Public Law 91-596.
      b. Part 1910-Occupational Safety and Health Standards, Chapter XVII of Title 29, Code of Federal Regulations.
      c. Part 1518-Safety and Health Regulations for Constructions, Chapter XIII of Title 29, Code of Federal Regulations.
      d. OSHA.
   2. This program will become a part of the Contract Documents and the Contract between Owner's Representative and Contractor and the Contractor and all Subcontractors, as though fully written herein.
   3. For the purposes of this Contract, neither Owner's Representative nor their Consultant and Consultants' Observers are to be considered experts in safety. All construction safety issues are the sole responsibility of the Contractor.

C. Safety Provisions
   1. Precaution will be exercised at all times for the protection of persons, including employees and property. The safety provisions of applicable laws and building and construction codes will be guarded or implemented in accordance with the safety provisions of the federal, state, municipal published requirements.
   2. All equipment used in construction or to be installed will meet the requirements of all applicable codes, particularly the regulations of the state of jurisdiction, Division of Industrial Safety and the Occupational Safety and Health Act of 1970. Equipment will have all required protection devices such as belt and shaft guards, heat protection, insulation, clearances warnings, etc. For equipment, which is to be installed, such devices will be indicated on shop drawings and reviewed by the Consultant.

D. Necessary controls will be provided to prevent pollution of the air by odors or particulate matter. The location and operation of heating equipment will be such that no hazard is created and objectionable odors do not enter the building.

E. Reasonable precautions must be exercised to prevent vandalism and to safeguard the public at the existing buildings. Equipment will not be left unprotected and materials will be carefully stacked. The set-up or staging area must be controlled at all times so that no unauthorized person can access the Contractor's equipment or materials, day or night.

PART 3 - CHANGES IN WORK

3.01 CHANGES REQUESTED BY THE CONTRACTOR

A. Refer to Section 012003 Changes to Work which supersedes any conflicts between Part 3 of this Section.

B. Any potential change in the contract shall be submitted using a *Request for Change Order* and submitted to the Owner and Consultant. Requests for changes submitted in the *Request for Change Order* shall cover all costs and charges including costs for material, labor, fabrication, delivery and hauling, handling, installation or application, supervision, taxes, employer's contributions, insurance, bonds, rentals, utility costs, overhead and profit.

1. Changes in specified methods of construction may be made at the Contractor's request when the *Request for Change Order* is approved in writing by the Consultant as a *Field Order Directive*.
2. Changes in the Drawings and Specifications, requested in a *Request for Change Order* by the Contractor, which do not materially affect the Work, schedule or contract and which are not detrimental to the Work or interest of Owner, may be granted in writing through a *Field Order Directive* by the Consultant to facilitate the Work.

C. Requests for changes deemed by the Owner as affecting the contract, contract amount or the schedule will require a written *Change Order* to be issued by the Owner to the Contractor and be executed by both prior to the commencement of any changes in the Work.

3.02 CHANGES REQUESTED BY THE OWNER

A. Owner requests for changes to the Work will be issued through a *Request for Change Order Proposal* issued to the Contractor through the Consultant.

B. The Contractor shall provide the costs to perform the changes to the Work covering all costs and charges including costs for material, labor, fabrication, delivery and hauling, handling, installation or application, supervision, taxes, employer's contributions, insurance, bonds, rentals, utility costs, overhead and profit.

C. Upon receipt of an acceptable proposal from the Contractor to perform the changes in the Work requested by the Owner, the Owner shall issue a written *Change Order* to be executed by both the Owner and Contractor prior to the commencement of any changes in the Work.

PART 4 - INSURANCE

4.01 CONTRACTOR'S INSURANCE COVERAGES

A. Contractor shall maintain insurance coverages as required in section 00 01 13 Instruction to Bidders.

B. Certificates of insurance shall be provided by each party showing their respective coverages prior to commencement of the Work.

END OF SECTION

UNIT PRICES

A Unit Price is an amount proposed by Bidders and stated on the Bid Form as a price per unit of measurement for materials or services that will be added to or deducted from the Contract Sum by Change Order in the event the estimated quantities of Work required by the Contract documents are increased or decreased.

Unit prices include necessary shipping, materials, labor, permit or licensing fees, overhead, profit, and applicable taxes.

The Owner or Consultant reserve the right to reject the Contractor's measurement of work-in place that involves use of established unit prices, and to have this work measured by an independent surveyor acceptable to the Contractor at the Owner's expense.

Unit prices not listed on the bid form shall conform to the pricing for the region. Owner shall have the option to verify any unit pricing requested during the performance of work that was not previously provided on the bid form.

END OF SECTION

SECTION 00 43 36

LIST OF SUBCONTRACTORS

PART 1 - GENERAL

1.01 SUMMARY

A. A list of all intended subcontractors must be submitted and approved prior to the issuance of the contract - reference section ***00 01 13 Instructions to Bidders***.

B. Submittals: Contractor shall upload the ***List of Subcontractors Form*** (see sample below) to WeatherTech's online Project Management under ***Documents.***

PART 2 - MATERIALS - NOT USED

PART 3 – EXECUTION – NOT USED

END OF SECTION

LIST OF SUBCONTRACTORS

This form must be submitted online and received and approved before a contract can be issued.

To: Berkley Schools Date: _____

Project: School District Building/Facility #. _____

_____
Street Address

_____
City, State and Zip

Gentlemen:

The subcontractors we propose to use are as follows:

1. Plumbing _____
2. Electrical _____
3. Heating, Ventilating, Air Conditioning (HVAC) _____

   _____
4. Deck Repairs_____
5. Sheet Metal _____
6. Asbestos Removal _____
7. Existing Roof System Removal_____
8. Others: Description _____

_____
Roofing Contractor

_____
Date

SECTION 01 06 00

REGULATORY REQUIREMENTS

PART 1 – GENERAL

1.01 SCOPE

A. The Work shall be performed in accordance with all governing codes, ordinances, laws, regulations, safety orders and directives pertaining to construction work of this type, including specific local, county or state regulations or requirements of the governing bodies having jurisdiction. This includes handling and disposal of any hazardous or potentially hazardous materials encountered during the normal course of construction work of this type.

1.02 REGULATORY REQUIREMENTS

A. Occupational Safety and Health (OSHA) regulations for construction, workplace safety, and other codes, rules and ordinances governing Work are as fully a part of this Specification as if herein repeated.

B. All products shall comply with State V.O.C. (Volatile Organic Content) Legislation.

C. Building Codes:
1. All work to be conducted according to the applicable model building code(s) as amended and promulgated by the state and municipal authorities in the state and municipality in which the facility is located in in accordance with authorities having jurisdiction (AHJ).
2. All work to be conducted according regulatory agencies governing safety, hazardous materials, environmental protection, transportation, and insurance.
3. This Project is under but not limited to the jurisdiction of the
    a. MICHIGAN DEPARTMENT OF LABOR FOR MECHANICAL AND ELECTRICAL
    b. STATE OF MICHIGAN FIRE MARSHAL DIVISION
    c. MICHIGAN DEPARTMENT OF PUBLIC AND (COUNTY) PARTMENT OF PUBLIC HEALTH

1.03 ASBESTOS

A. As necessary comply with provisions of local, state and national regulatory requirements for the identification, removal and disposal of Asbestos Containing Building Materials (ACBM) and Asbestos Containing Roofing Materials (ACRM) including but not limited to:
1. Environmental Protection Agency (EPA):
    a. EPA National Emission Standard for Hazardous Air Pollutants (NESHAP) 40 CFR, Part 61, Subpart M.
    b. Where removal of existing roofing is required, compliance with EPA “Guidance for Controlling Asbestos-Containing Materials (ACM) in Buildings” (EPA 560/5-85-024) is mandatory.
2. Occupational Safety and Health Administration (OSHA)

a. OSHA Standard for Occupational Exposure to Asbestos in construction work, 29CFR1926.1101.

3. Department of Transportation (DOT).
   a. Hazardous Material Rules.

B. Refer to Appendix 1 for any applicable ACM test results.

1.04 ROOF SYSTEM: FIRE AND WIND

A. Refer to roofing section(s) under Division 7 Thermal and Moisture Protection and Cover Page – CP Drawing for fire and wind performance requirements.

B. Underwriters Laboratories, Inc. (UL.):
   1. Fire Classification Rating: UL 790 Standard;

C. Factory Mutual Global (FMG):
   1. FM Standard 4470: Class 1 Roof Covers

1.05 EXISTING CONDITIONS AND DEMOLITION

A. Refer to Section 02 41 19 Selective Demolition.

B. Conform to applicable Codes for demolition of roofing, safety of adjacent structures, dust control and disposal.

C. Conform to applicable regulatory procedures when hazardous or contaminated materials are present.

1.06 INSURANCE

A. Owner insurance requirements applicable to the site, facility and work during the course of the project shall be strictly adhered to by Contractor.

PART 2 – PRODUCTS -Not Used-

PART 3 – EXECUTION -Not Used-.

END OF SECTION

SECTION 01 14 19

RESTRICTIONS AND USE OF SITE

PART 1 – GENERAL

1.01 Berkley Schools

A. All schools and facilities will be in full operation during restoration work and partial operation during roof replacement work. Contractor shall not disrupt or obstruct any operations without prior scheduling and written consent by Berkley Schools.

B. Other than interior protection work, contractor shall access roof from the exterior of the building only. Projects where interior roof access will be beneficial to be determined on an individual project basis during Pre-Bid conference.

C. Owner will designate building and access points and dumpster placement at for restoration work. No driving on sidewalks.

D. Contractor responsible for not damaging existing roof areas and will deploy and necessary to protect roofs including, as necessary, during the performance of work that crosses other roof areas are required to be protected from all traffic and roof top staging areas w/ min. 3/4 in. plywood over 1 in. EPS insulation. Contractor responsible to repair all damaged roofing and repair leaks in traffic areas.

E. Contractor responsible for security and safety of all Contractor equipment, materials and dumpsters while working at the site.

F. Contractor to wear readily identifiable apparel identifying the Contractor's company.

1.02 CONTRACTOR FACILITY RULES

A. Motor vehicles will be permitted at the designated areas to load or unload materials, equipment, tools, trash, etc. All motor vehicles while on Owner’s and adjacent property shall be driven slowly with extreme caution obeying all posted traffic signs.

B. Contractor has the responsibility to protect all his personal property, materials, equipment, etc. from theft.

C. Contractors shall not leave materials, tools, etc. lying in an unsafe manner while working on the Owner’s property. Do not store tools or materials.

D. No gambling, drugs or alcoholic beverages will be permitted on the site at any time. No individual under the influence of drugs or alcohol will be permitted on site.

E. Contact Owner or Consultant prior to placing or using any rigging, hoists, cranes, temporary stairs, and towers, etc.

F. **No smoking on school sites.**

G. Contact Owner or Consultant prior to placing or using any rigging, hoists, cranes, temporary stairs, and towers, etc.

H. Radios or other musical devices will not be allowed on any project.

1.03 UTILITIES

A. Refer to Section 00 07 30 Supplemental Conditions for Owner supplied utilities.

B. The utility services for the facility will not be interrupted in any way by the Contractor unless agreed upon in writing and coordinated with the Owner.

1.04 STRUCTURAL

A. Live loads on the roof during the Work shall not exceed the designed live load at anytime. If there is any question or concern about the structural integrity of the roof deck or other component related to the Work the contractor shall immediately stop work and have a structural engineer evaluate the conditions prior to proceeding. Notify both the Owner and Consultant immediately of the condition.

B. The Contractor will notify the Consultant if any seriously deteriorated hidden structural member is uncovered, prior to placement of new roofing materials. Replacement of any deficient structural member, not specifically designated for replacement, will be at the decision and expense of Owner.

1.05 BARRICADES

A. Provide barricades and warning signs at all operations of the Work which are deemed hazardous by the Consultant to the movement of both Contractor's/Owner's personnel and pedestrians/passerby.

B. Provide barricades and warning signs at outside excavations or at holes cut through walls, floors, or roofs in buildings, also as required about any working, lifting, or staging areas.

1.06 EGRESS/ INGRESS

A. Do not in any way block, hinder, or obstruct fire escape and/or other emergency egress routes of the structures (interior and exterior). Comply with regulations and requirements of local fire prevention codes.

B. Means of ingress or egress to the Owner's buildings and operations will not be blocked for any reason nor will the normal operation of the buildings be hampered in any way unless authorization is obtained in advance from the Owner in writing.

PART 2 – PRODUCTS -Not Used-.

PART 3 – EXECUTION -Not Used-.

END OF SECTION

SECTION 012001
PAYMENT PROCEDURES

PART 1 - GENERAL

1.01 SUMMARY

A. This Section describes the following requirements including:
   1. Schedule of Values
   2. Application for Payment Process
   3. Reduction of Retention
   4. Payment for Materials Stored Off-site
   5. Waivers of Lien and Sworn Statements

1.02 PAYMENT PROCEDURES

A. Schedule of Values
   1. Once the Agreement is awarded, each Contractor must submit a Schedule of Values for its entire Work to Consultant for approval. This Schedule of Values must be submitted either within fifteen (15) days of award or fifteen (15) days prior to the first payment application deadline (per the Application for Payment Schedule), whichever comes first. The Schedule of Values must include labor and material line items for each portion of the Work, the Contractor shall separate bond costs, and general conditions line items as appropriate.
   2. Schedule of Values will be submitted in a format as prescribed by, and to the level of detail specified by, Consultant.
      a. The sum of the parts of the Schedule of Values shall equal the contract price.
      b. The minimum level of breakdown and order on the application for payment will be:
         1. Bond costs, if applicable;
         2. General conditions line item(s);
         3. Major portions of the Work shall be broken down into labor and material line items for specific areas of the facility;
         4. A listing of approved and executed Change Orders to the Contract, if any, in sequential order.
      c. Schedule of Values items shall have a direct and understandable relation to the Project construction schedule.
   3. The Schedule of Values, unless objected to by Consultant, Owner or Architect, shall be the basis for the Contractor's application for payments.
   4. Consultant shall have the right to require the Contractor to alter the value or add/delete categories listed on the Schedule of Values at any time for the following reasons:
      a. The Schedule of Values appears to be incorrect or unbalanced.
      b. A revision of the Schedule of Values is required due to the Contractor revising the sequence of construction or assembly of building components that in turn invalidates the Schedule of Values.
      c. Change Orders are issued to the Contractor and shall be incorporated into the Schedule of Values as a separate line item at the bottom of the Schedule of Values.
   5. The Contractor is required to correlate the documentation for payment of stored

materials requested in the application for payment against the agreed upon breakdown of the Schedule of Values as described in Payment for Stored Materials. Consultant reserves the right to not process the application for payment if this correlation has not been submitted in conjunction with the application.

B. Application for Payment Process
   1. Step 1: JOB-SITE INSPECTION - DRAFT PAYMENT REQUEST
      a. The Contractor shall:
         1) Have a representative walk the Project site with Consultant's representative on or before the date agreed to by Owner and Contractor;
         2) Invoice for Work from the date agreed to of last month to the same date of the present month;
         3) Submit during the review, the itemized rough draft of the Application and Certificate for Payment (AIA Documents G702 and G703 Continuation Sheet) identifying the Work completed, if any, during the current calendar month; shall review same with Consultant and obtain a preliminary approved copy of the draft for official submission;
         4) Contractor’s pay application shall only reflect Work completed through the date of submission. In no event will payments be authorized for forecasted Work.

NOTE: No payment shall be issued to a Contractor for materials stored off-site unless supported by proper documentation as required by Consultant (upon advance notification of such requests only) as described in 1.03 Payment for Stored Materials Off-Site.

   2. Step 2: PAYMENT REQUEST PREPARATION/SUBMISSION
      a. With the information agreed upon in Step 1, the Contractor will prepare a formal application for payment request;
      b. Three (3) originals of the request and three (3) originals of the sworn statements must be submitted to Consultant's office on or before the date of the month agreed to by Owner and Contractor of the month.
      c. **Late or incomplete application packets will not be accepted.**
      d. The payment request will be made on an Application and Certificate for Payment form (AIA documents G702 and G703).
      e. Before submitting these documents to Consultant, each request for payment must be signed by a duly authorized agent of the Contractor and notarized.
      f. The Contractor must include with each request for progress payment a waiver of lien for all previous payments, Contractor’s sworn statement and any necessary backup data as described in 1.04 Waivers of Lien and Sworn Statements.
      g. In addition, at submission of the final pay application Contractor shall provide unconditional final waivers of lien for all Subordinate Parties, as well as all close out documentation and all additional back up data described in 1.04 Waivers of Lien and Sworn Statements.
      h. In requests for payment which follow the execution of a Change Order in excess of twenty-five percent (25%) of the Agreement price, Contractor must present a bond rider evidencing that the penal sum of any required payment and performance bonds have been increased to one hundred percent (100%) of the adjusted Agreement price, or such other percentage as set forth in

Section 000200 of the Project Manual, Instructions to Bidders. Submission of the required back-up data is a condition precedent to payment.

3. Check Distribution
   a. Owner will issue individual checks to each Contractor. The Contractor will receive the waiver of lien with the check and will be required to sign three (3) originals of the waiver upon receipt of the check each month (see 1.04).
   b. The Contractor shall provide all supporting documentation substantiating the Contractor's right to payment as the Owner, and Consultant may require.

C. Reduction of Retention
   1. Owner shall be entitled to withhold ten (10%) percent of each payment due to a Contractor until Substantial Completion of the Contractor's Work.
   2. The Contractor, when requesting a reduction of retention, shall submit to Consultant, an AIA G707, Consent of Surety or Partial Release of Retention form.
   3. Within thirty (30) days after Certificate of Substantial Completion has been issued for all portions of its Work, the Contractor's retention may be reduced to a sum as Owner/the Consultant may determine is suitable to protect Owner and Consultant for all incomplete Work and any unsettled claims.
   4. Notwithstanding the foregoing, payment of retention shall be subject to all other conditions precedent that applies to payment as set forth in the Contract Documents.

1.03 PAYMENT FOR MATERIALS STORED OFF-SITE

A. The Contractor, if intending to use an off-site storage area or facility for stored materials, shall submit a written request to the Consultant and obtain approval prior to submitting the first application for payment as described in 1.02 Applications for Payment.

B. Payments will be made for materials properly stored off site.
   1. "Properly stored" shall mean in an insured warehouse with the Owner and Consultant being named as insureds, and all material identified as property of the Owner.
   2. The Contractor is responsible for all associated off site storage costs, transportation, insurance, including insurance coverage for stored material, while in transit, unless Contractor obtains written documentation that the material is covered during transit under a Builder's Risk Policy applicable to the Project.
   3. Contractor shall provide Consultant and the Owner verification in writing for all material so stored. Such materials shall be protected from diversion, destruction, theft, and damage to the satisfaction of Consultant, Owner and the Lender (if any), specifically marked for use on the Project, and segregated from other materials at the storage facility.
   4. The Contractor bears all risk of loss to materials and equipment stored off site.

C. Contractor is to provide supporting documentation in the form of invoices, insurance policies, and any other pertinent documentation as requested by Consultant or Owner for items the items stored offsite. Documentation shall include the following:
   1. Detailed description of the material including quantities that will serve as a material description for the billing and as information to file a claim with an insurance company.
      a. Stored Materials - Each item must be identified as to manufacturer, model

number, and serial number, if applicable, or other identifiers should be listed for each item. Each listing must be accompanied by invoices, shipping tickets, consent of surety, and any other applicable supporting documentation.

b. Stored Manufactured Building Materials - Each item must be identified as to type, manufacturer's number or designation, and should also list the number of cartons and the contents therein storage. Each listing must also be accompanied by supporting documents including all invoices, shipping tickets and consent of surety.

c. Stored Fabricated Materials - A listing specifying the number of pieces, items, and marks as may be applicable to the particular type of items. Photographs should accompany the request.

2. Individual itemized costs of materials and the total cost value, which shall not exceed the Contractor's subcontractor or material supplier cost. The total cost value shall be supported by the Contractor's subcontractor or material supplier invoices for the stored material.
3. Estimated cost value for those materials that are fabricated by the Contractor's subcontractor or material supplier.
4. The location where the material is physically stored, including the warehouse address and storage location within the warehouse, such as bin number, aisle number or other designation. All material shall be segregated and marked.
5. Copies of the insurance policies that cover the stored materials and that name Consultant and the Owner as insureds. The limit of the insurance policy shall be equal to or greater than the replacement value of the stored materials.

D. When Applications for Payment include products stored off the Project Site or stored on the Project Site but not incorporated in the Project, for which no previous payment has been requested, a complete description of such product shall be attached to the application.

E. Contractor shall submit a certificate of title listing the Owner's ownership in the off-site stored materials equal to the amount paid effective at the time funds are delivered.

F. If the size, quantity, and/or type of material or product is such that a bonded warehouse is deemed unsuitable, then, with Owner's and Consultant's approval, the Contractor may elect to prepay its subcontractor or supplier for certain material and products which are to remain on and be stored on that subcontractor/supplier's premises until needed by the Project. In such event, the Contractor shall enter into a security agreement with the subcontractor/supplier under which the Contractor shall be granted a security interest in and to all such material and products fabricated and/or to be supplied by the subcontractor/supplier for this Project and stored on the subcontractor/supplier's premises. This Security Agreement shall be a part of the financing statement, which shall be presented to a filing officer for filing pursuant to the Uniform Commercial Code. All expenses incurred in obtaining this security agreement shall be at Contractor's sole cost and expenses, and shall not accrue to the Owner, Consultant, Architect, nor the Project. A copy of each and every security agreement shall be filed with Consultant with the first Application for Payment which requests payment for such material or products.

G. All payment requests for off-site stored materials must be accompanied using the "Payment Request for Stored Materials" and a "Subcontractor Affidavit for Stored

Materials." Payment requests for stored materials not complying with the foregoing requirements will not be approved. Contractors are to notify the Consultant in ample time to conduct verification procedures.

H. Contractors may not apply the cost of materials stored off-site towards a reduction in the retention amount.

I. Representatives of Consultant and Owner shall have the right to make inspections of the storage areas at any time.

1.04 WAIVERS OF LIEN AND SWORN STATEMENTS

A. Waivers of Lien
1. The Contractor's first Application for Payment will be based upon 100 percent of the value of Work installed. The first payment, amounting up to 80 percent of application, will be made to the Contractor without supporting documentation. Subsequent Applications for Payment must be accompanied by lien waivers from the Contractor, its Subordinate Parties or receipted invoices covering payment to the Contractor for previous calendar month period. Lien waivers must be unconditional and must show the amount paid.
2. The Waiver of Lien is to be signed by an authorized representative of the Contractor. Under no circumstances will payment be released until the completed "Acknowledgment of Payment and Partial Unconditional Release" has been submitted and signed by the Contractor from the previous month.
3. Final payment will not be made until a "Final Release of Lien" has been submitted. The Final Release must be signed by an authorized representative of the Contractor and must be notarized.

B. Sworn Statements
1. The appropriate number of original "Sworn Statements" must be completed to the satisfaction of Consultant, signed and notarized by an authorized representative of the Contractor and submitted with the Contractor's Application for Payment, monthly to the Consultant.
2. The Contractor's Subcontractor's sworn statements, waivers and other supporting documentation will be required with each pay application.

END OF SECTION

SECTION 012003
CHANGES TO WORK

PART 1 - GENERAL

1.01 Change Order requests may be submitted to the Owner through the WeatherTech office, Ann Crippen (acrippen@wtcg.net).

1.02 Change Order Requests shall conform to the pricing for the region. Owner shall have the option to verify and negotiate any Change Order Request submissions during the performance of work.

1.03 CHANGES REQUESTED BY THE CONTRACTOR

A. Any potential change in the contract to be submitted to the Owner and Consultant for review. Change Order Requests (COR) to include all costs and charges including costs for material, labor, fabrication, delivery and hauling, handling, installation or application, supervision, taxes, employer's contributions, insurance, bonds, rentals, utility costs, overhead and profit.
   1. Changes in specified methods of construction may be made at the Contractor's request when the *Request for Change Order* do not materially affect the Work, schedule, contract amount or contract and which are not detrimental to the Work or interest of Owner, may be granted in writing through a *Field Order Directive* by the Consultant to facilitate the Work.
   2. Changes in the Drawings and Specifications, requested in a *Request for Change Order* by the Contractor, which do not materially affect the Work, schedule, contract amount or contract and which are not detrimental to the Work or interest of Owner, may be granted in writing through a *Field Order Directive* by the Consultant to facilitate the Work.

B. Requests for changes deemed by the Owner as affecting the contract, contract amount or the schedule will require a written *Change Order* to be issued by the Owner to the Contractor and be executed by both prior to the commencement of any changes in the Work.

1.04 CHANGES REQUESTED BY THE OWNER

A. Owner requests for changes to the Work will be issued through a Request for Change Order Proposal issued to the Contractor through the Consultant.

B. The Contractor shall provide the costs to perform the changes to the Work covering all costs and charges including costs for material, labor, fabrication, delivery and hauling, handling, installation or application, supervision, taxes, employer's contributions, insurance, bonds, rentals, utility costs, overhead and profit.

C. Upon receipt of an acceptable proposal from the Contractor to perform the changes in the Work requested by the Owner, the Owner shall issue a written Change Order to be executed by both the Owner and Contractor prior to the commencement of any changes in the Work.

1.05 COMPENSATION OF OVERHEAD & PROFIT FOR CHANGES IN THE WORK

A. CONTRACTOR'S OVERHEAD AND PROFIT
   1. For changes resulting in increase of cost:
      a. Overhead and profit for the Contractor shall not exceed the following when change Work is performed by:
         1) Contractor itself: fifteen percent (15%).
         2) Contractor subcontractor party: five percent (5%).
      b. Overhead and profit for the subcontractor shall not exceed the following whenchange Work is performed by
         1) Subcontractors: fifteen percent (15%)
         2) Subcontractor to the secondary subcontractor: five percent (5%)
   2. For changes resulting in reduction of cost
      a. Deductive costs shall include commensurate deductive credits for overhead and profit based on the percentages stated above.
   3. Contractor's and Subordinate Party's overhead and profit shall include cost (at the Project Site, home office and otherwise) of supervision, telephone, travel, copying, administrative services, office, power, light, tools, jobsite vehicles, and all other general expenses including bond premiums. In no event shall these items be charged as cost of the Changed Work.

1.06 ITEMIZATION OF COST OF CHANGED WORK

A. Change Order Documents
   1. If extra work is to be completed above and beyond the terms of the contract, as determined by (and approved in advance by) the Owner and Consultant, the Contractor.
      a. Contractor to retain a copy of the executed Change Order.

B. Preparing Request for Proposal for Change Orders
   1. The submitted Proposal for Request for Proposal for a Change Order shall be approved by consultant and shall mean the costs necessarily incurred by the Contractor in the proper performance of the Changed Order. Such rates shall not be higher than those customarily paid at the place of the Project. The Cost of the Changed Work shall only include those items set forth below.
      a. Wages of Labor: Wages of construction workers directly employed by Contractor to perform the construction of the changed Work at the site
      b. Payroll Markup: The amount approved by Cconsultant and Owner which covers the costs paid by the Contractor for taxes, insurance, contributions, assessments, and benefits required by law or collective bargaining agreements and for personnel not covered by such agreements, customary benefits such as sick leave, medical and health benefits, holidays vacations and pensions, provided that such costs are based on the wages and salaries of labor performing the changed Work.
      c. Cost of Equipment, Materials, and Supplies: Costs of materials, equipment and supplies to be incorporated into the changed Work less all savings, discounts, rebates and credits accruing to the Contractor.
      d. Rental Charges for Equipment Not Owned by Contractor: Rental charges for equipment not owned by Contractor that is necessary for

completion of the Changed Work. Rates and quantities rented must be approved in advance by Owner and Consultant.

e. Taxes: Sales or use taxes imposed by a governmental authority which are directly attributable to the changed Work and for which the Contractor is liable.

f. Subcontractor Costs: Payments made to the Contractors for proper execution of Changed Work, subject to the limits set forth above for overhead and profit.

2. In no event shall the cost for the Request for Change Order include:

a. Salaries or wages of persons other than those directly performing the changed Work, including Contractor's personnel stationed at the principal office;

b. Expenses of the Contractor's principal office and offices other than the site office, except as provided above;

c. Overhead and general expenses of any nature, except as set forth above;

d. Capital expenses of Contractor, including interest on the Contractor's capital employed for the Changed Work;

e. Rental costs for machinery or equipment, except as allowed above, or tools of any kind, unless specifically identified and approved in advance in writing by Owner and Consultant;

f. Costs due to the negligence or failure to perform of the Contractor or its Subcontractors Parties;

g. Costs designated above as being included in Overhead and Profit;

h. Any cost not specifically described above, or otherwise approved in advance and in writing by Consultant and Owner;

i. Any bond premiums of portion of increased bond costs directly attributable to the changed Work.

1.07 REQUEST FOR CHANGE ORDER PROPOSAL

Based on the above, the following formula will be utilized by all of the Contractors.

Number of RCO_____
Date of RCO_____
Description of Change _____

_____

Cost of Changed Work

Labor:		
Labor A (No. of Hrs. x Rate)	xxx.xx	
Labor B (No. of Hrs. x Rate)	xxx.xx	
Labor C (No. of Hrs. x Rate)	xxx.xx	
Sub total		xxx.xx
Equipment, Materials, Supplies:		
Equipment A	xxx.xx	
Materials A		xxx.xx
Supplier A		xxx.xx

Subtotal		xxx.xx
OH&P @ 15 %		xxx.xx
		Subtotal (1) xxx.xx

Subcontractor Costs

ABC Plumbing	xxx.xx	
XYZ HVAC	xxx.xx	
Subtotal		xxx.xx
OH&P @ 5 %	xxx.xx	
		Subtotal (2) xxx.xx

TOTAL QUOTATION AMOUNT

Total Quotation (Subtotal 1 plus Subtotal 2) xxx.xx

END OF SECTION

SECTION 01 21 00
ALLOWANCES

PART 1 - GENERAL

1.01 The Contractor shall include in the Contract Sum all allowances (i.e. “Unit Price Work”) stated in the Contract Documents.

1.02 **Allowances are listed under Schedule on each individual Roof Plan for each project**.

1.03 Items covered by allowances shall be supplied and installed on a unit price basis, as required to meet the Contract Document.

1.04 Unless otherwise provided in the Contract Documents:

A. Allowances shall cover the cost to the Contractor of labor, materials and equipment delivered at the site and all required taxes, less applicable trade discounts, freight charges, applicable taxes, cost for unloading and handling at the Site and all costs of installation.

B. Overhead and profit is not included in the allowance. However, the Contractor expressly acknowledges and agrees that overhead and profit with regard to the allowance item is included in the Contract Price.

C. Whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order.
   1. The amount of the Change Order shall reflect:
      a. The difference between actual amounts of the allowance item used versus the amount of that item included in the base bid or base contract amount, whichever is applicable. The allowance adjustment will cause the Contract price to be changed to reflect the new amount.

PART 2 – PRODUCTS: -NOT USED-

PART 3 – EXECUTION:

3.01 Contractor shall supply schedule of values for each allowance item.

3.02 Allowances are to be tracked, documented and submitted to the Owner and Consultant by the Contractor.
   A. If the Owner employs Quality Control Inspectors it does relieve the Contractor from providing exact documentation of Allowances used during the Work.
   B. Contractor shall document all Allowances with photographs; retained materials demoed executing the Allowances, and, marking locations on the Roof Plan.
   C. Any materials retained to show execution of Allowances shall be disposed of by the Contractor in a licensed disposal site and not used for any construction project.

3.03 Upon project completion, a Change Order Request will be submitted to the Owner through the WeatherTech Consulting Group office, Ann Crippen (acrippen@wtcg.net), for the difference in Contractors allowance cost and the actual allowance used for the project.

END OF SECTION

SECTION 01 23 00

ALTERNATES

PART 1 - GENERAL

1.01 SUMMARY

A. Method for stating the proposed alternate as described in the bid form.

B. Alternates are listed on each Roof Plan Schedule.

1.02 BID SUBMISSION

A. Alternate bids shall be submitted according to the Bid Documents and the Alternate bid shall include all terms and requirements of the Bid Documents.
   1. Acceptance of an Alternate by Owner does not relieve the Contractor from complying with the Bid Documents.

B. Submit all Alternates listed on the Bid Form.

C. Those Alternates described in the Schedule on the Roof Plan for each project or have individual Plan Sheet detailing the Alternate drawings are to be reflected on the bid form as submitted by bidders. Do not submit alternates other than as described in the Schedule.

D. Alternates shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;

E. Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the alternate bid;

F. Alternate bids are to be submitted as either an “ADD” or “DEDUCT” to/from the “Base Bid” amount submitted on the Bid Form.

1.03 PRODUCT HANDLING

A. If the owner elects to proceed on the basis of one or more of the described alternatives, make all modifications to the work required in furnishing and installing the selected alternate or alternates to the approval of the consultant and at no additional cost to the owner other than as proposed on the bid form.

PART 2 - PRODUCTS

2.01 ALTERNATE

A. In lieu of the base bid, furnish and install an alternate per the drawings and other pertinent sections of the specifications.

B. When an alternate is offered, all other project requirements are to remain essentially the same.

C. Approved alternates are enumerated on the drawings. No other alternatives will be considered.

PART 3 - EXECUTION

3.01 ADVANCE COORDINATION

A. Immediately after award of the contract, or as soon thereafter as the owner has made a decision on which, if any, alternates will be selected, thoroughly and clearly advise all necessary personnel and suppliers as to the nature and extent of alternatives selected by the owner. Alert those personnel and suppliers involved as to all changes in the work caused by the Owner's selection or rejection of alternates.

END OF SECTION

WeatherTech Consulting Group, Inc.
7747 Auburn Road, Utica, MI 48317
Phone 586-731-3095 Fax 586-731-6863

SUBSTITUTION REQUEST

Project: _____ Substitution Request Number: _____

_____ From: _____

To: _____ Date: _____

_____ A/E Project Number: _____

RE: _____ Contract For: _____

Specification Title: _____

Section: _____ Page: _____ Article/Paragraph: _____

Proposed Substitution: _____

Manufacturer _____ Address: _____ Phone #: _____

Trade Name: _____ Model #: _____

Installer: _____ Address: _____ Phone #: _____

History: ☐ New product ☐ 2-5 years old ☐ 5-10 years old ☐ More than 10 years old

Differences between proposed substitution and specified product: _____

☐ Point –by-point comparative data attached – REQUIRED BY Consultant

Reason for not providing specified item: _____

Similar Installation:

Project: _____ Architect: _____

Address: _____ Owner: _____

_____ Date Installed: _____

Proposed substitution affects other parts of Work: ☐ No ☐ Yes; explain _____

Savings to Owner for accepting substitution: _____ ($ _____)

Proposed substitution changes Contract Time: ☐ No ☐ Yes; Add/Deduct _____ days.

Supporting Data Attached:
☐ Product Data ☐ Drawings ☐ Tests ☐ Reports ☐ Samples ☐ _____

Undersigned certifies:
- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable is available.
- Proposed substitution will not affect or delay Progress Schedule.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including architectural or engineering design, detailing, and construction costs caused by the requested substitution.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by: _____

Signature: _____

Firm: _____

Address: _____

_____

Telephone: _____

Attachments: _____

WEATHERTECH'S REVIEW AND ACTION
☐ Substitution approved – Make submittals in accordance with Specification Section 013300.
☐ Substitution approved as noted – Make submittals in accordance with Specification Section 013300.
☐ Substitution rejected – Use specified materials.
☐ Substitution Request received too late – Use specified materials.

Signed by: _____ Date: _____

Additional Comments: ☐ Contractor ☐ Subcontractor ☐ Supplier ☐ Manufacturer ☐ A/E ☐

SECTION 01 32 00

CONSTRUCTION SCHEDULE

PART 1 – GENERAL

1.01 GENERAL

A. This Section provides for the planning and execution of Work in order to assure completion of the Work within the number of calendar days provided in the Contract. The Construction Schedule is utilized by the Owner to evaluate the proposed schedule and progress of the Work. Contractor shall prepare and maintain schedules described in this Section.

B. The construction schedule shall be submitted and approved by the Owner and Consultant. The schedule is subject to revision by the Owner or Consultant as necessary to accommodate other trades, construction projects and Owner operations.

C. WeatherTech and Contractor will maintain a “Schedule” for primary tasks and milestone events for the project to communicate the schedule on a daily basis:
   1. Contractor is required to monitor, update and comply with the schedule.
   2. Contractor to inform Owner and Consultant of any delays or anticipated delays immediately.

1.02 QUALITY CONTROL

A. Standard Reference: Data preparation, analysis, charting, and updating shall be approved by Owner or Consultant.

B. Approved Schedule:
   1. The Construction Schedule as approved by the Owner or Consultant shall become part of the Contract, thereby establishing interim Contract completion dates for the phases of the Work.
   2. Should any portion of the Work not be completed within ten (10) working days after the date stated in the Construction Schedule, the Owner or Consultant shall have the right to order the Contractor to complete the portion of Work by whatever means the Owner or Consultant deems necessary and appropriate, without further compensation to the Contractor.
   3. Should any portion of the Work be ten (10) working days or more behind schedule, the Owner or Consultant shall have the right to perform the Work or have the Work performed by whatever method the Owner or Consultant deems appropriate.
   4. Costs incurred by the Owner for expediting work as described in this item shall be reimbursed by the Contractor or deducted from his contract.
   5. Should the Owner or Consultant waive the right to order the Contractor to expedite any portion of the Work, this shall not be construed as the Owner or Consultant waiving this right for any other portion of the Work.

C. Changes to Schedule:

1. If the Contractor desires to make a major change in his/her method of operation after commencing construction, or if the schedule fails to reflect the actual progress, the Contractor will submit to the Consultant a revised construction schedule in advance of beginning revised operations.
2. If the proposed percent Work complete is less than the percent time elapsed, the Contractor will provide sufficient information and backup to show that the Work can be completed on time.
3. An updated construction schedule will be submitted prior to the next progress payment closure date whenever the actual percent of Work complete is less than the percent time elapsed.
4. When required by the Supplemental Conditions, a revised schedule will be submitted prior to each progress payment closure date. Processing of the progress payment will be delayed until such revised schedule complying with this section is received.
5. Revised and updated schedules will show actual completion to the date of the revision in the lower segmented bar for each item. All schedule information will be consistent with that reported on payment request forms, AIA G702/703.

1.03 SUBMITTALS

A. General: Comply with the provisions of Section 01 33 00-Submittals.

B. Construction Schedule: The Schedule shall be presented in a Gantt Chart format and contractor shall submit one (1) reproducible copy and Microsoft Excel spreadsheet electronic version of the Construction Schedule and Material Status Report within five (5) days of award of the Contract. Material Status Report shall be prepared in accordance with the requirements of Part 2 of Section. Contract to provide the Schedule and Materials Status Report in an electronic format to Consultant.

C. Periodic Reports: An updated Construction Schedule and Material Status Report shall be submitted on the first working day of each week.

1.04 TIME OF COMPLETION

A. General: The Contractor will complete the Work within the time set forth in the Contract. Unless otherwise specified, the time of completion of the Contract will be expressed in Working days.

B. Working Day: A Workday is any day within the period between the start of the Contract time and the date provided in the Contract for completion, other than:
   1. Saturday, Sunday or any day designated as a National Holiday.
   2. Any day the Contractor is prevented by Owner from working.
   3. Weather delays due to wet conditions excluded.

C. Contract Time Accounting: The Consultant will make a daily determination of each Working day to be charged against the Contract time.

D. Starting of Contract Time: The Contract starting time will be the date the Notice to Proceed is issued.

E. Non-Complying Work: Neither the final certificate of payment nor any provision in the Contract Document, nor partial or entire occupancy of the premises by Owner, will constitute approval of Work not done in accordance with the Contract Documents or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship.

PART 2 - PRODUCTS

2.01 CONSTRUCTION SCHEDULE

A. The Construction Schedule shall graphically depict the order of all portions of the Work necessary to complete the project, along with the sequence in which each portion of the Work shall be performed. The Construction Schedule shall include, but is not limited to:
   1. General Conditions
      a. Submittals and approvals of Show Drawings and Samples;
      b. Procurements of material and equipment
   2. Project mobilization.
   3. Interior Protection;
   4. Membrane Installation: Demolition and installation of new materials to watertight condition daily;
   5. Flashing installation;
   6. Sheet metal installation
   7. Final clean up;
   8. Final inspection and testing.
   9. All activities deemed necessary by the Owner or Consultant that affect progress, required dates for completion, or both, for all or each portion of the Work.

2.02 MATERIAL STATUS REPORT

A. Format: Contractor's Standard Materials Status Report shall be acceptable if the Owner or Consultant determines the report provides sufficient data to determine that material procurement flow is acceptable for the Work.

B. Contents: The following information, as a minimum, shall be provided.
   1. Description of item listed in accordance with Section number containing the item.
   2. Purchase order number and date of issue.
   3. Vender name.
   4. Date shipped and shipping mean utilized.
   5. Estimated date of arrival at the job site.
   6. Actual date of arrival at job site and receiving report number.

PART 3 – EXECUTION

3.01 GENERAL

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A. Schedule and supervise work crews so that the area of roofing begun one day is completely finished before leaving the job site that day. The definition of daily-

completed roofing will be as agreed to in the Pre-Construction Conference and all flashings within and adjoining the membrane.

B. Schedule work to coincide with new roofing work. All existing roofing removed shall be replaced with new roofing in watertight condition each day. All decking or building components exposed by demolition shall be put in a watertight condition each day.

C. Provide a schedule describing demolition removal procedures, staging and schedule.

D. Provide the Owner with sufficient advance notice when planning to work outside of normal hours so that Owner's consultant, personnel, security forces, and other interested parties may be advised.

3.02 HOURS OF WORK

A. Hours of Work will be stated in the Supplemental Conditions or as clarified during Pre-Bid Conferences. In general, hours of Work will coincide with store operations to the extent that no disruption of store operations or the surrounding neighborhood will be allowed.

B. To permit proper coordination of access for Contractor Work, required inspections and store operations, the Contractor's regular Work schedule will be specific for start and end times of various job phases each day (removal, reroofing, crew change, hauling, etc.). Any changes will be coordinated in advance with the Consultant, **Berkley Schools** Project Manager and Store Management.

3.03 SEQUENCE OF WORK

A. Beginning of Work: The contractor will not mobilize for the job, deliver any materials or start any Work on the project site prior to receipt of a written Notice to Proceed.
   1. A Notice to Proceed will be issued only following receipt and approval of all Submittals as required in Section 01 33 00 Submittals.
   2. The issuance of Notice to Proceed will constitute the Contractor's authority to enter upon site of the Work and begin operations provided he/she has also notified the Consultant at least forty-eight (48) hours in advance.

B. Starting Work:
   1. The Contractor may start Work at any time after the Notice to Proceed is issued or at such other time as may be indicated in the Special Project Conditions. The actual date on which the Contractor starts Work will not affect the required time for completion.

C. Work Sequence:
   1. If required by the Supplemental Conditions, the Contractor will start construction operations on that part of the project designated by the Consultant.

D. Resources Required:

1. The Work will be conducted in such a manner and with sufficient materials, equipment and labor to ensure its completion in accordance with the Plans and Specification within the time set forth in the Contract.

E. It is expressly understood and agreed that failure by Owner to exercise the option to either order the Contractor to expedite an activity or to expedite the activity by other means will not be considered precedent setting for any other activities.

3.04 DELAYS AND EXTENSION OF TIME

A. General:
1. If delays are caused by unforeseen events beyond the control of the Contractor, such delays will entitle the Contractor to an extension of time as provided herein, but the Contractor will not be entitled to damages or additional payment due to such delays.
   Such unforeseen events may include war, government regulations, labor disputes, strikes, fire, floods, adverse weather necessitating cessation of Work, other similar actions of the elements, inability to obtain materials, equipment or labor, required extra Work, or other specific events as may be further described in the Specification.
2. No extensions of time will be granted for a delay caused by the Contractor's inability to obtain materials unless the Contractor furnishes to Owner documentary proof of the inability to obtain such materials in a timely manner in accordance with the sequence of the Contractor's operations and the approved construction schedule.
3. If delays beyond the Contractor's control are caused by events other than those mentioned above, but substantially equal in gravity to those enumerated and an extension in time is deemed by the Consultant to be in the best interests of Owner, an extension of time may be granted, but the Contractor will not be entitled to damages or additional payment due to such delays.
4. If delays beyond the Contractor's control are caused solely by action or inaction by Owner, such delays will entitle the Contractor to an extension of time as provided in the contract documents.

B. Extension of Time
1. Extensions of time, when granted, will be based upon the effects of delays to the project as a whole and will not be granted for non-controlling delays to minor included portions of Work unless it can be shown that such delays did, in fact, delay the progress of the project as a whole.

C. Written Notice and Report
1. If the Contractor desires an extension of time, he/she will provide Owner, through the Consultant, a written request and report as to the cause and extent of the delay. The request for extension must be made at least fifteen (15) days before the specified completion date. Failure by the Contractor to file these items within the time specified will be considered grounds for refusal by Owner to consider such request.

D. Documentation of Delays

1. When the Contractor requests an extension of time for delay due to inability to obtain materials or equipment, his/her report will include the following:
   a. Date Owner was notified of potential delay.
   b. Date requested to start the delay.
   c. Exact description of material or equipment causing delay.
   d. Documentation showing when and from whom ordered.
   e. Documentation of promise to deliver.
   f. Documentation of actual delivery date.
   g. Description of how late delivery will cause delay.
   h. Documentation of measures taken to obtain prompt delivery.
   i. Documentation of attempts to obtain delivery from other sources.
   j. Description of steps taken in project scheduling to minimize effects of late delivery.
   k. Description of steps to be taken to get project back on schedule after actual delivery.
   l. Statement of actual time lost as a result of late delivery.

END OF SECTION

SECTION 01 32 13

WEBSITE & DOCUMENTS

PART 1 – GENERAL

1.01 SUMMARY

A. **Contract Documents**: Including, but not limited to; the Contract, Addenda (which pertains to the Contract Document), invitation to Bids, instruction to the Bidders; Bid (including documentation submitted prior to the Notice of Award), when attached as an exhibit to the Contract, the bonds, the General Conditions, permits from other agencies, the Supplemental Conditions, Drawings, General and Technical Specifications, and all Project Website information and documentation; and, all Contract Modifications (Change Orders, Unit Pricing) issued after the execution of the Contract.

B. Contractor shall maintain one full copy of Contract Documents on the Job Site at all times during performance of any work.
   1. Failure of proper installation by the contractor, due to unavailability of Contract Specifications or Drawings on the roof, constitutes negligence.
   2. The Consultant/Observer will have access to the site copy of documents at all times.

C. Contractor shall maintain a minimum of one worker who can read and interpret all contract documents on site at all times.

D. Contractor shall maintain a minimum of one worker who can access and use the WeatherTech project website location dedicated to the Project at all times during the performance of the Contract.

E. Contractor shall maintain an accurate record of all quantities, locations, progress and changes in the Contract Work as described in Part 3 of this Section.

F. Contractor shall maintain all required Website documentation daily during performance of the Contract.

G. Contractor shall transfer the recorded changes to a set of Project Contract Documents and Project Website location upon Work completion, as described in Part 3 of this Section.

H. Contractor shall provide and maintain a color photographic record of all conditions of work specified for reroofing, repair, unit pricing and all probe openings.

1.02 USE

A. The Drawings, Specification and other Contract Documents in Project Website are intended to be complementary and cooperative and to describe and provide for a complete project. Anything contained in the Specifications but not shown on the Drawings, or shown on the Drawings and not enumerated in the

Specifications, will be construed to be as though shown or referenced in both documents and website. Anything contained on the website but not shown in the Specifications and Drawing will be construed to be as though shown on all three Contract Documents.

B. The division of the Drawings into separate depictions, views, sections or sheets and the division of the Specifications into paragraphs, divisions and sections are for the ease of reference only and does not imply a division of the work between trades or subcontractors.

C. The presentation of information and use of the Project Website are intended to be complementary to the written Drawing and Specifications and completion of the Work.

D. Titles or names given to, or accompanying, the various divisions, sections, tabs and paragraphs of the specifications and website are provided for the reader's convenience and/or ease of reference only and are not intended to limit or restrict by inference the content of the accompanying division, section, or paragraph in writing or on the website.

1.03 QUALITY CONTROL

A. The roofing contractor’s appointed Quality Controller shall be responsible for maintenance of Project Contract Documents and Website.

B. Accuracy: All inspections and work within Project Contract Documents shall be entered on each Drawing and/or other documents including the Project Website required to properly show the Project Contract Documents may reasonably rely on information obtained from the approved project Contract Documents.

C. Timing: All entries shall be recorded within twenty-four (24) hours of receipt of information, inclusive of recording of all locations, quantities, and other pertinent information. All entries on Project Contract Documents shall be initialed and dated. The Project Website tracks entries when Contractor personnel log on to the website.

1.04 SUBMITTALS

A. General: Owner or Consultant’s approval of Project Contract Documents will be necessary prior to the Owner’s approval of Payment Applications and final payment under the Contract.

B. Progress Submittals: Each request for progress payment shall contain Owner or Consultant’s approval of Project Contract Documents including Website documentation.

C. Final Submittal: The final Project Contract Documents and Website content shall be submitted according to Section 01 77 00 prior to submittal of final payment request.

1.05 PROJECT DOCUMENT HANDLING

A. Project Contract Documents shall be maintained from deterioration and/or loss and damage until completion of the Work and transfer to Final Project Contract Documents. In the event of loss, Contractor shall use all necessary means to secure the data in the satisfaction of Owner or Consultant, inclusive of removal and replacement of materials. In such cases, replacement shall be in accordance with specific requirement.

1.06 PROJECT WEBSITE

A. Project Website at www.wtcg.net (BuilderTrend) shall be maintained to avoid damage from viruses and other forms electronic vandalism. In the event of loss, Contractor shall use all necessary means to secure the data in the satisfaction of Owner or Consultant, inclusive of removal and replacement of materials. In such cases, replacement shall be in accordance with specific requirement.

PART 2 – PRODUCTS - Not Used-

PART 3 – EXECUTION

3.01 PROJECT DOCUMENTS AND WEBSITE

A. Identification: Each set of Project Contract Documents shall be titled “Project Documents – Job Set.”

B. Maintenance
   1. Contractor shall provide Owner or Consultant with written method for protection of Project Contract Documents.
   2. Job Set Project Contract Documents shall not be used for any purpose other than recording new data and review by Owner or Consultant prior to transfer of data to Final Project Contract Documents.
   3. Job Set Project Documents and Project Website shall be maintained during the progress of the Work until transfer of data to Final Project Contract Documents.
   4. Project Website shall be updated every day with required information according to the Contract Documents.

C. Entries on Drawings: All entries on Drawings shall be made by use of erasable colored pencil (ink or indelible pencil shall not be permitted). All entries shall clearly indicate location and quantities as required and shall be dated. In the event of overlapping changes, different colors may be used for each of the entries.

D. Entries on Other Documents
   1. Clearly indicate all changes in the Work requested by Owner or Consultant.
   2. All changes in the Work caused by Contractor-originated proposal, approved by the Owner or Consultant (including Contractor errors approved by Owner or Consultant), shall be clearly indicated in erasable colored pencil.
   3. All entries as approved by Owner or Consultant shall be made in the pertinent Document or on the Project Website.

E. Accuracy: Installed items shall be located by use of all means necessary, including the use of proper tools for measurements.

3.02 FINAL PROJECT CONTRACT DOCUMENTS

A. The Final Project Documents shall be submitted according to Section 01 77 00.

B. The Project Website shall have full and complete entries and ready for electronic database archiving.

END OF SECTION

SECTION 01 33 00

SUBMITTALS

PART 1 – GENERAL

1.01 SUMMARY

A. Berkley Schools submittal requirements using the WeatherTech Project Management / BuilderTrend Website (www.wtcg.net, online programs)

B. Submittal Schedule:
   1. Preconstruction
   2. Job Start
   3. Daily Construction
   4. Post Construction

1.02 SUBMITTAL PROCEDURES

A. The roofing contractor is responsible for processing, submitting and confirming approval of all specified submittals.

B. **No work requiring a submittal shall be started without written approval by Owner or Consultant or specific waiver from Owner.**

C. All submittals shall be electronically uploaded onto the WeatherTech/BuilderTrend Project Management Website by the Contractor:
   1. NO PAPER OR PRODUCT SUBMITTALS WILL BE ACCEPTED UNLESS SPECIFICALLY REQUESTED IN THE CONTRACT DOCUMENTS.
   2. SAMPLES FOR ALL COLOR SELECTIONS ARE REQUIRED.

D. Transmittal: Upload submittals in accordance with Project Website schedule and in such sequence to avoid delay in the work or work of other contracts or sections.

E. Number of Submittals Required: USE ONLY WHEN HARD COPY INFORMATION IS REQUESTED.
   1. Shop Drawings: Upload one drawing for approval. Upload one CAD file and one drawing when approved.
   2. Product Data: Upload the number information required in each section of the Specifications.
   3. Samples: Submit the number required in each section of Specifications. Submit applicable Product Data with Samples.

F. Submittals Schedule (Part 4 of this Section): List of submittals and time requirements for scheduled performance of related construction activities.

G. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
   1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.

2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
    a. Consultant reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

H. Processing Time: Allow enough time for submittal review, including time for re-submittals, as follows. Time for review shall commence on Consultant's receipt of submittal.
1. Initial Review: Allow seven (7) days for initial review of each submittal. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. Consultant will advise Contractor when submittal being processed must be delayed for coordination.
2. Allowing procedure in subparagraph below may cause tracking problems for Consultant and Construction Manager, if any. Delete if not allowed. See Evaluations.
3. If intermediate submittal is necessary, process it in same manner as initial submittal.
4. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing.

I. Distribution: Furnish copies of final approved submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

J. Use for Construction: Use only final submittals with mark indicating action taken by consultant in connection with construction.

1.03 RESUBMITTALS

A. Make resubmittals under procedures specified for initial submittals; identify changes made since previous submittal.

B. Shop Drawings, Product Data:
1. Revise initial drawing or data and resubmit as specified for the initial submittal.
2. Clearly, indicate any changes which have been made.
3. When approved "as noted", correct and resubmit as specified for the initial Shop Drawings and Product Data.

C. Samples: (ONLY REQUIRED AS STATED IN 1.03 B. 2) Submit new samples as specified for the initial submittal.

D. Processing Time: Allow seven (7) days for processing each re-submittal.

PART 2 - PRODUCTS

2.01 ACTION SUBMITTALS

A. General: Prepare and upload Action Submittals required by individual Specification Sections.

1. Upload submittal online, unless otherwise indicated. Consultant will post response online. Mark up and retain one returned copy as a Project Record Document.
2. Upload each submittal, as follows, unless otherwise indicated:
3. Hard Copy Submittals and Samples: (only where requested) all other submittals shall be uploaded to website.
    a. Initial Submittal: Submit a preliminary single copy of each submittal where selection of options, color, pattern, texture, or similar characteristics is required. Consultant will return submittal with options selected.
    b. Final Submittal: Submit three copies, unless copies are required for operation and maintenance manuals. Consultant will retain two copies; remainder will be returned. Mark up and retain one returned copy as a Project Record Document.

2.02 INFORMATIONAL SUBMITTALS

A. General: Prepare and submit online Informational Submittals required by other Specification Sections.
    1. Upload each submittal, unless otherwise indicated. Consultant will not return copies.
    2. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.

PART 3 - EXECUTION

3.01 GENERAL:

A. Submittals shall be uploaded to the WeatherTech/BuilderTrend Project Management website.

B. All submittals will be evaluated and stamped electronically.
    1. Contractor will be notified electronically of approval status as “Approved, approved as noted, not subject to review, no action required, Revise / Resubmit, Rejected / Resubmit or Approved as noted / Resubmit”.

3.02 CONTRACTOR’S REVIEW

A. Review each submittal and check for compliance with the Contract Documents. Note corrections and field dimensions.
    1. Submitting a submittal indicated the contractor has approved submittals with any noted corrections and qualifications.

B. Approval Stamp: When uploading information not taken from the website. Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor’s approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.03 CONSULTANT’S ACTION

A. Consultant will not review uploaded submittals that do not bear Contractor's approval stamp and will return them without action.

B. Action Submittals: Consultant will review each submittal, and note on Project Website approval status and may make marks to indicate corrections or modifications required, and return it.

C. Informational Submittals: Consultant will review each submittal and will not return it, or will reject and note on Project Website approval and may return it if it does not comply with requirements.
   1. Consultant will forward each submittal to appropriate party.

D. Submittals not required by the Contract Documents will not be reviewed and may be discarded.

PART 4 – SUBMITTAL SCHEDULE

4.01. BID SUBMITTALS

A. ***Refer to*** **SECTION 00 01 13 Instructions to Bidders**

4.02 CONTRACT SUBMITTALS

A. ***Insurance Certificate*** (Send to school district, upon request)
   1. Submit: To Berkley Schools
   2. Type: Informational
   3. Requirements: Meets Insurance Requirements *Section 00 01 13 Instructions to Bidders.*
   4. Approval: Owner;
   5. Notification: Pre-Contract
   6. Location: Contractor provided from Insurance supplier;
   7. Location: Project Manual.pdf

B. ***Subcontractors List:***
   1. Submit: Online under Construction Phase folder
   2. Type: Action
   3. Approval: Owner
      a. Review: Consultant
   4. Notification: Post Bid
   5. Location: Project Manual / *Section 00 43 36 Subcontractors List*

4.03 PRE-CONSTRUCTION SUBMITTALS

A. ***Roofing Manufacturers Certification Attachment A Section 07 54 00***
   1. Submit: Upload to WeatherTech/BuilderTrend website
   2. Type: Informational
   3. Requirements: 30-year roof system performance. Signed off by membrane materials supplier. (Unless the roof area is not a 20-year system, per documents.)
   4. Approval: Consultant;
   5. Notification: Prior to Notice to Proceed

6. Location: Construction Phase folder/ *Roofing Section from selected roof system*

B. ***Schedules of Values:***
1. Submit: Form on WeatherTech/BuilderTrend Project Management website
2. Type: Informational;
3. Requirement: Completion of form;
3. Approval: Owner
   a. Review: Consultant
4. Notification: Prior to Notice to Proceed.
5. Location: WeatherTech/BuilderTrend Project Management website

C. ***Materials List:***
1. Submit: Form on WeatherTech/BuilderTrend Project Management website
2. Type: Informational
3. Requirement: Meets requirements of applicable roofing section.
4. Approval: Owner
   a. Review: Consultant
5. Notification: Prior to Notice to Proceed.
6. Location: WeatherTech/BuilderTrend Project Management website

D. ***Insulation Fastening Pattern:***
1. Submit: Upload form on WeatherTech/BuilderTrend Project Management website
2. Type: Informational
3. Requirement: Roof Plan Perimeter, Corner and Field Attachment per Sections 07 22 50 and 07 54 00
4. Approval: Consultant
5. Notification: Prior to Notice to Proceed.
6. Location: WeatherTech/BuilderTrend Project Management website

E. ***Tapered Insulation Fastening Pattern:***
1. Submit: Upload form on WeatherTech/BuilderTrend Project Management website
2. Type: Informational
3. Requirement: Roof Plan layout tapered insulation per Section 07 22 50
4. Approval: Consultant
5. Notification: Prior to Notice to Proceed.
6. Location: WeatherTech/BuilderTrend Project Management website *Section 07 22 50* Roof Insulation for BUR or Single-ply or EPDM

F. ***Membrane Fastening Pattern:***
1. Submit: Upload form on WeatherTech/BuilderTrend Project Management website
2. Type: Informational
3. Requirement: Roof Plan Perimeter, Corner and Field Attachment per roofing *Sections 07 54 00 EPDM Single-ply Roofing.*
4. Approval: Consultant
5. Notification: Prior to Notice to Proceed.
6. Location: WeatherTech/BuilderTrend Project Management website / *Roofing Section from selected roof system*

G. ***Building Permits:***
1. Submit: Upload form on WeatherTech/BuilderTrend Project Management website
2. Type: Informational
3. Requirement: Statutory permits and mandatory authorizations. Post on site.
4. Approval: Consultant
5. Notification: Prior to Notice to Proceed.

H. ***Construction Schedule:***
1. Submit: Upload to WeatherTech/BuilderTrend Project Management website
2. Type: Informational
3. Requirement: Input all phases of time related activities on form as required by Section 01 32 00 Construction Schedule
4. Approval: Owner
   a. Review: Consultant
5. Notification: Prior to Notice to Proceed.
6. Location: WeatherTech/BuilderTrend Project Management website / *Section* 01 32 00 Construction Schedule

I. ***Safety Manual:***
1. Submit: Copy of contractor Safety Manual noted on record by Consultant and Owner at Pre-Construction Conference maintain on site. Upload electronic version of manual to WeatherTech/BuilderTrend Project Management website.
2. Type: Informational
3. Requirement: Section 01 35 01 Safety
4. Notification: Prior to Notice to Proceed.

J. ***Safety Data Sheets:***
1. Submit: Copies of contractor SDS documents noted on record by Consultant and Owner at Pre-Construction Conference maintain on site.
2. Type: Informational
3. Notification: Prior to Notice to Proceed.

K. ***Shop Drawings:***
1. Submit: Upload to WeatherTech/BuilderTrend Project Management website.
2. Type: Informational
3. Requirement: Required details from contractor as requested.
4. Approval: Consultant
5. Notification: Prior to Notice to Proceed.
6. Location: WeatherTech/BuilderTrend Project Management website / *Roofing Section from selected roof system and Sheet Metal Section 07 62 00*

L. ***Color Samples: All materials with specified colors or matching existing colors must have samples submitted for approval by Consultant and Owner***
1. Submit: Number of required in each section of Specifications but in no instance less than three (3).
2. Type: Action: Written approval by Owner
3. Approval: Owner
   a. Review: Consultant
4. Notification: Prior to Notice to Proceed.
5. Location: WeatherTech/BuilderTrend Project Management website / *Roofing Section from selected roof system and Sheet Metal Section 07 62 00*

M. ***Interior Protection Plan:***
1. Submit: Upload to WeatherTech/BuilderTrend Project Management website.
2. Type: Informational
3. Requirement: As detailed in Section 01 50 00 Temporary Protection, Facilities and Controls. Plan indicating how and where agreed upon protection will take place.
4. Approval: Owner.
   a. Review: Consultant;
5. Notification: Prior to Notice to Proceed.

N. ***Logistics Plan:***
1. Submit: Upload to WeatherTech/BuilderTrend Project Management website.
2. Type: Informational
3. Requirement: As detailed in Section 01 50 00 Construction Facilities and Temporary Controls. Plan indicating how and where agreed upon protection will take place.
4. Approval: Owner.
   a. Review: Consultant;
5. Notification: Prior to Notice to Proceed.

4.04 JOB START SUBMITTALS:

A. ***Existing Conditions:***
1. Submit: Form to WeatherTech/BuilderTrend Project Management website.
2. Type: Informational
3. Requirement: As detailed in Section 01 33 26 Quality Control. Contractor to document all pre-existing conditions and damage impacting Work.
4. Approval: Owner
   a. Review: Consultant
5. Notification: Prior to start of Construction.
6. Location: WeatherTech/BuilderTrend Project Management website / *Section* 01 33 26 Quality Control.

4.05 DAILY CONSTRUCTION SUBMITTALS:

A. ***Roof Construction Diagram:***
1. Submit: Upload to WeatherTech/BuilderTrend Project Management website.
2. Type: Informational
3. Requirement: Upload roof plan with work completed weekly.
4. Location: WeatherTech/BuilderTrend Project Management website / *Section* 01 33 26 Quality Control.

B. ***Roof Contractor Daily Report***
1. Submit: WeatherTech/BuilderTrend Project Management website.
2. Type: Informational
3. Requirement: Daily form of work completed.
4. Location: WeatherTech/BuilderTrend Project Management website / *Section* 01 33 26 Quality Control.

4.06 UNIT PRICING

A. ***Unit Pricing Report:***

1. Submit: Change Order Request form and photo to WeatherTech office (acrippen@wtcg.net).
2. Type: Informational
3. Requirement: As detailed in Section 01 20 03 Changes to Work for unit work completed as detailed in Contract Documents.
4. Notification: Issuance of an approved Change Order
5. Location: *Section 01 20 03 Changes to Work.*

4.07 CHANGE ORDERS

A. ***Change Order Request:***
1. Submit: Change Order Request form and photo to WeatherTech office (acrippen@wtcg.net).
2. Type: Action
3. Requirement: As detailed in Section 01 20 03 prior to completing any work outside the scope of the Contract Documents, beyond agreed to allowances for Unit Pricing items Contractor required to submit.
4. Approval: Owner
   a. Review: Consultant
5. Notification: Prior to starting any additional work or unit work beyond allowances.
6. Location: *Section 01 20 03 Changes to Work.*

4.08 SUBSTANTIAL COMPLETION

A. ***Certificate of Substantial Completion***
1. Submit: Form to WeatherTech/BuilderTrend Project Management website.
2. Type: Action; Consultant to schedule Punch List Inspection.
3. Requirement: As detailed in Section 01 77 00 Closeout. Complete all punch list correction items and contractor sign off.
4. Approval: Consultant
5. Notification: Prior to Punch List Inspection.
6. Location: WeatherTech/BuilderTrend Project Management website.

B. ***Punch List:***
1. Submit: Upload completed/signed Punch List and photo uploads to WeatherTech/BuilderTrend Project Management website.
2. Type: Action; Consultant to approve in writing.
3. Requirement: As detailed in Section 01 33 26 Quality Control. Complete all punch list correction items and contractor sign off.
4. Approval: Consultant
5. Notification: Prior to final Pay Application submittal and demobilizing from site.
6. Location: WeatherTech/BuilderTrend Project Management website

C. ***Flood Test***
1. Submit: Upload form to WeatherTech/BuilderTrend Project Management website.
2. Type: Action; Scheduled during Punch List Inspection.
3. Requirement: As detailed in Section 01 77 00 Closeout.
4. Approval: Consultant
5. Notification: Prior to Punch List Inspection.

6. Location: WeatherTech/BuilderTrend Project Management website / *Section 01 77 00 Closeout.*

D. ***Performance Agreement/Conformance Statement:***
1. Submit: Upload form to WeatherTech/BuilderTrend Project Management website.
2. Type: Informational.
3. Requirement: As detailed in Division 7 Section. Complete Performance/Conformance Statement and sign.
4. Approval: Owner
   a. Review: Consultant
5. Notification: Prior for final payment.
6. Location: WeatherTech/BuilderTrend Project Management website

4.09 PAY APPLICATIONS

A. ***Pay Applications:***
1. Submit: To WT
2. Type: Action: Consultant to review and recommend to Berkley Schools.
3. Requirement: Compete AIA 702 and 703 Forms, *Section 01 20 01 Payment Procedures.*
4. Approval: WT
   a. Review: Consultant
5. Notification: For payment of work.
6. Location: WeatherTech/BuilderTrend Project Management website / *Section 01 20 01 Payment Procedures*

B. ***Lien Waiver Forms:***
1. Submit: To WT
2. Type: Informational
3. Requirement: Compete BERKLEY SCHOOLS Lien Waiver Forms, *Section 00 04 01 Lien Waiver Forms*
4. Approval: BERKLEY SCHOOLS/WT
5. Notification: For payment of work.
6. Location: WeatherTech/BuilderTrend Project Management website / *00 04 01 Lien Waiver Forms*.

4.10 CLOSE OUT – Documentation to be submitted to BERKLEY SCHOOLS

A. ***Final Payment:***
1. Submit: To WT
2. Type: Action: Consultant to review and recommend to BERKLEY SCHOOLS.
3. Requirement: Compete AIA 702 and 703 Forms, *Section 01 20 01 Payment Procedures*
4. Approval: BERKLEY SCHOOLS/WT
   a. Review: Consultant
5. Notification: For final payment of work and close of contract.
6. Location: WeatherTech/BuilderTrend Project Management website / *Section 01 20 01 Payment Procedures*

B. ***Unconditional Lien Waiver Forms:***
1. Submit: To WT

2. Type: Informational
3. Requirement: Compete BERKLEY SCHOOLS Unconditional Lien Waiver Forms, *Section 00 04 01 Sworn Statement Form*
4. Approval: BERKLEY SCHOOLS/WT
5. Notification: For final payment of work and close of contract.
6. Location: *Section 00 04 01 Sworn Statement Form*

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C. ***Consultant and Owner Signed Punch List***
1. Submit: To WT
2. Type: Informational
3. Requirement: Signed punch list acknowledging receipt and contractor has indicated all punch list items are complete. Provide photo documentation of completed work.
4. Approval: WT/BERKLEY SCHOOLS
5. Notification: For final payment of work and close of contract.
6. Location: WeatherTech/BuilderTrend Project Management website / *Section 01 33 26 Quality Control*.

D. ***Signed Off Building Permit***
1. Submit: To WT
2. Type: Informational
3. Requirement: Signed building permit from local building code authority.
4. Approval: BERKLEY SCHOOLS/WT
5. Notification: For final payment of work and close of contract.
6. Location: Local building department.

E. ***Roofing Manufacturer's Warranty***
1. Submit: To. WT
2. Type: Informational
3. Requirements: 30-year NDL materials and installation roof system warranty/guarantee. Signed off by membrane materials supplier.
4. Approval: WT/BERKLEY SCHOOLS;
5. Notification: For final payment of work and close of contract
6. Location: Previously executed Certification for Preconstruction Conference with original signature.

END OF SECTION

SECTION 01 33 26

QUALITY CONTROL

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

A. Contractor shall maintain on site quality control over products, services, site conditions, safety and workmanship to produce work of specified quality.

B. Contractor shall arrange with Material Manufacturer(s) to provide qualified personnel to instruct the Contractor's Crew, Project Manager and any other parties designated by the Owner on the proper handling, installation, and maintenance of materials. Instruction shall be performed prior to beginning installation of roofing/waterproofing system or at immediate start of installation.

C. Contractor shall arrange with Material Manufacturer(s) to provide qualified personnel to observe field conditions and material installation when field work is in progress. The site visits by the Representative of the Materials Manufacturer shall be of sufficient length and/or frequency to assure that completed work qualifies for specific warranties. Manufacturer's representative shall submit written reports to the Owner or Consultant listing observations and recommendations.

D. Contractor shall provide and maintain a complete set of Drawings, Shop Drawings, and Specifications at a designated location of the project at all time for the use of all parties.

E. Owner reserves the right to retain the services of an independent representative to provide full-time or part-time monitoring of the work. Testing may be performed by the representative to determine any deficiencies in the work and/or confirm requirements of the Contract Documents.

F. Cost of the Owner's Consultant will be borne by the Owner until the date stated in the Construction Contract for completion of work or as stipulated in the Contract documents. The cost of any monitoring/testing services required after this period of time due to Contractor-controlled non-performance shall be borne by the Contractor. Items such as weather, strike, material production delays, work of other trades, change in scope of work, etc. are not considered within control of the Contractor. Insufficient crew size, inexperienced crew, delays in material ordering, application of materials/systems in violation of specified requirements, priority of other work, etc. are considered within the control of the Contractor.

G. If full-time monitoring is selected, all of the work shall be performed in the presence of the Owners Consultant. Any work performed without said presence may be rendered unacceptable.

H. Contractor shall be required to notify the Owner or Consultant a minimum twenty-four (24) hours prior to cancellation of any operations, weather conditions permitting.

I. Work found to be in violation of Contract Documents or Manufacturer's specifications, or not in conformance with acceptable work/performance standards, shall be subject to rejection including complete removal and replacement with new material at the Contractor's expense.

J. If employed full-time the Owner's Consultant shall document installed quantities of those materials bid on a unit basis, as well as other materials. These quantities in consort with the Contractor's records will be used as a basis of payment.

K. The Owner's Consultant, if independent, is not an agent of the Owner and, therefore cannot enter the Owner into any contractual arrangement with the Contractor.

L. Maintain at least one (1) foreman/supervisor on the project site with full knowledge, expertise and authority to direct on-site operations. An English-speaking representative must be on site at all times.

1.02. Submittals

A. Contractor to provide a project schedule outlining construction dates, anticipated project duration and projected manpower.
   1. Contractor to update schedule on a weekly basis indicating material deliveries, installed work and time lost to weather.

B. Contractor to provide a weekly summary of completed work, including allowance quantities and approved unit cost items.

1.03. CONTRACTOR

A. Contractor / installer must be approved and authorized by the roofing system manufacturer to installed specified materials and be eligible to receive the specified manufacturer's warranty.

B. Roofing contractor shall designate a Quality Controller for the project to perform the following duties on behalf of the roof contracting firm:
   1. Verify all site activities meet requirements of the contract documents.

C. Quality Controller must be authorized to stop work on any non-compliant work practices and implement corrective action prior to resuming work activities.

D. Variances: Should Owner, Owner's representative, Consultant personnel, or building code official indicate variances in contractor's work:
   1. Immediately stopping work practices that might damage the roof system or that oppose the intent of the Contract.
   2. Solicit direction for correction of defects and violations of Contract requirements. Owner, WeatherTech and/ or building code official must accept in writing the arrangements and corrections before they are carried out.

3. Do not build upon or tie into work that varies from the specification. Any such work is subject to rejection.
4. Immediately notify the primary membrane manufacturer and request direction concerning the roof system's acceptability and any required corrective action.
5. Membrane manufacturer's recommendations must be reviewed and approved by the Owner, Consultant and/or building code official prior tin implementation.
6. If the primary membrane manufacturer does not recommend corrective action, act upon the written decision of the Owner and Consultant
7. Non-conforming work is subject to Owner's rejection.
8. Remove and replace rejected work at no cost to owner.

E. Pre-Construction Roofing Conference
1. Upon receipt of approved project submittals, the roofing contractor's Quality Controller is required to coordinate a pre-construction meeting with the Owner and Consultant. Meeting attendees:
   a. Roofing Contractor: Project Manager, Superintendent, project foreman
   b. Owner's Representatives
   c. WeatherTech Consulting Group, Inc.
   d. Roofing Manufacturer
   e. Others as designated
2. Pre construction conference to occur a minimum two weeks prior to start of work.
3. WeatherTech Representative conducting the conference will:
   a. Review Contract requirements, procedures, and coordination to obtain an understanding of requirements and responsibilities.
   b. Discuss procedures and Drawings to execute the work, logistics, scheduling, and equipment to be used, on-site material handling, assignments, and storage procedures.
   c. Walk participants through areas where work is to be performed.
   d. Consultant to provide written meeting minutes.

F. Progress Meetings: Schedule meetings as requested by the Owner or WeatherTech. Coordinate the attendance of requested participants.

G. Punch List Inspections: On completion of all work, schedule punch list inspection with the WeatherTech representative to review the completed work and determine all corrective actions necessary to meet the intent of the Contract.
1. Contractor to provide photo documentation of completed punch list work.

H. Notify Owner and consultant of the manufacturer's warranty inspection date. Owner and/or consultant representatives may or may not attend the inspection;
1. If requested, provide Owner with a copy of the warranty inspection report or any manufacturer's punch list.

I. Contract Close-out
1. Contract closeout procedures shall be conducted in accordance with Section 01 77 00.

1.04 OWNER, CONSULTANT AND SITE MANAGER

A. Owner has the final authority in all matters affecting the Work. Within the Scope of the Contract, the Consultant has the authority to enforce compliance with Drawings and Specifications. The Contractor will promptly comply with all instructions from the Consultant or his/her authorized representative.

B. On all questions relating to quantities, the acceptability of material, equipment, or Work, the execution, progress or sequence of Work and the interpretation of Specification or drawings, the decision of the Consultant is final and binding and will be precedent to any payment under the Contract, unless otherwise ordered by Owner.

C. Any and all decisions of the Consultant interpreting Specification or drawings will be in writing. Any purported "interpretation", which is not in writing will not be binding upon Owner and should not be relied upon by the Contractor.
   1. Contractor is required to submit all questions or requests for interpretation on a *RFI Form* (Request for Information/ Interpretation). Consultant and/or Owner will supply the written response on submitted RFI Form within 48 hours unless the contractor is notified otherwise.

D. The Work is subject to inspection and approval of the Consultant.
   1. The Contractor will notify the Consultant forty-eight (48) hours before any special inspection is required. Unless otherwise authorized, Work will be done only in the presence of the Consultant or an authorized representative. Any Work done without proper inspection will be subject to rejection.
   2. Contractor will provide every reasonable facility for ascertaining that the materials and workmanship are in accordance with this Specification.
   4. Inspection of the Work will not relieve the Contractor of the obligation to fulfill all conditions of the Contract.
   5. Acceptance of Work by material manufacturer representatives will be for warranty purposes only. Acceptance of the Work by the Consultant will constitute grounds for contractual payments.

E. Permit Inspection
   1. The Contractor will arrange for code compliance inspections by all agencies issuing permits for the Work. The Work will not continue beyond mandatory inspection points without clearance from controlling agencies. Each agency involved will be notified in accordance with the codes they enforce or in accordance with their standard operating procedures. No extensions of time will be granted for delays occasioned by such inspections except where, through no fault of the Contractor, the inspection is delayed more than one (1) day beyond normal response time after proper notification has been given.
   2. It will be the Contractor's responsibility to see that any required inspection record card is signed off before proceeding with the next phase of the Work and completely signed off on completion of the Work

F. The Consultant has the following authority:
   1. To interpret the Bid and Contract Documents.
   2. To make changes in the location of features of the Work where no change in cost is involved.

3. To approve substitutes for material and equipment specified by proprietary names when such material and equipment meet the Contract Documents.
4. To approve shop drawings and submittals.
5. To issue stop Work orders when necessary to enforce the provisions of the Contract.
6. To make determinations of each Working day to be charged against the Contract time.
7. To receive all correspondence and other Documents from the Contractor.
8. To approve progress and final payments under the Contract, including the provisions for withholding funds.

1.05 SUBSTITUTIONS

A. Description
1. Contract Documents identify minimum acceptable quality standards for workmanship and materials, referenced to recognize industry and government standards or description of required attributes and performance.
2. Provide all submittals required by the Contract Documents and revise and resubmit as necessary to establish compliance with the specified requirements.

B. Substitutions:
1. Substitutions will not be considered unless the specified products are unavailable. Contract Documents have been prepared on the basis that only certain materials and manufacturers will be permitted to furnish products for this project. The intent is not to limit competition but to ensure utilization of products used on previous projects of a similar nature and found acceptable.

C. Materials
1. In order to consider a substitution, Contractor will submit a *Substitution Request Form* along with material product data sheets, SDS and other complete manufacturer's literature on both the original product specified and the proposed product substitute.
2. All substitutions required to complete the project will be "equal to" the original products specified. The submittal data required above will clearly identify the physical and performance characteristics of both the original and proposed product for substitution.
3. Both Owner's Representative and the Consultant will make the final decision of acceptability of the proposed product substitution.
4. Any substitute products, which are used on this project without prior approval from the Consultant, will be cause for rejection of the Work. Any such Work incorporating non-approved substitutions will be removed and replaced with the original specified or other prior approved materials by the Contractor without additional costs to Owner.

PART 2 – PRODUCTS **-** Not Used-.

PART 3 – EXECUTION

3.01 FIELD QUALITY CONTROL

A. Auditing:

1. Work may be audited at any time. Provide the Owner, WeatherTech, building code official and contractor (General Contractor if applicable), safe entry to all work areas and all the records and information requested during the audit.
2. The presence of the auditors is for Owner's purposes. Information furnished or not furnished by the auditors does not relieve the Roofing Contractor of responsibility for the work.

B. Contractor and WeatherTech shall perform any test deemed necessary to assure the roof system installation is acceptable.

C. If more samples are necessary because the original samples fail to meet Contract requirements, the Contractor must pay the cost of additional sampling, repair, and testing.

D. Acceptance of Completed Work
1. Acceptance of completed work will be based on its conformance to the Contract Document requirements. Non-conforming work is subject to rejection. Quantities and tolerances stated herein apply, unless specifically amended by the Roofing Manufacturer on *"Roofing Manufacturer's Certification"* (Attachment A of roof section) in the roofing section of these specifications and accepted by Owner.

3.02 CLEANING

A. Progress Cleaning
1. All stored materials and equipment shall be maintained in an orderly manner allowing maximum access, not impeding drainage or traffic, and providing the required protection of materials.
2. Accumulation of construction debris, scraps, and other items is not permitted and must be removed daily.
3. Contractor shall provide adequate storage for all items awaiting removal from the job site in accordance fire protection and environmental requirements.

B. Site
1. Contractor shall conduct daily inspection of work areas for the purpose of removal of construction debris, scraps, and other items. All such items shall be removed to the disposal or storage place designated daily.
2. Contractor shall conduct weekly (more often if necessary) inspections of all stored materials for the purpose of compliance with the requirements of paragraph 1.07 of the applicable roofing section.
3. The job site shall be maintained in a neat and orderly condition at all time during the construction period.

C. Façade and Walls
1. Contractor shall inspect the work area at all facade and wall surfaces; completely clean all scraps, droppings, debris, and waste materials from metal sills, brick, glass, etc.
2. As required, the work areas shall be cleaned prior to installation of materials.

D. Final Cleaning
1. Final cleaning shall be conducted as outlined in Section 01 78 00 and noted below.
2. Execute cleaning prior to Close-out Audit.

3. Timing: Final cleaning shall be scheduled with Owner or WeatherTech Prior to completion of the Work, remove all tools, surplus materials, equipment, debris, and waste materials from job site.
4. Site: Unless otherwise specifically directed by the Owner or WeatherTech, all areas of the building affected by the Work shall be broom cleaned. All debris accumulated as the result of cleaning shall be removed from the site.
5. Clean all work areas. Clean interior exterior surfaces exposed to view; remove stains and foreign substances. Clean equipment as required.
6. Remove waste and surplus materials, rubbish, and construction facilities from the Site.
7. Clean all drains and drainage systems. Test all drains to insure unrestricted flow into drains and drainage systems.

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END OF SECTION

SECTION 01 35 01

SAFETY

PART 1 - GENERAL

1.01 CONTRACTOR SAFETY PLAN

A. Contractor shall maintain written Safety Plan enforced at the Site at all times.

B. Contractor shall maintain a copy of contractor's Safety Plan at the Site at all times.

C. Contractor shall conduct, document and submit proof of Safety Meeting prior to start of Work.

1.02 SAFETY AND HEALTH PROCEDURES

A. Public Safety
   1. Safety Orders
      a. The Contractor will have at the Work site, copies or suitable extracts of: Construction Safety Orders and general industrial safety orders issued by the federal, state or municipality. Contractor will comply with the provisions of these and all other applicable laws, ordinances and regulations.
      b. Payment for performing all Work necessary to provide safety measures will be included in the prices Bid for other items of Work.
   2. Special Hazardous Substances and Processes
      a. Materials that may contain hazardous substances may be encountered during construction. Copies of manufacturer provided Safety Data Sheets (SDS) as described in the federal, state and municipal codes must be submitted prior to the start of work. SDS copies must be on site during construction activities.
      b. Material usage will be accomplished with strict adherence to federal, state municipal including and/or project requirements and all manufacturer's warnings and application instructions listed on the Safety Data Sheet and on product container labels.
      c. Contractor will notify the Consultant if a specified product cannot be used under safe conditions.
   3. Contractor will restrict public access to construction areas by installing opaque fencing, such as a green screen, around the setup or staging areas.

B. General
   1. These Construction Documents are to be governed, at all times, by applicable provisions of the State and Federal Law(s) including but not limited to the latest amendments of the following:
      a. William-Steiger Occupational Safety and Health Act of 1970, Public Law 91-596 as amended in 2004.
      b. Part 1910-Occupational Safety and Health Standards, Chapter XVII of Title 29, Code of Federal Regulations.
      c. Part 1518-Safety and Health Regulations for Constructions, Chapter XIII of Title 29, Code of Federal Regulations.

2. This program will become a part of the Contract Documents and the Contract between Owner's Representative and Contractor and the Contractor and all Subcontractors, as though fully written herein.
3. For the purposes of this Contract, neither Owner's Representative nor their Consultant and Consultants' Observers are to be considered experts in safety. All construction safety issues are the sole responsibility of the Contractor.

C. Safety Provisions
1. Precaution will be exercised at all times for the protection of persons, including employees and property. The safety provisions of applicable laws and building and construction codes will be guarded or implemented in accordance with the applicable safety provisions.
2. All equipment used in construction or to be installed will meet the requirements of all applicable codes. Equipment will have all required protection devices such as belt and shaft guards, heat protection, insulation, clearances warnings, etc. For equipment, which is to be installed, such devices will be indicated on shop drawings and reviewed by the Consultant.

D. Necessary controls will be provided to prevent pollution of the air by odors or particulate matter. The location and operation of heating equipment will be such that no hazard is created and objectionable odors do not enter the building.

E. Reasonable precautions must be exercised to prevent vandalism and to safeguard the public at the existing buildings. Equipment will not be left unprotected and materials will be carefully stacked. The set-up or staging area must be controlled at all times so that no unauthorized person can access the Contractor's equipment or materials, day or night.

PART 2 – PRODUCTS NOT USED

PART 3 - EXECUTION

3.01 SAFETY IMPLEMENTATION

A. Contractor to adhere to all requirements outlined in the Contractors corporate safety program and any site-specific safety plans.

B. Contractor shall conduct job site Safety Meetings and Safety Inspections as detailed in the Contractor’s Safety Plan.
1. If requested by owner, Contractor shall provide safety meeting documentation and safety inspection reports.

C. Contractor to notify owner and consultant of any construction related on site accidents.

D. Contractor to notify owner and consultant of any construction related worker injuries.

END OF SECTION

SECTION 01 42 16

TERMS AND DEFINITIONS

1.01 GENERAL

A. The following terms and definitions apply to the content of these Contract Documents to describe the Work as designed and intended by WeatherTech Consulting Group, Inc. (WT).

B. The definitions used in Contract Documents (Contract, General Conditions, Supplemental Conditions and all other documents) provided by the Owner shall apply when interpreting all Contract Documents.

C. All conflicts or clarifications in definitions and terms used by or between WT and Owner provided documents as interpreted by the contractor shall be forwarded via Request for Information/Interpretation (RFI) to WT for a response.

1.02 TERMS AND DEFINITIONS

Addendum: Addenda as written or graphic instruments issued prior to the execution of the Contract which may modify or interpret the Bidding Documents, including Specifications and Drawings, by additions, deletions, clarification, revisions or corrections will become part of the Contract Documents when the Construction Contract is executed.

Bid: The offer or Proposal of the Bidder submitted on the prescribed form setting forth the price of the Work.

Bidder: Any individual, firm, partnership, corporation, or combination, thereof, submitting a Bid for the work, acting directly through a duly authorized representative.

Bidding Documents: Bidding Documents include all documentation listed under Bidding Requirement in the Table of Contents of the Project Manual; and, the proposed Contract Documents including any addenda issued prior to receipt of the bids.

Bid Guarantee: The cash, certified check, or Bidder's surety bond accompanying the Bid as a guaranty that the Bidder will enter into a Contract with Owner for the performance of the Work.

Bond: Bid, performance or payment bond or other instrument of security..

Change Order: A written order to the Contractor signed by Owner directing an addition, deletion, or revision in the Work, or an adjustment in the Contract price or the Contract time issued after the effective date of the Contract.

Code: The International Building Code including all other model building codes and regulatory requirements as legislated to apply for Work to be completed at the Project location. Including but not limited to all local, state and federal codes and requirements.

Consultant: The term “Consultant” or “Roofing Consultant” used throughout these documents refers to WeatherTech Consulting Group, Inc. and/or their duly authorized representatives. The Consultant is the professional who designed the project or performed other services for Owner on the Project, WeatherTech Consulting Group, Inc. It is expressly understood that Consultant does not practice architecture and/or structural engineering.

Contract: The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the Owner and Contractor and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification.

Contract Documents: The Contract Documents are enumerated in the contract between the Owner and Contractor (hereinafter the contract) and consist of the contract. Conditions of the contract (General, Supplementary and Other Conditions), Drawing, Specifications, Addenda issued prior to the execution of contract, Modification is (1) a written amendment to the contract signed by both parties, (2) a change order, (3) a Construction Change Directive or (4) a written order for the work issued by the Architect or Owner. Unless specifically excluded in the contract the contract document do include the advertisement or invitation to bid, Instruction to Bidders, sample forms, other information furnished by the owner in anticipation of receiving bids or proposals, The Contract Manual, The Contractor's bid or proposal or portions of addenda relating to bidding requirements.

Contractor: The term "Contractor" in these documents refers to the organization, individual, partnership, corporation, joint venture, or other legal entity who has a direct contract with the Owner to perform the Work under the Contract. "Contractor" shall employ and have direct contact with all Subcontractors.

Contract Price: The total amount of money for which the Contract is being awarded.

Contract Unit Price: The Contractor's original Bid for a single unit of an item of Work in the Proposal.

Drawings: The drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

Furnish: The term "Furnish" means purchase and/or fabricate and deliver to the work area at the site or other location when so directed

General Conditions: The conditions under which the Work is performed in addition to and in conjunction with the Contract.

Install: The term "Install" means build in, mount in position, connect or apply specified objects, and, where applicable, adjust and start in operation.

Modification: Includes Change Orders and Supplemental Agreements. A modification may only be issued after the effective date of the Contract.

Notice of Award: The written notice by Owner to the successful Bidder stating that upon compliance by it with the required conditions, Owner will execute the Contract.

Notice to Proceed: A written notice given by Owner to the Contractor fixing the date on which the Contract time will start.

Owner: The legal entity for whom the Work is being performed, Berkley Schools.

Person: Any individual, firm, association, partnership, corporation, trust, joint venture, or other legal entity.

Product: The term "Product" when herein (after) referred to includes materials, systems, and equipment.

Prompt: The briefest interval of the time required for a considered reply, including time required for approval by a governing body.

Provide: The term “Provide” means furnished and install, complete in place and ready for operation and use.

Reference Specification: Those bulletins, standards, rules, methods of analysis, or test, codes and Specification of material manufacturers, American Society for Testing and Materials and accepted industry standards in effect and published at the time of Notice of Award, unless specifically referred to be edition, volume, or date.

Subcontractor: The term “Sub-Contractor” in these documents refers to the organization or organizations who is (are) employed by the “Contractor” to perform specialty tasks. The “Contractor” shall be responsible for any work, actions, and fabrication of the “Sub-Contractor". “Sub-Contractors” must be approved by the Roofing Consultant.

Substantial Completion: means that the Work has reached such a point in quantity and quality of construction that, except for de minimis matters, the Contractor has performed its Work in accordance with the Contract so that Owner has the full use and benefit of the premises no leaks in the building to which the Work was done for or in connection with Owner's business.

Supplemental Conditions: Any provision, which supplement or modify the General Project Conditions.

Specifications: The specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

State: The state in which the Project is located within the United States.

Subcontractor: An individual, firm or corporation having a direct Contract with the Contractor or with any other Subcontractor for the performance of a part of the Work.

Work: The term Work means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor’s obligations. The Work may constitute the whole or part of the Project.

Working Day: A day in which actual Work takes place.

1.03 MULTIPLE TERM DEFINITIONS

A. The terms “as indicated” or “as designated” or “as shown” mean specifically included and shown on Drawings.

B. The terms “as required”, “as applicable or “as necessary” mean not specifically indicated as to location and/or extent, but to be determined in field during course of work.

END OF SECTION

SECTION 01 50 00

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 – GENERAL

1.01 UTILITIES

A. Owner may provide utility services required for construction operations limited to electrical and water.

B. Existing utilities may be used during construction only after coordination with Owner and receipt of Owner's expressed written approval.

C. Contractor shall be responsible for all required hook-ups of his equipment (Owner or Contractor-supplied electric).

1.02 VENTILATION

A. Provide facilities as required to maintain specific storage conditions. Provide adequate ventilation of enclosed areas to prevent the accumulation of fumes, vapors, and gases including condensation.

B. Existing facilities may not be used for storage during construction.

1.03 SANITARY FACILITIES

A. Existing facilities may not be used; contractor to provide and maintain temporary facilities.

B. Facilities shall be located in areas as designated by the Owner.

1.04 CONSTRUCTION AIDS

A. Contractor shall provide stairs/ladders, roof access points to be approved by Owner at all times during construction.

B. Construction of stairs and installation of ladders shall be approved by OSHA and the Owner's Safety Officer. Unsafe conditions or failure to comply shall be sufficient grounds to restrict access.

C. Remove ladders on a daily basis or completely restrict access. Completely restrict access of stairs on a daily basis.

D. Contractor shall not access roof from interior of the building, i.e., roof hatch. Access must be from exterior of the building.

1.05 INTERIOR PROTECTION PROCEDURES & PRACTICES

A. General
   1. Interior Protection Contractor shall coordinate and schedule his operations to minimize the impact of the work on the operations of the facility.
   2. Control of dust & debris shall be accomplished utilizing a combination of materials, methods and personnel.
   3. The contractor shall coordinate the interior protection schedule with the roofing contractor and/or Owner to ensure that interior protection is completed prior to the start of the roofing project.
   4. Contractor shall, to the best of their ability, conduct all work and operations so as not to:
      a. Impede or endanger ingress and egress into production, storage, and/or office areas: or,
      b. Cause, permit or allow falling or blowing particulate, material, dust and/or debris which might endanger the safety of persons, equipment or product located in the areas designated as "Interior Protected".
      c. The contractor shall adjust his operations and work plan as required minimizing interference with the operations of the facility.

B. Installer Requirements
   1. Personnel must be familiar with all OSHA regulations pertaining to the safe operation of the equipment used in the installation of debris containment systems.
   2. Installers will use appropriate safety glasses, hard hats, hearing protection, foot protection, and breathing apparatus (where required) while adhering to guidelines relating to fall protection.
   3. Installers will also agree to successfully complete Customer mandated Safety Course (where required) prior to start of project.
   4. Dress code will be in keeping with the customer's requirements.

C. Supplemental Debris Netting (Where Applicable)
   1. In cases where pieces of debris over 1 lb. may fall during normal roofing operations, debris netting must be installed below the debris containment barrier system prior to the start of work. The extent of these requirements (if any) will be discussed during the pre-bid meeting.

1.06 INTERIOR PROTECTION CONTRACTOR SAFETY REQUIREMENTS

A. Interior Protection Contractor shall familiarize themselves, and execute the work in strict accordance with, local, state and federal regulations that govern work of this type.

B. The Interior Protection Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage injury or loss to, all employees on the project and all other persons who may be affected thereby.

PART 2 – MATERIALS

2.01 GENERAL

A. Protective materials shall withstand abrasion and water penetration and shall withhold dust and other foreign matter.

B. Existing work shall be protected by one or more of the following as directed by the Owner or the Owner's consultant; Masonite, Kraft paper, 6 mil reinforced fire-retardant polyethylene film with taped joints and/or protective construction nets.

C. Contractor shall only utilize exterior grade, fire-retardant, plywood in the fabrication of temporary controls.

2.02 DEBRIS CONTAINMENT SYSTEM MATERIALS

A. Debris containment barrier sheet shall be reinforced, fire retardant treated, polyethylene based clear sheet providing a total nominal thickness of 6 mils. Product should be reinforced with a minimum of a 900-denier scrim laid in a diagonal trapezoidal pattern spaced 3/8" apart with an additional machine direction scrim every 9" across the width to create longitudinal strength and stability.
   1. Barrier Sheet Material Requirements
      a. Fire Rated Reinforced Polyethylene
      b. 6 MIL minimum thickness
      c. 1-¼" point load tear strength of 30 lbs., minimum.
      d. Melting point of 180°
      e. Perm rating of .13
      f. Flame spread index of 0
      g. Smoke developed value of 20, maximum

B. Seam and joint tape shall be of compatible materials. Tape shall not leave a residue on existing building or equipment components when removed. Tape shall be 4" wide, minimum.

C. Existing wall connectors and overhead supports shall be used whenever possible. If no suitable wall connection or overhead supports are available, wall or ceiling anchors shall be installed. All support anchors shall provide a minimum load capability of 50 lbs. Care must be taken to control dust created while installing these anchors.
   1. Wherever feasible, temporary anchors for installation of debris containment barrier system shall be clamp-on or compression type devices to avoid penetration of existing building components with anchor screws or other fasteners.
   2. Where existing building components must be penetrated by temporary anchor fasteners, care should be taken to locate penetration point in the least visible area possible.

PART 3 – EXECUTION

3.01 EXECUTION

A. Install and maintain all necessary coverings, boarding, and partitioning to effectively protect existing work, finishes, siding and windows.

B. Install and maintain protective bridging, scaffolding, and netting.

C. All materials brought to or removed from the work shall be covered to prevent intrusion of dust and debris.

D. The work staging area and adjacent areas shall be washed with water to remove excessive construction related dust.

E. Interior access points shall be covered at all times during construction. Stair wells shall be kept clean and unobstructed at all times during construction. Fire egress openings shall be maintained free of any obstructions and shall not be closed, bordered, or temporarily immobilized during the entire work.

F. Any damage caused as a result of improper protection shall be repaired and restored to pre-construction condition by Contractor at no additional cost to Owner.

G. All protection materials shall be removed at completion of construction to the satisfaction of the Owner or Consultant.

H. All temporary protection shall be coordinated with Owner or Consultant.

3.02 SITE PROTECTION

A. Damage caused by the contractor or his subcontractors to the new and/or existing work shall be repaired by the Contractor, at no additional cost to the Owner.

B. Contractor shall not store materials or debris on site or roof top in excess of allowable loads. It is cautioned that the existing roof deck construction is not intended for the storage of materials or debris.

C. Demolition, preparation, and new work requirements shall be coordinated with Owner or Consultant.

D. Contractor shall be held solely responsible for all demolition, temporary protection, and new work.

E. Protect all underside deck equipment, conduits, and ducts from damage during construction.

3.03 DEBRIS CONTAINMENT SYSTEM INSTALLATION

A. Barrier Sheet Installation - General
   1. All barrier sheets shall be installed using the largest sheet size possible
   2. All debris containment barriers shall be securely fastened and supported in a manner to positively contain light dust & debris and prevent displacement and/or collapse.
   3. Site line and aesthetic issues shall be discussed with Owner's Representative before installation

4. Minimum height requirements must meet Owner's needs and allow normal activities below the barrier sheet.
5. Barrier must be installed with least number of penetrations possible.
6. Where practical, seams shall be cut to install sheets with least number of seams and to allow positioning of seams to happen in non-critical areas.

B. Vertical and Horizontal Surface Connections
1. Suspended cover installed along walls shall be secured every 10', or closer spacing.
2. Each tie off anchor points or installed anchor device shall be able to support a minimum load of 50 lbs.
3. Barrier sheet hung from horizontal surfaces shall have vertical supports every 10' in both directions.
4. Existing structural members or wall and ceiling mounted equipment or conduit may be utilized where capable of supporting a 30 lb., minimum point load

C. Seams & Penetrations
1. All side and end laps in barrier sheets shall be joined with a 360 degree "roll seam" and shall be secured/pinned and taped together to create one continuous unit.
2. All seams are to be taped with a 6" wide tape centered over the seam.
3. All penetrations are to be sealed by running the barrier sheet as close as possible to the penetration and then turning the sheet up onto the surface of the penetration 2".
4. Penetrations shall be taped to barrier sheet with a 4" wide tape, minimum.
5. Individual pieces of seam tape shall be used to seal all openings and voids around penetrations and at terminations in the barrier system.

D. Termination of Barrier at Protection Area Boundaries
1. Where interior protection is ended at the boundary areas above a protected interior space of a building, away from walls or other typical boundaries, the debris containment system shall be extended beyond the boundary of the protected area 6', minimum or as otherwise directed or indicated on the drawings.

3.04 DEBRIS CONTAINMENT SYSTEM REMOVAL

A. General Requirements
1. Prior to removal of suspended barrier sheet any exposed product or equipment below shall be covered with 4 mil polyethylene to provide additional protection from dust & debris.
2. Care must be taken to completely identify and contain all dust & debris in any suspended barrier sheet protection. Remove all dust and debris from barrier sheets prior to removal of the barrier system from the building.
3. Timing of removal of containment system shall be as directed by the Owner's Representative and shall not disrupt or interfere with normal plant operations.

4. Use of HEPA vacuum equipment and HEPA air filtration systems shall be utilized where possible and practical to reduce and/or eliminate the amount of dust released into the interior environment during barrier removal operations.

B. Anchor and Support System Removal
1. All tape and anchor systems used for the installation of the barrier sheet to the existing structure shall be removed so as to cause minimal disruption or damage to existing building surfaces/components, equipment and personnel below.
2. All existing surfaces shall be restored to their original condition at the end of the removal process.

C. Disposal
1. All removed debris and barrier system materials shall be removed from the job site and disposed of in a legal manner.
2. Owner/owner representative trash containers or dumpsters shall not be used to dispose debris containment system materials.

END OF SECTION

SECTION 01 74 23

FINAL CLEANING

PART 1 – GENERAL

1.01 SUMMARY

A. General requirements for cleaning throughout performance of Work under Contract:
   1. Progress cleaning
   2. Site cleaning
   3. Façade cleaning
   4. Drainage testing
   5. Final and Close-out cleaning

1.02 GENERAL REQUIREMENTS

A. Contractor shall maintain a clean site for all products, services, site conditions, safety and workmanship.

B. If, in the opinion of the Contractor, any Work is indicated on drawings or specified in such a manner that cannot be properly cleaned, the Contractor will notify the Consultant and/or the Owner before proceeding that portion of the work.

C. The acceptability of cleaning and the interpretation of Specification or drawings, the decision of the Consultant is final and binding unless otherwise ordered by Owner.

D. Contract Close-out: Contract closeout procedures relating to cleaning shall be conducted in accordance with Section 01 77 00.
   1. Prior to final acceptance, Contractor will restore all areas affected by Work to original state of cleanliness and repair all damage done to the premises, including the grounds, by contractor's employees, subcontractors and equipment.

E. Materials left on site after acceptance of work shall be deemed to have been abandoned by Contractor. Title of abandoned materials shall thereupon revert to the Owner. The Owner shall hold Contractor liable for cost incurred in removal and disposal of those materials.

F. At completion of demolition operations debris and salvage materials shall be removed from the premises.

G. Leave premises broom clean and orderly to the satisfaction of the Owner

PART 2 – PRODUCTS - Not Used

PART 3 – EXECUTION

3.01 GENERAL

A. Contractor will remove markings from finished surfaces. In areas where finished surfaces are soiled by any source, caused by Work of this section, consult manufacturer of surfaces for cleaning advice and conform to instructions.

3.02 PROGRESS CLEANING

A. Accumulation of construction debris, scraps, and other items is not permitted and must be removed daily.

B. Contractor shall provide adequate storage for all items awaiting removal from the job site in accordance fire protection and environmental requirements.

3.03 SITE

A. Contractor shall conduct daily inspection of work areas for the purpose of removal of construction debris, scraps, and other items. All such items shall be removed to the disposal or storage place designated daily.

B. Contractor shall conduct weekly (more often if necessary) inspections of all stored materials for the purpose of compliance with the requirements of the "*Materials Storage and Handling"* paragraph of the applicable roofing section.

C. The job site shall be maintained in a neat and orderly condition at all time during the construction period.

3.04 FAÇADE AND WALLS

A. Contractor shall inspect the façade / wall surfaces and completely clean all scraps, droppings, debris, and waste materials from metal sills, brick, glass, etc.

B. As required, the work areas shall be cleaned prior to installation of materials.

3.05 DRAINAGE CLEANING

A. Clean all drains and drainage systems. Test all drains to ensure unrestricted flow into drains and drainage systems as outlined in Section 22 14 26.13 Roof Drains.

3.06 FINAL CLEANING

A. Execute cleaning prior to Close-out Audit.

B. Timing: Final cleaning inspection shall be scheduled with Owner or WeatherTech.

C. Prior to completion of the Work, remove all tools, surplus materials, equipment, debris, and waste materials from job site.

D. Site: Unless otherwise specifically directed by the Owner or WeatherTech, all areas of the building affected by the Work shall be broom cleaned. All debris accumulated as the result of cleaning shall be removed from the site.

E. Clean all work areas. Clean interior exterior surfaces exposed to view; remove stains and foreign substances. Clean equipment as required.

F. Remove waste and surplus materials, rubbish, and construction facilities from the Site.

END OF SECTION

SECTION 01 77 00

CLOSEOUT

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. Substantial Completion.

B. Punch List procedures

C. Closeout documentation and procedures.

1.02 SUBSTANTIAL COMPLETION

A. Preliminary procedures: Before requesting a Punch List Inspection of Substantial Completion, Contractor shall submit a *Certificate of Substantial Completion* online on WeatherTech/BuilderTrend Project Management website. Complete the following: List all exceptions in the Certificate.
   1. Submit the Performance Agreement (Roofing Section Attachment C), final certifications and similar documents.
   2. Submit record drawings, record specifications, record product data, record samples, miscellaneous record submittals, record photographs, maintenance manuals and similar record information.
   3. Deliver tools, spare parts, extra stock and similar items.
   4. Complete startup testing of systems and instruction of the operation and maintenance personnel.
   5. Discontinue and remove temporary facilities from the site, along with mockups, construction tools and similar items.
   6. Complete final cleanup requirements, including removal of asphalt drippage for all exposed building finishes and touch-up painting of pre-finished sheet metal components.
   7. Touch up and otherwise repair and restore marred, exposed finishes.

1.03 PUNCH LIST

A. Inspection Procedures: On receipt of *Certificate of Substantial Completion,* Consultant will either proceed with the Punch List Inspection or advise the Contractor of unfilled requirements that need to be completed based on the project records and *Certificate of Substantial Completion*. The Consultant will prepare the Punch List Report following the inspection to alert the Contractor if there is construction that must be completed or corrected before the certificate will be issued.
   1. The Punch List Report will indicate itemized list of Work that needs to be completed or correct:
      a. Report will contain a Description of the Punch List item and the Action required to rectify the non-compliant Item.
      b. Contractor shall complete all Punch List Report items and **provide photo documentation of all completed Punch List work.**
      c. Upon completion of the Punch List work the Contractor shall upload a signed copy of the Punch List Report and photos on the WeatherTech/BuilderTrend Project Management website.

2. In the event Items on the Punch List Report require an additional inspection by the Consultant to Close Out the Contract:
   a. All costs for additional punch list inspections by the Consultant will be deducted from the Contractor's retainage.
3. Results of the completed inspection will form the basis of requirements for final acceptance.

1.04 CLOSE-OUT

A. Preliminary Procedures: Before requesting certification of final acceptance and payment, complete the following. List exceptions in the request.
   1. Provide a signed Punch List Report and if applicable Close Out Audit Inspection Report confirming all punch list inspection items to be completed are finished.
   2. Submit the final payment request with releases, lien waivers, and supporting documentation not previously submitted and accepted. Include insurance certificates for products and completed operations where required.
   3. Submit any required warranty/certification documentation.
   4. Submit an updated final statement, accounting for final additional changes to the Contract Sum.
   5. If required due to Punch List noncompliance, submit a certified copy of the Consultant's Close-Out Audit inspection list of items to be completed or corrected, endorsed and dated by the Consultant and Contractor. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance and shall be endorsed and dated by the Consultant.

1.05 COMPLETION

A. Upon completion of Close-out Contractor shall submit a *Certificate of Completion* using the WeatherTech/BuilderTrend Project Management website.

PART 2 – PRODUCTS: NOT USED

PART 3 – EXECUTION

3.01 CLOSEOUT PROCEDURES

A. Maintenance Instructions: Contractor and primary roofing materials manufacturer are to meet with Owner's maintenance personnel to provide instruction in proper maintenance. Include a detailed review and provide the following items:
   1. Maintenance manuals.
   2. Semi-annual inspection checklists.
   3. Emergency repair procedures.
   4. Contractor and manufacturer contacts.

B. Warranties
   1. Provide warranty in a form approved by the Owner and provide all manufacturers extended warranties to the Owner.

END OF SECTION

SECTION 02 41 19

SELECTIVE DEMOLITION

PART 1- GENERAL

1.01 SUMMARY

A. Removal of existing roof system, including insulation, flashings, selected sheet metal flashings and removal from site

B. Removal of asbestos containing roofing materials in accordance with all applicable federal, state and local standards, including, but not limited to EPA and OSHA standards.
   1. Reference Cover Page Sheet “CP” for determination of asbestos abatement requirements.
   2. Reference Appendix A (Section 02 41 19) for information on tested roof samples.

C. Reference roof plan drawings for interior protection requirements.

1.02 RELATED DOCUMENTS

A. Contract Documents – All

B. Section 06 10 00 – Rough Carpentry

C. Section 07 22 50 - Single Ply Insulation

D. Section 07 54 00 – Fully Adhered EPDM Roofing

1.03 Berkley Schools

A. **Conduit and Wiring above Deck: In some locations, there are indications that electrical conduit may be imbedded in the roof systems above cementitious wood fiber and gypsum decking. Contractor to take precautions to identify locations and notify owner prior to cutting live wiring.**

1.04 PROTECTION OF WORK AND BUILDING

A. Protect building interior and contents from moisture, debris, dust and odors during construction activities. Protect building merchandise and equipment by covering contents with plastic sheeting or tarps during construction as directed.

B. Protect building exterior wall surfaces, sidewalks, curbs and driveways from construction related damage. Remove all construction related contaminates from building surfaces. **Note:** Damaged concrete or asphalt sidewalks and driveways to be repaired at contractor’s expense.

C. Building Interior Protection
   1. A dedicated interior safety monitor must be stationed inside the building during roof removal over areas with exposed deck or during deck replacement and curb demolition or in the event that the Owner determines it is necessary that demolition work may be a potential hazard to contents or operations.
   2. INTERIOR PROTECTION: **Reference Roof Plan Schedule for specific protection requirements.**
      a. IP required under all deck replacement.
      b. Contractor to provide interior protection consisting of a (minimum) 7 mil reinforced polyethylene sheet hung from ceiling
      c. Costs associated with all interior protection required for deck repair or replacement is to be included in the respective unit price for that work. Interior protection requested by facility personnel that is outside deck repair/replacement areas will be charged on a unit price basis.

1.05 QUALITY ASSURANCE

A. Contractor to provide adequate numbers of skilled workmen who are thoroughly trained and experience in the necessary crafts, specified requirements and methods needed for proper performance of the work outlined in this section.

1.06 REGULATORY REQUIREMENTS

A. Conform to local ordinances and codes for demolition work, dust control and debris disposal.

B. Conform to applicable regulatory procedures for removal of hazardous or contaminated materials.

C. Comply with local, state and national regulatory requirements for the identification, removal and disposal of asbestos containing materials including:
   1. Environmental Protection Agency (EPA):
      a. EPA National Emission Standard for Hazardous Air Pollutants (NESHAP) 40 CFR, Part 61, Subpar M.
   2. Occupational Safety and Health Administrations (OSHA)
      a. OSHA Standard for Occupational Exposure to Asbestos in construction work. 29 CFR1926.1101
   3. Department of Transportation (DOT)
      a. Hazardous Material rules

1.07 SCHEDULING

A. Schedule: Prior to each day's work, coordinate with owner the location(s) where demolition work is to be performed.

B. Schedule removal work to coincide with new roof installation. Removed roofing to be replaced by new roofing on a daily basis. All exposed decking or building components shall be put in a watertight condition each day prior to the crew leaving the site.

C. Coordinate all equipment shut down and/or movement of equipment with Owner so as not to disrupt building operations.

D. Notify Owner of any mechanical or electrical disconnects 24 hours prior to start of work. All disconnects and reconnection work to be performed by Owner.

E. Provide work schedule outlining demolition removal procedures, staging locations and time line to complete work – ref Section 01 32 00.

1.08 EXISTING ROOF AND BUILDING CONDITIONS

A. Owner assumes no responsibility for actual conditions of the structure.

B. Contractor may take test cuts to investigate existing conditions. Coordinate site work with owner. It is expressly understood that the Owner will not be responsible for interpretations or conclusion drawn by the Contractor.

C. Contractor is responsible for review of existing conditions that affect the costs to perform work. Failure of the contractor to perform adequate field investigations does not relieve the contractor from the responsibility of performing the work without additional cost to the Owner.

D. Roof Drains: Prior to start of demolition work, contractor to verify roof drains are functional. All identified blocked drainage conditions will be corrected by Owner. On completion of roofing work, all blocked drains will be cleared at contractor's expense.

1.09 EXISTING CONDITIONS – OCCUPANCY

A. Unless otherwise noted, work will be performed over an operational environment. Continuation of Owner's operation, employees, students and public safety are the top priority. Coordinate with Owner to minimize conflict and facilitate Owner's operations.

B. All site work to be performed within the hours established by the Owner. Coordinate work to accommodate critical facility operations.

PART 2 – PRODUCTS - Not Used

PART 3- EXECUTION

3.01 PREPARATION

A. Investigate existing conditions to verify that they are acceptable for the start of work. Identify any unsatisfactory condition and report conditions to the Owner or Consultant prior to starting work. Start of Work implies acceptance of job site conditions.

B. Provide, erect and maintain temporary barriers and security devices at staging and storage areas.

C. Do not close or obstruct roadways, sidewalks and hydrants without prior authorization.

D. Protect existing building finishes, surfaces and structure from construction activities.

E. Protect existing sidewalks, curbs and driveways from construction related damage.

F. Review NESHAP inspection survey or available reports to determine the applicable regulations governing demolition, removal and disposal of asbestos containing materials.

3.02 ROOF DEMOLITION

A. Prior to start of demolition work. Review project documents to verify the scope of demolition work.

B. Conduct demolition work to minimize interference with surrounding facilities.

C. Cease operations immediately if building interior, building operation or adjacent structures pose a potential structural or safety hazard. Do not resume operations until directed.

D. Utilize closed rubbish chutes or a hoisted OHSA approved rubbish box to remove debris from roof. Debris to be placed in dumpsters or dump trucks and hauled to an authorized landfill for disposal. If requested, provide landfill dump receipts. Protect wall surfaces at staging locations.

E. Roof debris to be removed from the roof on a daily basis. Stock piling debris on the roof is not permitted.

F. Dispose of the existing materials and debris in an authorized landfill in compliance with all applicable code requirements.

G. Building shall be maintained in a watertight condition during construction.

H. Mechanical services shall be kept in operation in all areas of the building.

I. Minimize noise and dust during removal operations.

J. Upon completion of demolition, remove all dust, debris, oils and contaminants from building surfaces, walkways and driveways.

3.03 ROOF REMOVAL

A. Remove existing roof assembly, insulation, flashings, underlayment and identified sheet metal flashings to substrates.

B. Broom sweep to remove all debris from roof deck. Remove debris from metal deck flutes.

C. Repair/replace all damaged or deteriorated roof deck. Remove all nails, fasteners and repair deck irregularities as needed to provide a smooth, level surface for the new roof assembly.

D. Remove base flashings at walls, parapets and curbed roof penetrations to the vertical substrate. If substrate is not suitable for application of new membrane flashing, install plywood or reinforce gypsum board.
   1. Plywood or gypsum board - minimum of ½ inch
   2. Adhere plywood or gypsum board in low rise foam adhesive and mechanically fasten to the substrate.
   3. When approved by the Consultant and the primary roofing manufacturer a polyester fabric separation layer or fleece backed membrane may installed in lieu of plywood or gypsum board.

E. At roof drains. Remove existing roof membrane, insulation and flashings to the substate. Clean all drain components for reuse

F. Roof penetrations: Remove existing penetration flashings; clean and prep surfaces as needed to install new flashings. When indicated on drawings remove existing metal flashings, clean surfaces and store for reinstallation.

G. Abandoned Mechanical Equipment: Remove and dispose of identified abandoned equipment, penetrations and curbed openings. Clean and prep surfaces for installation of new decking or metal sheeting over deck openings.
   1. When removal work requires installation of new decking, provide an interior safety monitor, interior protection and safety barricades during removal operations.
   2. Remove any resultant debris, dirt or dust from interior of building.
   3. **Deck repair required to patch openings from removed equipment and penetrations shall not count toward the deck repair or replacement allowances listed on Roof Plans.**

3.04 DECK REPAIR

A. Inspect existing decking, identify and repair defects.

B. Metal Decks:
   1. Prepare and prime paint rusted steel decking with one coat of "rust reformer" followed by one coat of enamel primer.
   2. Repair localized areas of deteriorated or damaged steel decking up to 18" in any direction with 20 gage galvanized steel.
   3. Replace all large-scale areas of deck deterioration or damage with new 22 gage steel decking to match the existing deck profile**. Include in Unit Pricing all costs to replace decking with matching materials, labor, interior protection and fasteners.**

C. Gypsum Deck: Wet and/or damaged gypsum decking to be identified during demolition to determine extent of damage and repair. Ref. to Unit Pricing for sq. ft. pricing to repair gypsum deck.

D. Cementitious Wood Deck: Wet and/or damaged cementitious wood decking to be identified during demolition to determine extent of damage and repair. Ref. to Unit Pricing for sq. ft. pricing to repair cementitious wood deck.

3.05 CLEAN UP

A. At completion of each day's work, clean surrounding streets and walks of any accumulation of debris, materials and dirt resultant from demolition operations. Do not allow debris or salvage materials to accumulate on site. At completion of demolition operations and prior to final payment, debris and salvaged materials shall be removed from the premises. Leave premises broom clean and orderly to the satisfaction of the Owner.

B. Materials left on site after acceptance of work shall be deemed to have been abandoned by Contractor. Title of abandoned materials shall thereupon revert to the Owner. The Owner shall hold Contractor liable for cost incurred in removal and disposal of those materials.

C. All landscaping and grounds in staging areas to be returned to preconstruction condition to the satisfaction of the Owner.

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END OF SECTION

SECTION 06 10 00

ROUGH CARPENTRY

PART 1- GENERAL

1.01 SUMMARY

A. Work includes: Wood installation as indicated on Drawings. Locations include, but not limited to:
   1. Roof perimeter nailers and blocking
   2. Roof curbs, expansion joints and penetrations

1.02 RELATED DOCUMENTS

A. Contract Documents – All

B. Section 01 33 00 – Submittals

C. Section 01 33 26 - Quality Assurance

D. Section 07 22 50 - Single Ply Roof Insulation

E. Section 07 54 00 – Fully Adhered EPDM Roofing

F. Section 07 62 00 - Sheet Metal Flashing & Trim

1.03 REFERENCE STANDARDS

A. General: All standards refer to the latest edition or revision, unless otherwise noted.

B. ASTM D 3498 - *Standard Specification for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor System Framing*

C. Factory Mutual Global - *Approval Guide* and *Loss Prevention Data Sheets*
   1. FM 1-28 Design Wing Loads
   2. FM 1-29 Roof Deck Securement and Above Deck Roof Components

D. NRCA Roofing Manual Membrane Roof Systems

E. ALSC (American Lumber Standards Committee) – *Softwood Lumber Standards*

F. APA (American Plywood Association)

G. AWPA (American Wood Preservers Association) *C1 – All Timber Products – Preservative Treatment by Pressure Process*

H. NFPA (National Forest Products Association)

I. WWPA (Western Wood Products Association)

J. SPIB (Southern Pine Inspection Bureau)

1.04 QUALITY ASSURANCE

A. Contractor to provide adequate numbers of skilled workmen who are thoroughly trained and experience in the installation of the specified work.

1.05 DELIVERY, STORAGE AND HANDLING

A. Deliver all materials to the site with readable labels. Use materials having labels that:
   1. Identify the material type and size
   2. Indicate conformance with applicable reference standard.

B. Do not expose materials to moisture in any from before, during or after delivery to site. Remove unprotected material from site.

C. Check all materials to verify conformance to specification requirements or as otherwise approved for use on the project. Remove non-compliant materials from the site.

D. Handle and store materials on roof in a manor to prevent overloading of the deck or building structure.

PART 2 – PRODUCTS

2.01 GENERAL LUMBER

A. Lumber Standards: Comply with DOC PS, “American Softwood Lumber Standard”, and the applicable grading rules of inspection agencies certified by ALSC’s Board of Review.

B. Grade Stamps: Provide lumber with each piece factory marked with grade stamp of inspection agency evidencing compliance with grading rule requirements and identifying grading agency grade, species, moisture content at time of surfacing, and mill.

C. Where nominal sizes are indicated, provide actual sizes required by DOC 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
   1. Provide dressed lumber S4S, unless otherwise indicated.
   2. Provide dry lumber with 19 percent maximum moisture content at time of dressing for 4-inch nominal or less, unless otherwise indicated.

D. Lumber, wood nailers and curbs:
   1. Grade: No. 2
   2. At exposed wood locations provide Wood Preservative Lumber to Meet AWPA Standard LP-2. Preservative lumber is required when installed wood is exposed to weather. Preservative lumber is not required when wood is embedded in the roof system.
   3. Thickness: Provide as required to meet specified thicknesses as indicated on drawings. (Same as thickness of roof insulation)

4. Width: 3 ½″ inches (90 mm), nominal minimum, or as wide as the nailing flange of the roof accessory to be attached to it
5. Use of pressure treated wood nailers, fasteners and separation materials shall follow the recommendations of the NRCA's Special Report "Use of Treated Wood in Roof Assemblies", February 2005**.**

E. Plywood:
1. APA Exterior Grade, C-C, Group 2, Exposure 1.

2.02 FIRE RETARDANT TREATMENT

A. Fire-retardant lumber and plywood to have an Underwriters Laboratories stamp signifying a FR-S rating of 25 or less flame spread and smoke developed value, when tested in accordance to UL 723, ASTM E-84, NFPA 255 and UBC Standard No. 42-1.

B. Kiln dried lumber to have a maximum moisture content of 19% after treatment. Kiln dried plywood to have a maximum moisture content of 15% after treatment.

C. Fire Retardant Chemicals to be free of halogens, sulfates, ammonium phosphate and formaldehyde and be EPA registered for use as a wood preservative.

D. Fastener corrosion rates: Less than one (1) mil per year for carbon steel, galvanized steel, aluminum, copper and red brass in contact with fire retardant treated wood when tested in accordance to Federal Specification MIL-L-191740E.

E. Fire-retardant treated wood to have an equilibrium moisture content of not more than twenty-five (25) percent when tested in accordance with ASTM D3201 procedures at ninety-five (95) percent relative humidity and eighty (80) degrees Fahrenheit.

F. Fire performance and strength properties of the fire-retardant treated wood shall be recognized by issuance of a National Evaluation Services Report.

G. Preservatives or fire-retardant wood must be compatible with the specified roofing materials.

2.03 PERIMETER NAILERS

A. Provide 2X6 wood nailers to accommodate configuration and dimensions of the new roof system.
1. Mixed southern pine or southern pine, No. 3 grade SPIB

B. Perimeter fastening of wood blocking shall be performed in general accordance with the recommendations of FM *Loss Prevention Data Sheet* 1-49.

2.04 ROOF CURBS AND MISCELLANEOUS WOOD CONSTRUCTION

A. Provide minimum 2X10 wood at new curbed roof openings or as indicated on Drawings

B. Provide wood blocking to extend curb flashing heights as indicated on Drawings

2.05 FASTENERS

A. Wood securement fasteners to have a sufficient corrosion resistant coating as to not accumulate more than fifteen (15) percent red rust after fifteen (15) cycles in the Kesternich cabinet as tested per FM 4470 in accordance with modified DIN 50018 standard test procedure.
   1. Fasteners: Hot dipped or Electro galvanized steel for high humidity and treated wood locations, unfinished steel elsewhere.
   2. Fastener types listed in this section are for securement of wood and are to be used in cases when no specific types are stipulated in construction details. Nondescript fastener references on the construction details shall not relieve the contractor from responsibility for proper fastener selection.

B. General Fasteners – Nails/Screws
   1. Number 10, hot dipped; galvanized steel or 304 stainless steel ringed shank nails.
   2. Number 10, 300 series stainless wood screws.
   3. Number 14 Phillips Panhead 300 series stainless steel sheet metal screws.

C. Anchors
   1. Toggle bolt type for anchorage to hollow masonry.
   2. Expansion shield and lag bolt type for anchorage to solid masonry or concrete.
   3. Bolt or ballistic fastener for anchorage to steel.

D. Adhesives/Glue
   1. APA, AFG-01, waterproof of water base, air cure type, cartridge dispensed.

PART 3- EXECUTION

3.01 GENERAL

A. Work to be performed in accordance with the applicable roofing section.

B. Set wood to required levels with members plumb, true to line and accurately fitted to match adjacent construction.

C. Sort and select lumber so that natural characteristics do not interfere with installation or with fastening materials to lumber. Discard pieces with defects which may impair the quality of work.

D. Perform all cutting and field fabrication in locations to prevent damage to building surfaces.

E. Verification of Conditions:
   1. Layout: Verify layout of work before beginning installation.
   2. Existing Conditions: Examine substrate before beginning installation. Examine surfaces for inadequate anchorage, drainage, foreign material, moisture, penetration and curb locations, and unevenness, which would prevent the execution or quality of the application of wood.
   3. Verify heights of curbs, penetrations and perimeter conditions to accommodate minimum 8 in. flashing height, particularly conditions impacted by installation of tapered insulation or crickets.

F. Coordination:
   1. Coordinate Work of this Section with work of other trades.

3.02 CURBS

A. Verify layout for new curbs locations.

B. Coordinate curb installation with any related deck or structural repairs

C. Field form corners by alternating lapped side members. All joints to be true and tight.

D. When fastening wood members to wood surfaces, fasteners shall be of sufficient length to penetrate a minimum of 1 ¼ inches into the wood.

3.03 WOOD ATTACHMENT TO DECKING

A. All deck-mounted wood shall be anchored to resist a pull-out strength of two hundred (200) pounds per foot.

B. Nailers, and other deck mounted wood, shall be secured using two rows of fasteners spaced at twelve (12) inches on center with the rows offset or staggered from each other per FMG 1-49

C. All nailers shall be placed with joints gapped one-eighth (1/8) inch apart and in full contact with the deck surface.

D. On decks with undulating surfaces or other irregularities that may prevent level placement of the wood to be anchored to it, the contractor shall either level the deck surface or provide proper shimming for the wood prior to placement.

END OF SECTION

SECTION 07 22 50

SINGLE PLY ROOF INSULATION

PART 1- GENERAL

1.01 SUMMARY

A. Provide all materials, equipment and labor to install roof insulation over the following roof deck substrates:
   1. Steel Decks
   2. Concrete Decks
   3. Gypsum Decks
   4. Cementitious Wood Fiber Decks

1.02 RELATED DOCUMENTS

A. Contract Documents – All

B. Section 01 33 00 – Submittals

C. Section 01 33 26 - Quality Assurance

D. Section 07 54 00 – Fully Adhered EPDM Roofing

1.03 REFERENCE STANDARDS

A. General: All standards refer to the latest edition or revision, unless otherwise noted.

B. American Society for Testing Materials (ASTM)
   1. ASTM E84 – *Test for Surface Burning Characteristics of Building Materials*
   2. ASTM C 1289 - *Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board*
   3. ASTM C 1278 - *Standard Specification for Fiber Reinforced Gypsum Panel*
   4. ASTM C 1177 – *Standard Specification for Glass Mat Gypsum Substrate for use as Sheathing*
   5. ASTM D 1621 - *Standard Specification for Compressive Properties of Rigid Cellular Plastics*

C. Factory Mutual Global - *Approval Guide* and *Loss Prevention Data Sheets*
   1. *FM 1-28 Design Wing Loads*
   2. *FM 1-29 Roof Deck Securement and Above Deck Roof Components*
   3. *FM 4470 – Approval Standard – Class 1 Roof Covers*

D. Underwriters Laboratory - Standard for compliance with a UL Class A rated roof assembly.

E. NRCA Roofing Manual Membrane Roof Systems

1.04 QUALITY ASSURANCE

A. Contractor to provide adequate numbers of skilled workmen who are thoroughly trained and experience in the necessary crafts, specified requirements and methods needed for proper performance of the work outlined in this section.

1.05 DELIVERY, STORAGE AND HANDLING

A. Deliver all materials to the site with packaging intact and with readable labels. Use materials having labels that:
   1. Identify the material type and size
   2. Indicate conformance with applicable reference standard.
   3. Bear UL and FM labels unless otherwise approved by WeatherTech or Owner

B. Store materials on clean raised platforms at least four inches above the ground or roof surface in original undisturbed plastic wrap in a cool, shaded area and cover with alight-colored breathable tarp.

C. Do not expose materials to moisture in any from before, during or after delivery to site. Remove unprotected material from site.

D. Check all materials to verify conformance to specification requirements or as otherwise approved for use on the project. Remove non-compliant materials from the site.

E. Handle and store materials on roof in a manner to prevent overloading of the deck or building structure.

F. Follow primary roofing manufacturer requirements for storage of materials.

PART 2 – PRODUCTS

2.01 MANUFACTURER

A. The Roofing Manufacturer referred to in the Contract is the primary roofing manufacturer of the specified 30-year type roofing system, and may or may not manufacture and market the other components in the system.

B. Manufacturer Requirements
   1. Except as modified and supplemented herein, follow the Roofing Manufacturer's and other system component materials Manufacturers' catalogs, general and special requirements, and specific application recommendations.
   2. With respect to methods of installation, industry practices apply only when this Contract does not address the matter.

2.02 PERFORMANCE REQUIREMENTS

A. Wind uplift resistance: Provide membrane roofing system to resist wind uplift pressures calculated in accordance with ASCE-7-10 per code jurisdiction.

B. Factory Mutual Global Classifications: Class 1 and 1-60 in accordance with FMG 1-29

C. State and local Energy Code recommendations.

2.03 INSULATION COMPONENTS

A. All of these components must be approved by the primary roofing manufacturer for use to meet specified warranty requirements.

B. Insulation cross section, thicknesses and specific components are outlined on the project drawings. *SEE SCHEDULE ON COVER PAGE OR ROOF PLANS FOR PROJECT SPECIFIC ASSEMBLY*

2.04 INSULATION PRODUCTS

A. Polyisocyanurate Board Insulation (Thermal Insulation / Tapered Insulation / Crickets and Saddles) *SEE SCHEDULE ON COVER PAGE OR ROOF PLANS*
   1. FM Approved meeting FMG Standards 4470/4450
   2. ASTM C1289, Type II, Class 1, Grade 2
   3. Thickness, taper and R values as listed on drawings
   4. Board Size: On mechanically fastened systems - 4 feet by 8 feet
   5. Acceptable manufacturers (as approved by roof membrane manufacturer for the specified warranty):

      a. Carlisle-Syntec
      b. Elevate
      c. Johns Manville

B. Cover Board Insulation: *SEE SCHEDULE ON COVER PAGE OR ROOF PLANS FOR COVERBOARD TYPE AND THICKNESS*
   1. Siliconized or fiber reinforced gypsum board conforming to ASTM C1177 or ASTM C1278 and FMG 4470 Standard.
      a. Approved Products:
         1) DensDeck Prime – Georgia-Pacific
         2) Securock – U.S. Gypsum
   2. High Density (HD) Polyisocyanurate board conforming ASTM C1289 and ASTM D1621 Grade 1 (minimum 80 psi)
      a. Acceptable manufacturers:

         1) Carlisle-Syntec
         2) Elevate
         3) Johns Manville

   3. Thickness as indicated on drawings.
   4. Board size:
      a. Mechanically fastened - 4 feet by 8 feet
      b. Adhered - 4 feet by 4 feet

C. Tapered Insulation, Tapered Insulation Saddles and Crickets:

1. Polyisocyanurate ASTM C1289, Type ll, Class1, Grade 2
2. Slope: as indicated on drawings or as required to eliminate ponding.
   a. Tapered insulation to provide a finished slope of ¼ inch per foot.
3. Provide saddles / crickets on the up-slope side of all curbed roof penetrations.
4. Provide manufacturer approved tapered insulation layout plan for tapered insulation systems and crickets

D. Tapered Edge Strip: Wood Fiber, ASTM C208, Type II, Grade 1, High density,

2.05 INSULATION ATTACHMENT

A. Mechanical attachment on wood or steel decks:
   1. Fasteners shall consist of corrosion resistant steel screws with metal stress plates as recommended by the primary roof system manufacturer.
   2. Fasteners and plates shall be meet FM 4470 standards.
   3. Fastener length shall be sized to extend through the roof insulation and through the roof deck a minimum of ¾" and a maximum of 1-1/4".
   4. Fastening of the roof insulation shall comply with FM *Loss Prevention Data Sheet* 1-28 and shall be in accordance with the requirements necessary to meet FM's 1-60 wind uplift rating.
   5. Provide enhanced fastening at perimeters and corners per FM requirements.

B. Adhesive attachment on multiple layers of insulation or concrete substrates.
   1. Low Rise Polyurethane Adhesives
      a. Provide spray applied polyurethane adhesive as per primary roofing manufacturer requirements.
      b. Approved Products
         1. Insta-Stick – Dupont
         2. OlyBond 500 - OMG Roofing Products
         3. Flexible FAST Adhesive – Carlisle SynTec
         4. Twin-Jet Insulation Adhesive – Firestone Building Products
         5. Two-Part Urethane Insulation Adhesive – Johns Manville

2.06 OTHER MATERIALS

A. Repair insulation joint voids and sealing deck penetration openings with spray applied polyurethane foam.

B. Approved Products:
   1. Insta Foam Productions, Inc, – Froth-Pak two component polyurethane foam

PART 3- EXECUTION

3.01 GENERAL

A. Do not begin roofing work until all walls, curbs, nailers and underlying substrates are ready and acceptable to have roofing materials installed. By beginning roofing work, the Contractor acknowledges that such preparatory work is satisfactory.

B. Verification of Conditions:

1. Layout: Verify layout of work before beginning installation.
2. Existing Conditions: Examine substrate surfaces for inadequate anchorage, drainage, foreign material, moisture, penetration and curb locations, and unevenness, which would prevent the execution or quality of application of roof system as specified.
3. Verify heights of curbs, penetrations and perimeter conditions to accommodate minimum 8 in. flashing height, particularly conditions impacted by installation of tapered insulation or crickets.
4. Examine deck slope, equipment placement and tapered insulation layout for positive drainage. No ponding water shall remain on roof deck for greater than **48 hours** after the completed roof system is installed. Contractor required to notify Owner and WeatherTech of unacceptable ponding conditions.
5. Notification: Notify Owner and WeatherTech of unsatisfactory conditions in writing.

C. Coordination:
1. Coordinate Work of this Section with work of other trades.
2. Coordinate the work as required for:
   a. Verify roof drains and/or scuppers are located at proper level to drain finished roof and meet code requirements. Contractor responsible to reset before proceeding with installation of roof system.
   b. Installation of flashing and sheet metal as indicated on drawings or as required to insure water tightness.
   c. Modifications to existing mechanical units, gas lines, electrical conduits or satellite dishes

D. Do not install insulation or roofing materials during rain, fog, mist, snow, or other inclement weather. One exception is that temporary work may be installed during such weather to protect materials that are already installed. Remove all temporary work and materials that have been exposed to such weather, then install permanent materials as specified.
1. Do not apply roofing materials when moisture in any form (such as dew) can be seen or felt on the surface to which those materials will be applied.

E. Confine equipment, storage of materials and debris, and the operations and movements of workmen within the limits as indicated or as directed by the Owner. Do not load or permit any part of a structure to be loaded with a weight that will endanger safety of personnel or cause damages to the building. When there is any doubt about roof deck or structural components being able to bear the load of any material, do not load the roof deck.

F. Remove all insulation wrappers, debris and unusable insulation from the roof on a daily basis.

3.02 MECHANICALLY ATTACHED INSULATION (WOOD/STEEL DECKS)

A. Over prepared substrates, place insulation boards with the long sides forming a continuous line. Once insulation board direction has been established, the direction shall not change from the entire roof area. Systems requiring a coverboard shall have all tapered insulation installed below the coverboard insulation.

B. Stagger end joints by the maximum dimension possible and make sure the ends and sides touch all along their length. Stagger joints in 2nd and subsequent layers from the joints in underlying insulation. Minimum stagger of the joints between rows and between layers shall be 12 inches.

C. Gaps between insulation boards shall not exceed 1/8". Insulation is to fit tightly around projections. Gaps or joints greater than 1/8" are not acceptable and shall be filled with insulation materials trimmed to fit tightly in the gap or with spray foam urethane insulation trimmed flush with the surface of the surrounding insulation after curing.

D. Fasten insulation per FMG requirements. Provide enhanced fastening at perimeters and corners according to FM Data Sheet 1-28.

E. Rhinobond - Heat Induction Welding System: Fasten insulation using Rhinobond plates spaced to meet project wind uplift requirements.

3.03 ADHESIVE ATTACHMENT

A. Over the mechanically fastened base layer of insulation, apply subsequent insulation layers in low rise polyurethane foam per manufacturer's recommendation. Provide additional adhesives along perimeters and corners per FMG 1-28, 1-29 meeting specified uplift requirements.

B. Insulation boards are to be "stepped in" continuously to assure 100% adhesion. Unadhered insulation shall be removed and replaced at no cost to the owner.

C. Insulation is to be installed with all joints staggered 12" minimum and tightly butted. Gaps between insulation boards shall not exceed 1/8". Insulation is to fit tightly around projections. Gaps or joints greater than 1/8" are not acceptable and shall be filled with insulation materials trimmed to fit tightly in the gap or with spray foam urethane insulation trimmed flush with the surface of the surrounding insulation after curing.

D. Joints in top layer(s) of insulation are to be offset from the bottom layer(s) of insulation a minimum of 12".

3.04 TAPERED INSULATION

A. Install cricket (saddles) and full tapered insulation systems according to tapered layout shop drawings provided by the approved fabricator.

B. Install tapered insulation sumps at drains and overflows as indicated on drawings. Use tapered insulation panels and/or tapered edge strips to provide a uniform transition from the roof insulation to the drain. "Shaving" polyisocyanurate insulation is not acceptable.

C. Install tapered insulation and crickets as outlined above and at locations indicated on drawings.

3.05 VERIFICATION

A. Upon completion of the installation in each area, visually inspect and verify that all components are complete and properly installed. Verify that fasteners are properly located and securely anchored and that all adhered insulation is fully bonded to the underlying substrate.

END OF SECTION

SECTION 07 31 10

ASPHALT SHINGLES

PART 1 - GENERAL

1.01 SCOPE OF WORK

A. This work shall consist of furnishing all labor, materials, services, operations or methods listed, mentioned or scheduled in this Specification, including all incidentals necessary and required for the completion of this work.

B. Contractor's scope of work shall include, but not limited to:
   1. Removal of existing shingle roofs.
   2. Replacement of damaged sheathing of roof substrate.
   3. Installation of new asphalt shingle roofing system.
   4. Installation of new and/or replacement of ridge, eave and soffit venting.
   5. Installation of new and/or replacement of attic soffit vent baffles.
   6. Metal flashing accessories

1.02 SUBMITTALS

A. Submit, *before starting work,* a complete schedule of the materials proposed for use, accompanied by descriptive sheets from the manufacturer. Provide manufacturer's roofing system specification number, if applicable. If materials intended to be used are alternate to those specified, do not start work until submittal has been approved.

B. Submit Material Safety Data Sheets for all materials utilized.

1.03 QUALTIY ASSURANCE

A. Any procedure, material or operation referenced to the American Society for Testing and Materials (A.S.T.M.); Current NRCA Steep Roofing Manual, SMACNA Architectural Sheet Metal and ARMA Residential Asphalt Roofing Manual and Shingle Manufacturers Specifications or other recognized Standard, shall comply with the requirements of the current issue of the referenced Specification or Standard.

B. Provide labeled materials which have been tested and listed by *Underwriters Laboratory (UL)* for Class and Rating indicated for each shingle type required.

C. This specification shall govern in conflict between this specification and listed standards. In conflicts between listed standards, the more stringent requirements shall govern.

1.04 QUALITY CONTROL

A. Asphalt shingle roofing system, of indicated type, shall be installed by an applicator with a minimum of 5 years experience and have installed similar roof systems.

1. The job shall be inspected while in progress and upon completion by Owner or Owner representative to determine if these specifications have been adhered to. Payment will not be made until Owner or Owner representative verifies that all phases of work have been completed.

2. The presence and activities of roofing system manufacturer's field representative shall in no way relieve the contractor of its contractual responsibilities. In the event of a dispute, the Owner's Representative shall have final authority.

1.05 WORKMANSHIP

A. All workers shall be thoroughly experienced in the particular class of work upon which employed, and all material shall be securely fastened in place in a watertight, neat and workmanlike manner. All work shall be done in accordance with these specifications and shall meet the approval in the field by the Owner's Representative. The Contractor's representative or job supervisor shall have a complete copy of the specifications and drawings on the job site at all times, and shall be prepared to present them to the Owner or its representative when requested.

B. The Contractor shall plan and conduct the operations of the work so that each section started on one day is complete and thoroughly protected before the close of the work for that day. Do not remove or install materials when rain, frost, snow, moisture or during inclement weather. Proceed with work only if existing and forecasted weather conditions permit work to be installed according to manufacturers recommendations and requirements. Contractor shall apprise the Owner's representative on a daily basis of its plan of work.

C. No walking, material storage and/or equipment placement is allowed on the finished roofs.

D. The Contractor shall at all times during the contract keep the premises free from accumulation of waste materials and rubbish and at the completion of the work. The Contractor shall remove all excess accumulations of paper, cut-offs, debris and other extraneous materials.

E. Tear-off material must be removed from roof areas at the end of the day and are not left on roof levels, gutters or in piles on the ground. All tear off material shall be removed from the site within 72 hours of the roof work completed on building.

1.06 SAFETY

A. The Contractor shall comply with all applicable of local, county, state and federal agency provisions of occupational safety, including but not limited to, the Michigan Occupational Safety and Health Act throughout the duration of the specified work.

B. Contractor responsible for safety management during project.

1.07 GUARANTEE/WARRANTY

A. The roof system shall be guaranteed/ warranted to be leak-free covering materials and installation.

B. The shingle roofing system shall carry a 30 year minimum manufacturer's Lifetime Limited Year Warranty on materials used in total roof replacements.

C. The Contractor shall provide a written warranty. All work shall remain watertight and serviceable for a period of 5 years from the date of final acceptance of the project and make good without expenses to the owner.

1.08 DELIVERY AND STORAGE

A. Roofing materials shall be stored so as to be fully protected from the weather, free of contact with ground, and totally protected from rain and snow. Original packaging shall not be disturbed until materials are to be applied. Liquid materials shall be used directly from the fully labeled containers in which they were shipped by the manufacturer. Only approved roofing materials may be brought to, or stored at, the site in an owner's approved location. Store rolled goods on end.

B. Not more than one week's supply of roof shingles may be stored on the roof at any time.

C. Materials temporarily stored on the roof shall be distributed to stay within the load limits of the roof construction. Ample bases shall be provided under equipment to distribute the weight to conform to these live-load limits.

1.09 MATERIAL HANDLING

A. The Contractor shall at any time during the construction period move stored materials which are to be used in the construction or equipment which has been temporarily placed in a storage area, when directed by the Owner's Representative without additional cost to the Owner. If the Contractor does not move, or cause them to be moved when directed by the Owner's Representative, the Owner, after forty-eight (48) hours written notice may utilize its own forces to move the designated materials and deduct the cost to move the materials in a Change Order. Any damage caused to materials or equipment moved by the Owner shall not be charged to the Owner.

1.10 PROTECTION AND CLEANING

A. Properly and efficiently protect structure from dropped materials and the like due to performance of the work: Bear all costs of repairs and restoration of other trades work damaged. At completion and before final acceptance of the work, remove all debris and excess material from this work.

PART 2 - MATERIALS

2.01 SHINGLES

A. Shingles: All replacement work will be done using a Lifetime Limited Warranty on shingles. Shingle colors to be approved by Owner. ASTM D3462.
   1. Manufacturer: GAF
   2. Type: Timberline HD
   3. Color: TBD by Owner

   1. Manufacturer: Certainteed
   2. Type: Landmark AR
   3. Color: TBD by Owner
      i. Or approved equal manufacturer, upon approval from school district and WTCG.

   Owner to approve shingle manufacturer, type and color in writing.

B. Hip and Ridge Shingles: Manufacturers standard accessory cap to match asphalt shingles.

C. Starter Strip Shingles: Manufactures Self adhering pre-cut starter course shingle to be used on all eave and rake edges.

D. Self Adhered Underlayment: Self adhering polymer bituminous sheet complying with ASTM D 1970, 40 mil total thickness. Install along eaves, valleys, walls, low sloped areas and per manufacture specification.

Manufacturer: Certainteed
GAF

E. Synthetic Underlayment: 48 inch wide, non-perforated, durable synthetic construction complying with ASTM D 1970. Install synthetic underlayment per manufacturer specification.

F. Asphalt Primer: Asphalt primer shall conform to ASTM D41 or Federal Specification SSA701.

G. Sealant: For sheet metal flashings a high performance, Terpolymer sealant, Polyurethane sealant

Manufacturers: NPC Solar Seal
RPM: Vulkem
Sika: Sikaflex

H. Plastic Cement: Plastic cement shall conform to Federal Specification SS-C-153, Type I or A.S.T.M. D2822.

I. Fasteners, Nails and Caps: Fasteners, nails and caps shall be per roofing manufacturer's installation specifications of the roofing deck materials to be fasten to, and shall meet current FM Standard 4470 for corrosion resistance.

J. Metal: ALL COLORS TO BE APPROVED BY OWNER
1. Furnish and install necessary edge metal, drip edge, apron flashing, counterflashing, Z flashing, slip flashing and miscellaneous flashing.
2. Furnish and install new step and chimney flashings and crickets.
3. Existing gutters and downspouts to be removed and replaced by contractor.

K. Wood Sheathing: Shall be exterior grade plywood (exposure 1 rated sheathing), nominal 1/2" thick, conforming to the specifications of the American Plywood Association and ASTM Standards. Provide "ply clips" between adjacent sheets of sheathing. To secure the wood deck 8d galvanized nails long enough to penetrate into supporting structure.

L. Ridge Vent: Continuous shingle over ridge vent, molded plastic with external baffle. Exhaust vents must provide a minimum Net Free Ventilation Area of 18 squares inches per lineal foot. Installed per manufacturer specifications. Contractor to do exhaust ventilation calculation needed to comply with Local, State, Federal codes and Shingle Manufacturer Specifications.

Manufacture: GAF Cobra Snow Country.
Certainteed Shingle Vent ll

M. Soffit Vent: Intake vents shall be aluminum under eave vent. Color to be determined by owner. Size: 8 in. x16 in. Install per manufacturer specifications

and net ventilation area of 56 inches per vent with insect screen. Contractor to do intake ventilation calculation and the amount and locations of under eave vents needed to comply with local, State, Federal codes and Shingle Manufacture Specification.

N. Soffit Baffle: Extruded styrene foam baffle. Install full length 48”x 22” baffles between existing trusses and rafters along exposed eave edges. Both ends of each baffle shall be unobstructed to allow air flow and secure baffles to prevent displacement.

O. Plumbing Vent Pipe Flashing: Provide aluminum prefabricated painted pipe base flashing with flange and rubber seal around pipe sleeve. Color to match shingles and install ice and water underlayment around pipe on roof deck.

P. Kitchen/Bathroom Roof Exhaust Vents: Provide painted aluminum Kitchen and Bathroom damper vents to accommodate and connect any existing duct in attic to vent flange.

2.02 ACCEPTANCE OF SURFACES

A. Installer of shingles shall examine substrate and conditions under which shingling work is to be performed and must notify Owner's representative, of unsatisfactory conditions. Do not proceed with shingling work until unsatisfactory conditions have been corrected.

B. Roof surfaces shall be smooth, dry, no frost, foreign materials, and large cracks or projections.

C. All surfaces to be covered shall be smooth, dry and free from dirt, debris and foreign material before any of this work is installed. Blow off or sweep the roof deck clean prior to installing new materials.

D. Remove and replace any warped, delaminated, damaged or deteriorated roof deck prior to installation of new work. Contractor responsible to inspect underside of roof decking for the presence of mold. (Notice to Owner or Owners Representative, in advance, if additional work is required).

E. Defects or unsatisfactory conditions shall be reported to the Owner's representative and corrected before beginning work. If any such faulty work is roofed-in and the roofing has to be removed to correct such defects, both the removal and replacement of roofing shall be done without additional charge to the Owner.

F. Inspect the fastening of the existing roof decking before installing the underlayment and shingles. Install additional fasteners to bring up to local building codes or shingle manufacturer specifications.

G. The start of roofing operations shall imply acceptance of the surfaces.

PART 3 - EXECUTION

3.01 PREPARATION

A. On all shingle roof areas indicated and adjoining valley areas remove the existing roofing down to the sheathing, including, all existing shingles, base sheets, waterproof membrane, and flashings, metal drip edge and accessories.

B. Repair all deteriorated wood deck substrate, fascia and rake boards, and any other exposed wood ancillary to the shingle roof, as required to sound condition. Replace any rotten wood component with new in-kind material, shape and profile. Any alternate shall be prior approved by Owner's representative. Clean substrate of any projections and substances detrimental to shingling work. Cover knotholes or other minor voids in substrate with sheet metal flashing secured with roofing nails. Inspect all roof decking and remove and replace all delaminated, warped or deteriorated roof decking. Contractor responsible to inspect underside of roof decking for the presence of mold and notify Owner or Owners Representative.

C. If existing deck substrate is to be replaced, install specified roof sheathing in accordance with NRCA, Shingle Manufacturers and Local, State Federal Building Code requirements for the appropriate material, condition, substrate and slope.

D. The existing gutters and downspouts shall be replaced with new. Temporarily displace the downspouts as necessary to facilitate reroofing on building or roof area. Review the condition of the existing gutters and downspouts and accessory before starting work on buildings. Notify Owner or Owners Representative of any existing damaged or deteriorated conditions which require attention.

E. Coordinate installation of shingles with flashing and other adjoining work to ensure proper sequencing. Do not install shingle roofing until all vent stacks and other penetrations through roof have been installed and are securely fastened against movement.

F. Contractor to inspect all attics to verify open soffits and that insulation is not blocking air flow.

3.02 INSTALLATION

A. Comply with instructions and recommendations of shingle manufacturer, except to extent more stringent requirements are specified.

B. Install specified waterproof membrane such as ice and water shield in accordance with membrane manufacturer's printed instructions. Provide membrane from roof edge to a point on the roof which is two feet inside the exterior wall line, up all valleys, around pipe penetrations, along siding (side walls, low slope roof areas and on the entire front mansard roof area.

C. Apply one layer of synthetic underlayment. Install horizontally over entire surface, lapping succeeding course 2" minimum and fastening with sufficient nails to hold in place until shingle application. Lap synthetic underlayment over valley underlayment.

D. Install new 1-1/2 inch face and minimum 3 inch flange aluminum T style drip edge flashing at eaves, rakes and all roof intersections and valleys, in accordance with NCRA recommendations.

E. Install starter strip shingle along all eave and rake edges per manufacture specifications.

F. Nail shingles in manufacturer's recommendation pattern and location, with standard weather exposure and number of nails per shingle. Provide Owner with color and style sample for approval and a copy of manufacturer's installation requirements and recommendations prior to start of work for Owner's inspector use. Use horizontal and vertical chalk lines to ensure straight coursing.

G. Install metal flashing, vent flashing and edge protection and other metal components in compliance with details and recommendations of NRCA Roofing and Waterproofing Manual.

H. Prime and paint all exposed plumbing pipes, B-Vents on roof and new soffit vents. Wire brush, prime and recoat with primer and rust inhibitive paint if rust present on pipe. Submit paint material and color samples to Owner for approval and color selection prior to start of work. Owner to supply paint to contractor.

Install closed valleys, provide valley with ice and water guard up the entire valley. No fasteners within 6 inches of valley centerline. Horizontal Valley between building roof areas will have sheet metal valley and ice and water guard under valley.

Install shingle over ridge vents continuously across ridges in accordance with manufactures requirements. Secure ridge cap and ridge vent with appropriate length nails in accordance with ridge vent manufacturer. Contractor to verify that the existing ventilation is compliant with building code and shingle manufacture requirements.

Install soffit vents under eaves and according to manufacture specifications and paint to match soffit. The locations and the number of soffit vents will be determined by contractor. Contractor shall comply with local building codes. Contractor to verify that the existing ventilation is compliant with building code and shingle manufacture requirements.

Install new roof exhaust vents to properly exhaust bathroom and kitchen fans to the exterior. Secure existing flexible duct to roof vent and use metal draw bands and wrap with duct tape and seal all exposed nails on vent.

3.03 NONSPECIFIED ROOF DETAILS

A. All details and practices not specifically covered by these specifications and drawings shall comply with the recommendations of the current NRCA Roofing and Waterproofing Manual, Roofing Manufacturer specifications and shall comply with all applicable fire insurance requirements and local building codes and fire codes.

3.04 MISCELLANEOUS

A. Enclosures shall be provided by the Contractor at all openings as may be required to prevent the passage of dust and debris or weather into the building. Any damage to existing building, and/or their contents caused by insufficient or inadequate weather protection or maintenance of such protection, shall be made good by the contractor to the Owner's satisfaction.

B. In the event of any material or coating being washed off or damaged by rain, etc. during and following the application until said materials have obtained proper and sufficient cure and set, it shall be the Contractor's responsibility to repair and replace the damage at no cost to the Owner

C. Use only compatible materials; comply with manufacturer's recommendations for particular conditions of installation or application in each use. If printed instructions are not available or do not apply to job conditions, consult manufacturer's technical representative for specific recommendations before proceeding with work. All materials shall be new, clean and dry in unopened containers.

D. Replacement work shall be of the entire roof surface. Bidders shall be responsible for obtaining dimensions.

END OF SECTION

SECTION 075216

SBS MODIFIED BITUMEN ROOFING IN COLD ADHESIVE

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes requirements related to the installation of SBS (Styrene-Butadiene-Styrene) modified bitumen roofing membrane and flashings in cold adhesive, DOE Energy Star compliant reflective surfacing, related accessories, and warranty and guarantee requirements.

1.2 RELATED SECTIONS

A. Section 013300 – Submittal Procedures

B. Section 061000 –Rough Carpentry

C. Section 076203 – Sheet Metal for Modified Bitumen Roofing

D. Related Documents: The Contract Documents, as defined in Section 011000 - Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other documents.

E. Reference standards of the following sources are applicable to products and procedures specified in Part 2 - Products and Part 3 – Execution of this Section:
   1. American Society of Civil Engineers (ASCE)
      a. ASCE 7 Minimum Design Loads of Buildings and Other Structures
   2. American Society for Testing and Materials (ASTM)
      a. ASTM D6164 - Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements
      b. ASTM D41 - Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing
      c. ASTM D1668 - Standard Specification for Glass Fabrics (Woven and Treated) for Roofing and Waterproofing
      d. ASTM D1970 - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection
      e. ASTM D6083 - Standard Specification for Liquid Applied Acrylic Coating Used in Roofing
   3. Certified Roofing Torch Applicator (CERTA) Program, developed by the Midwest Roofing Contractors Association (MRCA) and National Roofing Contractors Association (NRCA)
   4. National Roofing Contractors Association (NRCA)
   5. Underwriters Laboratories (UL)

1.3 SUBMITTALS

A. Prior to the start of work, submit the following to the Owner for approval:
   1. Product submittals required within Section 013300.

B. Refer to Section 013300 for procedural requirements related to the submittal process.

1.4 QUALITY ASSURANCE PROCEDURES

A. Applicator Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive a manufacturer's warranty. Company shall have a minimum of 5 years documented experience certified by roofing system manufacturer.

B. Single Source Responsibility: Roofing system materials and components shall be supplied and warranted by roofing system manufacturer for specified roofing system and shall be in compliance with specified regulatory requirements.

C. Examine the technical specifications and drawings. Verify all dimensions, detail conditions, roof plan notes and existing site conditions that may affect the work. Verification of existing dimensions and site conditions is the responsibility of the Contractor. No additional compensation will be considered for failure to verify existing dimensions, detail conditions, roof plan note callouts, and existing site conditions.

D. Upon examination, if conflicts between the technical specifications and drawings, and those of federal, state or local regulatory agencies, the product manufacturer, industry roofing standards, or Owner-mandated requirements are discovered, notify the Owner immediately for resolution.

E. During work, if conditions are discovered which do not allow for continuation of the work per the technical specifications and drawings, notify the Owner immediately for resolution.

1.5 DELIVERY, STORAGE AND HANDLING

A. Deliver materials in manufacturer's original containers, dry, undamaged, seals and labels intact.

B. Store materials in weather protected environment, clear of ground and moisture. Cover insulation, roofing materials, and other moisture-sensitive products with a canvas tarp. Store roll materials standing on end.

C. Protect adjacent materials and surfaces against damage from roofing work. Do not store materials on previously completed roofing.

1.6 ENVIRONMENTAL REQUIREMENTS

A. Do not perform work during inclement weather. Refer to product manufacturer for outdoor temperature requirements for installation of materials. Do not install materials at times when the outdoor temperature does not fall within the minimum/maximum temperature requirements of the manufacturer.

B. Cold weather precautions:
1. Store products that may be negatively affected by exposure to cold weather, such as primers, adhesives, sealants and cements, in a heated location. Refer to the modified bitumen roofing manufacturer and NRCA requirements and recommendations for additional cold weather application recommendations and restrictions.
NOTE: Do not install SBS modified bitumen roofing at temperatures below 50°F (10°C).
2. When the outside temperature is forecast to fall below 50°F (10°C), store unused materials in a heated location. Remove these materials only when ready for installation. Sealants, adhesives and primers should be maintained at a temperature of 50°F (10°C), minimum, at all times. Do not use sealants, adhesives or primers that develop a gelled or lumpy texture to them. Return these materials to a heated location.

C. Material Safety Data Sheets (MSDS) of all specified products shall remain on site for the duration of this project.

1.7 MANUFACTURER WARRANTY AND CONTRACTOR GUARANTEE

A. Provide a manufacturer 20-Year Total System, Non-Pro-Rated Warranty (including roofing membrane, insulation, underlayment and flashings) covering materials and labor. The warranty shall include the following additional items:
1. Roofing manufacturer shall provide unlimited repairs during the warranty period with no cost limitation.
2. Temporary emergency repairs may be made by Owner without voiding warranty provisions. Permanent repairs shall be made in accordance with the requirements of the roofing membrane manufacturer.

B. The Contractor shall provide a five-year contractor guarantee. At a minimum, the contractor guarantee shall include the following:
1. Contractor name, address, phone number and project contact name.
2. The project completion date, and date of guarantee expiration.
3. The contractor guarantee shall include, in writing, all project work, workmanship, and/or all materials installed by the contractor or subcontractors to be of a quality that will comply with all project specific requirements of the Construction Documents and other documents governing the specified work and workmanship through the guarantee period.
4. The contractor shall investigate roof leaks during the guarantee period within a reasonable time period, but in no instance greater than 24-hours after notification of a leak. The contractor shall repair leaks determined to be the cause of the specified work at no cost to the Owner.

PART 2 – PRODUCTS

2.1 MODIFIED BITUMEN ROOFING SYSTEM SUMMARY

A. The complete roofing membrane system assembly shall consist of an SBS surfacing ply over an SBS base ply, meeting or exceeding the requirements listed in Article 2.2 of this Section.

B. The complete roofing system assembly shall achieve a UL Class A fire rating.

C. Accepted Manufacturers:
1. GAF
2. CertainTeed
3. Xnucfxy
4. Xnpf

Please Note: The selected manufacturer shall comply with the 20-year warranty with no deck slope.

MODIFIED BITUMEN ROOFING MEMBRANE

D. Base ply:
1. Modified bitumen base sheet with a minimum 250 gram per square meter polyester reinforcing mat, and minimum nominal 115 mil thickness; ASTM D6164, Type II, Grade S.

E. Surfacing ply:
1. Modified bitumen granule-surfaced surfacing sheet with a minimum 250 gram per square meter polyester reinforcing mat, fire-rated, minimum nominal 130 mil thickness; ASTM D6164, Type II, Grade G.
a. Color: White, light gray, or as determined by Owner.

b. Initial Solar Reflectance: No less than 0.26, no greater than 0.40.

2.2 MODIFIED BITUMEN ROOFING FLASHING

A. Base ply:
1. Modified bitumen base sheet with a minimum 250 gram per square meter polyester reinforcing mat, and minimum nominal 115 mil thickness; ASTM D6164, Type II, Grade S.

B. Surfacing ply:
1. Modified bitumen granule-surfaced surfacing sheet with a minimum 250 gram per square meter polyester reinforcing mat, fire-rated, minimum nominal 130 mil thickness; ASTM D6164, Type II, Grade G.
a. Color: White, light gray, or as determined by Owner.
b. Initial Solar Reflectance: No less than 0.26, no greater than 0.40.

2.3 LIQUID-APPLIED FLASHING

A. Base and top coats:
1. Single or dual component, moisture-cured. Product approved by the roofing membrane manufacturer for use in the specified configuration.

B. Reinforcing fabric:
1. Polyester-reinforced fabric. Product approved by the roofing membrane manufacturer for use in the specified configuration.

2.4 ADHESIVES, CEMENTS AND PRIMERS

A. Cold adhesive: Product approved by the roofing membrane manufacturer.

B. Flashing cement and roofing cement: Product compatible with SBS Modified bitumen roofing and approved by the roofing membrane manufacturer.

C. Asphalt primer: ASTM D41.

2.5 FASTENERS

A. Roofing membrane and flashing fasteners: Unless otherwise indicated, types as required for project completion, and as recommended by the roofing membrane manufacturer and NRCA for the substrate condition encountered.

B. For back nailing of felts (where required by the roofing membrane manufacturer): Roofing nails with smooth, flat, minimum 3/8-inch head affixed with 1-inch minimum metal cap; hot-dipped galvanized steel or equivalent corrosion-resistance, No. 11 or No. 12 gauge with barbed shanks and conventional sharp point; ASTM F1667, Style 20. Length as necessary to penetrate into the underlying wood nailer or other substrate 1-inch minimum.

2.6 ROOFING SHEETS FOR TEMPORARY TIE-INS

A. For use at temporary overnight tie-ins: Specified modified bitumen base sheet, polyester reinforced, minimum nominal 115 mil thickness.

B. For use at roof sump flashings and elsewhere as indicated on the project drawings: Asphalt treated woven glass fabric, ASTM D 1668, Type I.

2.7 MISCELLANEOUS MATERIALS (As Applies to this project)

A. Walkpads: Product approved by the roofing manufacturer.

B. Splashblocks: Concrete; size as necessary to accommodate existing condition.

C. Self-adhering membrane (for use over parapet walls beneath coping caps, and at other locations indicated on the drawings): Product approved for use beneath sheet metal by the membrane manufacturer, and meeting the following criteria:
1. Meeting the requirements of ASTM D1970.
2. Approved for use as an underlayment for standing seam sheet metal roofing.
3. A 40-mil minimum membrane thickness.

D. Pitch pan fill materials:
1. Non-shrink grout (for bottom fill): Quick-set, fast-drying grout; product acceptable to roofing manufacturer.
2. Pourable sealer (for top fill): Two-part pourable elastomeric sealer, product acceptable to roofing manufacturer.

E. Pre-fabricated plumbing vent pipe extensions:
1. For use where necessary to achieve the 8-inch minimum flashing height:
   a. Pre-fabricated plumbing vent extensions, such as Tubos Pre-Fabricated Pipe Extension, by Tubos, Inc., Clearwater, FL.
   b. Product approved by the roofing manufacturer for this application.
   c. Size and configuration of extension as necessary to match existing pipe diameter, providing the 8-inch minimum flashing height, and allowing for flashing as show on the drawings.

F. Acrylic elastomeric coating (for use at roof penetrations and other locations indicated on the project drawings). Product approved for use by the membrane manufacturer for this application, and meeting the following criteria:
1. Meeting the requirements of ASTM D6083.
2. White color.

G. Pre-fabricated conduit and pipe supports:
   1. Acceptable Manufacturers:
      a. PHP Systems, Houston, TX, www.phpsd.com
      b. Miro Industries, Inc. Heber City, UT www.miroind.com
      c. Or approved equal.
   2. For gas lines and conduit 2-1/2 inches and smaller.
      a. PP10 with roller by PHP Systems
      b. 3-RAH-7 by Miro Industries
   3. For gas lines 2-1/2 inches and larger.
      a. PS-1-2 by PHP systems
      b. 6-H By Miro Industries
   4. Product capable of accommodating the weight of the supported pipe at intervals recommended by the pipe support manufacturer.

H. Pre-fabricated duct supports:
   1. Acceptable Manufacturers:
      a. PHP Systems, Houston, TX, www.phpsd.com
      b. Miro Industries, Inc. Heber City, UT www.miroind.com
      c. Or approved equal.
   2. Duct supports.
      a. PHP-D by PHP Systems
      b. 6-DS by Miro Industries
   3. Product capable of accommodating the weight of the supported duct work at intervals recommended by the duct support manufacturer.

I. Rooftop unit support curbs: Product such as “Pate Equipment Supports” manufactured by The Pate Company, Lombard, IL, or approved equal.
   1. Size and configuration as necessary to accommodate existing rooftop unit.
   2. Fabricated from 18 ga. galvanized steel, minimum, with welded seams; and a nominal 2-inch thick nailer affixed atop the curb support.
   3. Fabricated to allow for a minimum flashing height of 8-inches, minimum.
   4. Product approved by the roofing manufacturer for this application.

J. Rooftop unit supports: Product such as “Mechanical Unit Support-HD” manufactured by Miro Industries, Inc., Heber City, UT, or approved equal.
   1. Size and configuration as necessary to accommodate existing rooftop unit.
   2. Polycarbonate bases and support pan.
   3. Product approved by the Owner for this application.

K. Replacement roof hatch:
   1. Roof hatch with insulated curb, such as “Type E” or “Type S”, manufactured by The Bilco Company, New Haven, CT, or approved equal.
      a. Size and configuration as necessary to match existing roof hatch.
      b. Product approved by the roofing manufacturer for this application.

L. Extendable ladder-mounted safety post, such as “LadderUP Safety Post”, manufactured by The Bilco Company, New Haven, CT, or approved equal.
   1. Size and configuration as necessary to accommodate existing ladder and new roof hatch.
   2. Product approved by the roofing manufacturer for this application.

M. Exterior replacement ladder: Product such as “Model 561” manufactured by Alaco Ladder Company, Chino, CA, or approved equal.
   1. Size and configuration as necessary to accommodate existing conditions and meet OSHA, federal, state, local, and Owner-mandated requirements.
   2. Handrails shall extend 42-inches, minimum, above top rung of ladder.

3. Ladder shall be affixed with a security door.

N. Replacement interior ladder: Product such as “Model 560 – Fixed Wall Ladder” manufactured by Alaco Ladder Company, Chino, CA, or approved equal.
1. Size and configuration as necessary to accommodate existing conditions and meet OSHA, federal, state, local, and Owner-mandated requirements.

PART 3 - EXECUTION

3.1 GENERAL

A. Refer to Section 024119 selective demolition.

B. Ensure that the insulation and cover board substrate is installed per manufacturer’s requirements.

C. Use of torches during roof replacement:
1. Torches may only be used with the written consent of the Owner, following Owner-mandated notification requirements related to hot work.
2. Torch-related work shall be performed in full compliance with local fire codes, Owner-mandated requirements related to torch use, and the requirements and recommendations indicated within the CERTA “Torch-Applied Roof System Safety Student Manual”. This manual is available at the National Roofing Contractors Association website: www.nrca.net.
3. At the request of the Owner, the use of torches may be discontinued at any time.

3.2 ROOFING MEMBRANE INSTALLATION

A. Except as may be modified by the technical specifications and project drawings, install roofing membrane in accordance with the requirements and recommendations of the roofing membrane manufacturer, using the manufacturer’s current printed instructions.

B. Back-nailing of roofing membranes: At roof areas with a slope of 1/2-inch or greater, refer to manufacturer requirements relating to back-nailing of roofing membranes.

C. Chalk lining: Beginning at the low points or drains, chalk line the cover board surface to serve as guides for the proper laying of the roofing membrane plies.

D. Broom or press each ply into place, full width.

E. Hot-air welded seams: A flameless welding machine must be used for field membrane seams. Hot-air weld base ply and surfacing ply seams. Do not use torches to weld seams.

F. Install only as much roofing as can be completed in a work day, including flashing and detail work. All installed roofing shall be sealed to a watertight condition prior to leaving the site daily.

G. Sequence roofing work to eliminate the use of installed roofing as a walkway, or as a storage platform for materials.

H. Where wheeled or excessive traffic over new or existing roofing work is unavoidable, provide and use 3/4-inch plywood, set over a minimum of two-inch thick rigid board insulation to protect roofing components in place.

I. Overnight tie-in: Care should be exercised to ensure that water does not flow beneath any existing or completed sections of the roof by temporarily sealing the loose edge of the membrane at the

end of each work day and when the weather is threatening. The roofing membrane manufacturer's requirements should be followed closely. **Under no circumstance shall the roofing contractor leave an open, unsealed roof system upon completion of daily work. Owner reserves the right to engage the services of a third-party service provider as needed to correct roofing left open or unsealed at the completion of daily work. The cost of such corrective work shall be the responsibility of the contractor.**

1. At the Pre-Construction Meeting, provide the completed "Contractor Watertight Integrity Acknowledgement Letter", included within this Section. The letter shall include the project name and address, and shall be signed by the project foreman and by an authorized contractor representative. After-hours emergency contact phone numbers shall be provided for the project foreman and authorized contractor representative.

J. The contractor is responsible for providing temporary repairs to existing roof systems scheduled for replacement, caused by excessive foot or vehicle traffic, equipment or material storage, or other contractor-related activities. Repairs shall be sufficient to provide a watertight condition until the damaged area is replaced.

K. Remove debris from the roof daily prior to leaving the site. Inspect the site at ground level. Remove any roof replacement related debris from the ground.

L. Fire watch: Per local codes, provide a fire watch after completion of daily work

3.3 BASE FLASHINGS

A. Curb height: Unless otherwise indicated or not possible due to existing conditions encountered, provide an 8-inch minimum flashing height above the finished roofing surface. Refer to Section 061053 for wood blocking requirements related to raising of rooftop curbs.

B. Ensure that all flashing substrates are suitable to receive new base flashing materials. As indicated below, provide additional necessary preparations to substrates if required by the roofing membrane manufacturer:

1. At wood substrates: Prior to installation of flashing base and surfacing plies, provide a mechanically-attached backer sheet approved by the roofing manufacturer over the wood substrate. Mechanically-attach the backer sheet to the wood substrate at the rate and fastening pattern recommended by the manufacturer.
2. At concrete, masonry and metal substrates: Prior to installation of flashing base and surfacing plies, apply asphalt to the substrate. Apply primer at the rate recommended by the roofing membrane manufacturer, but at a rate not less than one gallon per square.

C. Install base flashings at vertical walls and curbs in accordance with the roofing membrane manufacturer's requirements and recommendations.

D. Hot-air welded seams: Using a heat gun, hot-air weld flashing surfacing ply seams. Do not use torches to weld seams.

E. Secure the top edge of flashing as shown on the project drawings, and In accordance with roofing membrane manufacturer recommendations and requirements. Seal the completed flashing top edge with a 3-course stripping of woven glass fabric and flashing cement.

F. Where the anticipated finished flashing height will exceed 24-inches, consult with the roofing membrane manufacturer to determine requirements and recommendations related to additional intermittent flashing securement requirements and recommendations.

G. Fire watch: Per local codes, provide a fire watch after completion of daily work

3.4 LIQUID-APPLIED FLASHING

A. At locations to receive liquid applied flashings, as indicated on the project drawings:
1. Follow the written instructions for application of liquid-applied flashing provided by the roofing membrane manufacturer.
2. Prepare the substrate in a manner that is acceptable to the roofing membrane manufacturer. Substrate preparation includes, but is not limited to, removal of dirt and debris, treatment of surface and priming (if required by the liquid-applied flashing manufacturer).
3. Apply the base coat of liquid applied flashing to the substrate.
4. Install required reinforcing mesh into the base coat.
5. Apply the top coat of liquid applied flashing over the reinforcing mesh and base coat. Extend the top coat over and beyond the reinforcing mesh.

3.5 ROOF SUMP FLASHINGS

A. Prior to installation of the base ply, install a three-course stripping of woven glass fabric and roofing cement over the cover board/insulation substrate.

B. Install the specified modified bitumen base ply. Ensure that the modified bitumen base ply extends into and through the roof sump area.

C. Install an additional three-course stripping of woven glass fabric and roofing cement over the modified bitumen base ply.

D. Install a copper sheet flashing over the base ply in the sump. Refer to Section 076203 for copper sheet requirements. Prime both sides of the copper sheet prior to installation.

E. Install a modified bitumen flashing ply over the copper flashing sheet.

F. Install the specified modified bitumen surfacing ply over the completed roof sump flashing. Ensure that the modified bitumen surfacing ply extends into and through the roof sump area.

G. Ensure that the roofing base and surfacing plies, copper flashing sheet, and modified bitumen flashing ply extend under the clamping ring and into the drain bowl. Tightly secure the clamping ring.

3.6 SHEET METAL FLASHINGS

A. Refer to Section 076203 for sheet metal flashing requirements related to modified bitumen roofing.

3.7 SHEET METAL FLANGE STRIPPINGS

A. At sheet metal flanges associated with tubular penetration, pitch pan and perimeter edge sheet metal fascia flashings:
1. Prime the top and bottom of the sheet metal flange. Allow the primer time to dry.
2. Set flange in a full bed of roofing cement.
3. Install strippings in accordance with the project drawings and the requirements and recommendations of the modified bitumen roofing membrane manufacturer.

3.8 MISCELLANEOUS INSTALLATIONS/TREATMENTS

A. Return mechanical ventilator units to their original positions and secure to the existing curbs with EPDM-gasketed screws. Provide fasteners 12-inches, o.c., minimum, and within 2-inches of each end. Provide a minimum of two fasteners on each side of the curb.

B. Reconnect all electrical, plumbing, gas line and ventilation connections required to return mechanical units to their original operating condition. Retain a qualified, licensed electrical subcontractor to reconnect electrical equipment. Retain a qualified, licensed mechanical subcontractor to reconnect gas lines and ventilation connections. Coordinate required disconnections and reconnections with the Owner.

C. Walkpads: Install walkpads at locations indicated on the project drawings. Install in accordance with the requirements and recommendations of the roofing manufacturer.

D. Install splashblocks set on walkpads at locations indicated on the drawings.

E. Install self-adhering underlayment beneath coping caps, and at other locations indicated on the drawings.
1. Refer to manufacturer requirements and recommendations for installation.

F. Pitch pan fill materials: At locations indicated on the project drawings, provide pitch pans.
1. After completion of pitch pan flashing/stripping installation, fill bottom of pitch pan with specified non-shrink grout, as shown on the project drawings.
2. Complete pitch pan fill with pourable sealer. Install pourable sealer in a manner that does not allow for ponding water to collect on top of the completed pitch pan. If possible, tool or crown the sealer to create this condition.
3. Add a new metal cover over installed pitch pan.

G. Pre-fabricated plumbing vent pipe extensions:
1. Refer to manufacturer requirements and recommendations for installation.
2. Prior to flashing installation, seal intersection of pipe extension and existing plumbing vent.

H. Application of elastomeric coating to rooftop penetrations:
1. Prepare substrate in a manner that is acceptable to the coating manufacturer. Substrate preparation includes, but is not limited to: treatment of excessive gaps, repair of damaged or loose sheet metal components, repair of holes, cleaning of roof penetrations, treatment of surface rust, treatment of residual asphalt, and priming (if required by the roof coating manufacturer.
2. Coat the indicated penetrations following the recommendations and requirements of the coating manufacturer.

I. Rooftop conduit and pipe supports:
1. Install adjustable prefabricated pipe supports at rooftop conduit and pipes.
2. Space pipe supports at intervals recommended by the support manufacturer, as determined by the diameter and weight of the conduit or pipe.
3. Separate the support from the roof surface by installing the support over roof walkway pads, installed as specified. Extend walkpads 4-inches, minimum beyond all sides of supports.

J. Rooftop unit supports:
1. Install unit supports where indicated on the project drawings.
2. Separate the supports from the roof surface by installing the supports over roof walkway pads, installed as specified. Extend walkpads 8-inches, minimum beyond all sides of supports.

K. Replacement roof hatch installation:
1. Remove and discard existing roof hatch.
2. Provide wood nailers beneath roof hatch flanges, if necessary, to match insulation thickness.

3. Install new roof hatch following the written instructions, recommendations, and requirements of the roof hatch manufacturer.
4. Flash roof hatch curb in accordance with the requirements of this Section, the project drawings, and the requirements and recommendations of the roofing membrane manufacturer.

L. Extendable safety post installation:
1. Install new safety post following the written instructions, recommendations, and requirements of the roof hatch manufacturer.

M. Installation of replacement ladder:
1. Install replacement ladder where indicated on the project drawings. Coordinate final ladder location with Owner, based on existing conditions at proposed ladder location.
2. Mount ladder to exterior wall using fasteners appropriate for the substrate, recommended by the ladder manufacturer, and capable of meeting the requirements of OSHA and applicable building codes.
3. Refer to manufacturer requirements, recommendations, and written instructions for installation.

END OF SECTION

SECTION 07 54 00

FULLY ADHERED EPDM SINGLE PLY ROOFING

PART 1 – GENERAL

1.01 SUMMARY

A. Fully adhered Ethylene Propylene Diene Terpolymer (EPDM) single-ply roofing as shown on the drawings and specified herein.

1.02 RELATED DOCUMENTS

A. Contract Documents – All

B. Section 02 41 19 – Selective Demolition

C. Section 06 10 00 - Rough Carpentry

D. Section 07 22 50 – Single Ply Roof Insulation

E. Section 07 62 00 - Sheet Metal Flashings and Trim

1.03 REFERENCES

A. General: All standards refer to the latest edition or revision, unless otherwise noted.

B. ASTM D 4637 - Standard Specification for Ethylene-Propylele-Diene Terpolmer (EPDM) Based Sheet Roofing

C. Factory Mutual Global - *Approval Guide* and *Loss Prevention Data Sheets*
   1. *FM 1-28 Design Wing Loads*
   2. *FM 1-29 Roof Deck Securement and Above Deck Roof Components*
   3. *FM 4470 – Approval Standard – Class 1 Roof Covers*

D. Underwriters Laboratory – Stand for compliance with a UL Class A rated roof assembly

E. NRCA Roofing Manual – Membrane Roof Systems

F. Local Building Code:
   1. Meet applicable provisions of local, state, and national building codes. This also includes, but is not limited to, agencies regulating safety, environmental protection, transportation, and insurance

1.04 QUALITY ASSURANCE

A. Contractor / installer must be approved and authorized by the roofing system manufacturer to install specified materials and be eligible to receive the specified manufacturer's warranty.

B. Contractor to provide adequate numbers of skilled workmen who are thoroughly trained and experienced in the installation of the specified roof system

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver all materials to the site with packaging intact and with readable labels. Use materials having labels that:
   1. Identify the material type and size
   2. Indicate conformance with applicable reference standard.
   3. Bear UL and FM labels unless otherwise approved by WeatherTech or Owner

B. Store materials on clean raised platforms at least four inches above the ground or roof surface in original undisturbed plastic wrap in a cool, shaded area and cover with a light-colored breathable tarp.

C. Do not expose materials to moisture in any from before, during or after delivery to site. Remove unprotected material from site.

D. Check all materials to verify conformance to specification requirements or as otherwise approved for use on the project. Remove non-compliant materials from the site.

E. Handle and store materials on roof in a manor to prevent overloading of the deck or building structure.

F. Follow primary roofing manufacturer requirements for storage of materials when temperatures are below 40◦ F or above 90◦ F. Adhesives and sealant containers to be rotated maintain application temperatures above 40◦ F.

1.06 WARRANTY

A. Manufacturer to provide a 30 year “No-Dollar-Limit” material and installation warranty covering the roof system, flashings and manufacturer’s accessories.

B. Roofing installer to provide a five (5) year Performance Agreement – see Specification Attachment C

PART 2 – PRODUCTS

2.01 MANUFACTURER

A. The Roofing Manufacturer referred to in the Contract is the primary roofing manufacturer of the specified 30-year type roofing system, and may or may not manufacture and market the other components in the system.

B. Manufacturer Requirements
   1. Except as modified and supplemented herein, follow the Roofing Manufacturer’s and other system component materials Manufacturers’ catalogs, general and special requirements, and specific application recommendations.

2. With respect to methods of installation, industry practices apply only when this Contract does not address the matter.

2.02 PERFORMANCE REQUIREMENTS

A. Wind uplift resistance: Provide membrane roofing system to resist wind uplift pressures calculated in accordance with ASCE-7-10 per code jurisdiction and project specific requirements.

B. Factory Mutual Global Classifications: Class 1 and wind uplift ratings in accordance with FMG 1-29 and project specific requirements.

2.03 MEMBRANE COMPONENTS

A. Minimum product requirements have been listed for each approved roof system manufacturer. All of the components must be approved by the primary roofing manufacturer to meet specified warranty requirements. The roofing contractor will be required to be a certified installer before the bid award.

B. Approved roof system manufacturers:
   1. Carlisle Syntec
   2. Elevate
   3. Johns Manville

2.04 EPDM ROOF MEMBRANE AND FLASHING MATERIALS

A. Roof membrane shall be non-reinforced 90 mil (.090) nominal thickness cured Ethylene-propylene-diene terpolymer (EPDM) single ply roof membrane conforming to ASTM D4637, Type I.
   1. Approved membrane sheets are:
      a. Carlisle Syntec Systems – 90-mil Sure-Seal EPDM
      b. Elevate - RubberGard Platinum EPDM
      c. Johns Manville – JM EPDM NR 90 mil

B. Membrane flashing for walls, strip-ins and curbs shall be 90 mil (.090") nominal thickness, Ethylene-propylene-diene terpolymer (EPDM) sheet.
   1. Pre-fabricated EPDM flashing accessories such as pipe boots, inside and outside corners, etc. to be utilized when offered by the manufacturer.

2.05 RELATED MATERIALS AND ACCESSORIES

A. Bonding Adhesive: Manufacturer approved solvent or water-based Bonding Adhesive shall be used to adhere all membranes and flashing membranes to wood, metal, masonry, and approved roof insulation board surfaces.
   1. Comply with local and state VOC limit requirements.

B. Seam Adhesives, Primers and Seam Tapes
   1. Manufacturer approved self adhering seam tape, cleaners and primers shall be used at all field seams in the roof membrane wherever feasible.
   2. Manufacturer approved seam adhesive shall be used in areas where seam tapes cannot be used and for special or unusual flashing installations.

C. Lap Sealant: Manufacturer approved Seam Caulk to be solvent-based caulk and shall be used to seal exposed edges of adhesively joined seams.

D. Fastening Strips: Manufacturer approved polyester scrim reinforced, cured EPDM self adhering termination strips to be at all base terminations.

E. All-Purpose Sealant: Manufacturer approved butyl-based sealant shall be used for a water cutoff mastic, sealant to top off pitch boxes, and as an exterior grade caulk for metal work.

F. Termination bar: Aluminum bars with integral caulk ledge; 1.3″ (33 mm) wide by 0.10″ (2.5 mm) thick; Termination Bar by specified manufacturer requirements.

G. Roof Walkways: Manufacturer approved Walkway material shall be compatible with the roof membrane and as supplied or approved by the manufacturer.

H. Fasteners: Factory-coated steel fasteners and metal plates providing corrosion resistance per FMG 4470.

PART 3- EXECUTION

3.01 GENERAL

A. Do not begin roofing work until all walls, curbs, nailers and underlying substrates are ready and acceptable to have roofing materials installed. By beginning roofing work, the Contractor acknowledges that such preparatory work is satisfactory.

B. Verification of Conditions:
1. Layout: Verify layout of work before beginning installation.
2. Existing Conditions: Examine substrate before beginning installation. Examine surfaces for inadequate anchorage, drainage, foreign material, moisture, unevenness, penetration and curb locations which would prevent the execution or quality of application of roof system as specified.
3. Verify heights of curbs, penetrations and perimeter conditions to accommodate minimum 8 in. flashing height, particularly conditions impacted by installation of tapered insulation or crickets.
4. Examine deck slope, equipment placement and tapered insulation layout for positive drainage. No ponding water shall remain on roof deck for greater than 48 hours after the completed roof system is installed. Contractor required to notify Owner and WeatherTech of unacceptable ponding conditions.
5. Notification: Notify Owner and WeatherTech of unsatisfactory conditions in writing.

C. Coordination:
1. Coordinate Work of this Section with work of other trades.
2. Coordinate the work as required for:
   a. Verify roof drains and/or scuppers are located at proper level to drain finished roof and meet code requirements. Contractor is responsible to reset before proceeding with installation of roof system.
   b. Installation of flashing and sheet metal as indicated on drawings or as required to insure water tightness.
   c. Modifications to existing mechanical units, gas lines, electrical conduits or satellite dishes

D. Do not install roofing materials during rain, fog, mist, snow, or other inclement weather. One exception is that temporary work may be installed during such weather to protect materials that are already installed. Remove all temporary work and materials that have been exposed to such weather, then install permanent materials as specified.
   1. Do not apply roofing materials when moisture in any form (such as dew) can be seen or felt on the surface to which those materials will be applied.

E. Confine equipment, storage of materials and debris, and the operations and movements of workmen within the limits as indicated or as directed by the Owner. Do not load or permit any part of a structure to be loaded with a weight that will endanger safety of personnel or cause damages to the building. When there is any doubt about roof deck or structural components being able to bear the load of any material, do not load the roof deck.

F. Protect the building, all contents, and the surrounding area from damage and protect building occupants from injury during execution of work. Do this in a manner which will not affect the normal conduct of operations in the building. When not specified in the Contract Documents the Contractor is responsible to determine the nature of Owner operations and provide the appropriate level of protection. Repair, replace or otherwise compensate the Owner for all damaged items and loss of operations caused by lack of such protection to the Owner's satisfaction.

G. Remove all debris daily from the roof. Use enclosed chute, crane and bucket, or construction hoist to minimize dust, dirt, and noise.

H. Where wheeled or other traffic over the partially or fully completed roofing is unavoidable, provide and use adequate plank or plywood protection for the roofing.

3.02 INSTALLATION

A. Provide temporary ballast in partially completed sections to control wind effects during construction.

B. Sheet Membrane Layout:
   1. Clean and prep substrate to remove any debris.
   2. Starting at the roof low point, roll out and position membrane sheet over substrate.
   3. Accurately align membrane sheet to allow proper side and end laps. Side laps to allow water flow over the lap and not “buck” water
   4. Allow a minimum of 30 minutes for membrane to relax.

C. Membrane Attachment:
   1. Outside ambient air temperature must be a minimum 40 degrees °F and rising.
   2. Fold sheet so that the bottom side half of the full length of sheet is exposed.
   3. Apply a 100 percent continuous coat of bonding adhesive to the corresponding substrate or insulation area.
   4. Allow adhesive to dry until tacky and does not string or stick to a dry finger. When sufficiently dry, carefully unfold the glued portion of the membrane in a

rolling motion onto the glued substrate surface, avoiding any wrinkles or air pockets. Immediately roll the adhered area using a weighted pressure roller. Applying pressure with a weighted roller is required to promote full contact of the membrane with adhesive.

5. Repeat the procedure for the other half of the sheet.
6. Install membrane without wrinkles, gaps or fish mouths in seams.

D. Seam Tape Application
   1. Seaming area is to be absolutely clean and free of moisture traces, dust, dirt, or debris.
   2. Remove protective backer from one side of the seam tape and apply seam tape to the bottom sheet of membrane in the lap area and roll top of seam tape to completely remove all voids and air bubbles.
   3. Fold the top sheet over the bottom sheet and allow the seam area to freely fall together, avoiding wrinkling, pulling or stretching the membrane.
   4. Pull top layer of protective backing from seam tape while rolling top membrane into adhesive surface of tape.
   5. Roll all seams with a 2" steel roller to ensure proper seam adhesion. Seams are to be rolled perpendicular to the lap and for the length of the entire seam.

E. Edge Securement: Mechanically attach reinforced perimeter fastening strips at base of walls, parapets, roof curbs, roof penetrations and at locations as recommended by roofing manufacturer.

F. Flashing Installation: Install fully adhered membrane flashings at parapets, walls, roof curbs, and vents. Under no circumstances shall flashings cover weep holes or any form of through-wall drainage.

G. Roof Drains: Remove all flashing materials and contaminates from drain components to clean metal surfaces. Replace any damaged or missing components with matching material.
   1. Install tapered insulation sump area to create a smooth transition into the drain as indicated on Roof Plan,
   2. Field seams shall not run through sump area.
   3. Install water cut off mastic between membrane and drain bowl. Install drain ring and clamping bolts to achieve full continuous compression.
   4. Install new stainless steel drain bolts and washers.

H. In all areas where side laps intersect end laps ("T" joints) install a manufacturer approved cover patch of uncured EPDM membrane centered over the "T".

I. Overnight Seal/Temporary Water Stop Installation:
   1. Roofing contractor to provide water tight seals at the end of each work day.
   2. Remove and dispose of temporary seal materials.

J. Roof Walkways:
   1. Membrane shall be clean and dry. Remove any visible dirt and debris.
   2. Position walkway roll and cut to desired length.
   3. Walkway shall not cover seams. Walkway shall be kept a minimum of 2 inches from the edge of the seam on the bottom sheet of the completed lap and a minimum of 6 inches from the edge of the seam when located on the top sheet of a completed lap.

3.03 INSPECTION

A. Upon completion of the installation, roofing manufacturer representative shall perform an inspection to determine if the roof system has been installed in accordance with approved project documents and meets all requirements to issue the specified manufacturer's warranty.

3.04 PERFORMANCE AGREEMENT SIGN

A. Provide a 24 inch x 24 inch minimum size, painted metal sign (Attachment D) with dark color background and letters of contrasting color. Use paint compatible with the metal. Make the sign to read as shown on detail at end of this Section. Sign to be mounted in conspicuous place on roof.

END OF SECTION

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ROOFING MANUFACTURER'S CERTIFICATION

Manufacturer: _____
Address: _____

_____

Technical Services Dept Ph. _____ **Fax** _____ **Email** _____

CONTRACTOR INFORMATION

This is to advise you that the referenced contractor is accredited and an authorized and approved applicator of our roofing membrane systems**.**

Roofing Contractor: _____
Address: _____
Manufacturer's Contractor Number: _____

PROJECT CERTIFICATION

We have reviewed the project documents for referenced project and certify that the 30-year type roofing membrane system(s) and related flashings listed below are suitable for use with the roof system construction specified for this project. This certification is limited to normal wear and tear by the elements. It does not include the structural design of the building, abuse, misuse, or Acts of God.

Project Address: _____

_____

_____

Roof Area Designation (as indicated in specification)	Roofing Membrane Specification Number	Flashing Specification Number

Signature of Primary Membrane Manufacturer's Authorized Representative:

_____
Name: _____
Title: _____
Address: _____
Date: _____ **Phone:** _____ **Fax:** _____ **Email:** _____

Attachment A

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Performance Agreement

Project Name/Identification: _____
Project Address: _____

_____
Roof Areas: _____

_____
Substantial Completion Date: _____
End of Performance Agreement Date: _____

CONFORMANCE STATEMENT: The above titled project has been completed in accordance with the requirements of the Contract Documents.

For a 5-year period, from date of notice of substantial completion of the building, we will inspect and make emergency repairs to defects and leaks in the roof system within 24 hours of receipt of notice from Owner. As soon as weather permits, we will make permenent repairs and restore the affected areas to the standard of the Contract requirements. All this work will be done without additional cost to Owner, except if it is determined that such leaks and defects were caused by abuse, or by lightning, hurricane, tornado, or other unusual natural phenomena or failure of related work done by others.

Name of Roofing Contracting Firm: _____
Address: _____

_____
Telephone: _____ **Fax:** _____
Email Address: _____
Roofing Contractor's Authorized Signature: _____
Roofing Contractor's Name (print or type): _____
Date: _____

Name of General Contracting Firm (if applicable): _____
Address: _____

_____
Telephone: _____ **Fax:** _____
Email Address: _____
General Contractor's Authorized Signature: _____
General Contractor's Name(print or type): _____
Date: _____

ATTACHMENT C

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PERFORMANCE AGREEMENT SIGN

THIS ROOF IS UNDER
A PERFORMANCE AGREEMENT
UNTIL (*MONTH/YEAR***)**

ANY REPAIRS OR ALTERATIONS
MUST BE PERFORMED BY

(*ROOFING CONTRACTOR)*
ADDRESS

(*CITY, STATE, ZIP CODE)*
(AREA CODE/PHONE NUMBER)

(*GENERAL CONTRACTOR)*
ADDRESS

(CITY, STATE, ZIP CODE)
(AREA CODE/PHONE NUMBER)

Construct a sign 2' x 2' (4 square feet) and include the above wording. Insert Month and Year (5 year after final acceptance date) Contractor's names, addresses, phone numbers. Sign to be posted as specified.

ATTACHMENT D

SECTION 07 62 00

SHEET METAL FLASHING AND TRIM

PART 1- GENERAL

1.01 SUMMARY

A. Section includes roof related sheet metal copings, counter flashings, gutters, downspouts, scuppers and other fabricated sheet metal flashings as indicated on drawings.

1.02 RELATED DOCUMENTS

A. Contract Documents – All

B. Section 01 33 00 – Submittals

C. Section 01 33 26 - Quality Assurance

D. Section 06 10 00 – Rough Carpentry

E. Section 07 54 00 – Fully Adhered EPDM Membrane Roofing

1.03 REFERENCE STANDARDS

A. General: All standards refer to the latest edition or revision, unless otherwise noted.

B. ASTM A653/A653M – *Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process*

C. ASTM C920 – *Standard Specification for Elastomeric Joint Sealants*

D. Factory Mutual Global - *Approval Guide* and *Loss Prevention Data Sheets*
   1. *FM 1-28 Design Wing Loads*
   2. *FM 1-49 Perimeter Flashing*
   3. *FM 4470 – Approval Standard – Class 1 Roof Covers*

E. ANSI SPRI ES-1 – *Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems,*

F. Sheet Metal and Air Conditioning Contractor's National Association (SMACNA) – *Architectural Sheet Metal Manual* – Latest Edition

G. NRCA Roofing Manual Membrane Roof Systems

1.04 QUALITY ASSURANCE

A. Contractor to provide adequate numbers of skilled workmen who are thoroughly trained and experience in the necessary crafts, specified requirements and methods

needed for proper performance of the work outlined in this section.

1.05 DELIVERY, STORAGE AND HANDLING

A. Store materials on clean raised platforms at least four inches above the ground or roof surface.

B. Stack fabricated metal to prevent twisting, bending or abrasion to metal surfaces.

C. Slope stored metal to ensure accumulated moisture will not cause discoloration or metal corrosion.

D. Check all materials to verify conformance to specification requirements or as otherwise approved for use on the project. Remove non-compliant materials from the site.

E. Handle and store materials on roof in a manor to prevent overloading of the deck or building structure.

1.06 WARRANTY

A. Prefinished metal manufacturer's non-prorated 30-year standard material finish warranty

B. Sheet Metal installer to provide a five (5) year Performance Agreement – see *Specification Section 07 54 00 Attachment C.*

PART 2 – PRODUCTS

2.01 DESIGN

A. Sheet metal to be fabricated to match drawing details in conformance with approved shop drawings.

B. Where sheet metal flashing is required and material or gauge is not indicated on the drawings, provide the highest quality material and gauge commensurate with the referenced standards.

2.02 MATERIALS

A. Galvanized Steel Sheet: ASTM A653/A653M with G90/Z275 Zinc coating, hot-dipped galvanized steel sheet, paintable as indicated; not less than 24 gauge.

B. Pre-Finished Galvanized Steel Sheet: ASTM A653/A653M, with G90/Z275 Zinc coating, hot-dipped galvanized steel sheet, commercial quality; not less than 24 gauge. Factory coated with PVDF (polyvinylidene fluoride) Kynar 500 finish AAMA 2605; color as selected from manufacturer's standard colors.

C. Cold Rolled or Soft Copper, depending on the application, not less than 16 oz./sq. ft.

D. Stainless steel: ASTM A240/A240M or ASTM A666 dead soft, fully annealed, type 304, stainless steel sheet, minimum 26 gauge.

E. Aluminum shall be fully annealed, type 1035, aluminum sheet, minimum .032" thick.

F. Thermoplastic Membrane Clad Metal: 24-gauge steel sheet with a minimum 20 mil factory laminated thermoplastic membrane coating. Metal to be provided by the primary roofing material manufacturer to match the singly ply roof membrane.

2.03 MISCELLANEOUS MATERIAL AND ACCESSORIES

A. Solder: ASTM B32, Grade Sn50, used with rosin flux.

B. Fasteners:
1. Provide hot dipped zinc coated (galvanized) steel, stainless steel or brass fasteners. Select fasteners for the type, grade, and class required and to be compatible with the type of metal being fastened.
2. Approved Products - Wood Fasteners
   a. Ring shanked galvanized steel or stainless-steel roofing nail with a 3/8" head. Fastener to provide 1-1/4" embedment into nailing substrate
   b. Galvanized steel or stainless steel #12 pan head sheet metal screws. Fastener to provide 1" embedment into substrate
3. Approved Products - Steel Fasteners
   a. Dekfast – SFS intec USA
   b. Teks – ITW Buildex
   c. TruGrip – ITW Buildex
4. Approved Products – Masonry / Concrete Fasteners
   a. HMH or HMH SS 304 Nail-in Anchor – Hilti
   b. Zamac Metal Hit Anchor – Confast
   c. Zamac Nail in – Powers
5. Provide EPDM backed metal washers on exposed fasteners
6. Blind ("Pop") rivets for fastening sheet metal to sheet metal shall be 1/8" diameter X ¼" long (minimum) and shall be composed of the same type of metal being fastened. Use 3/16" diameter X 3/8" long rivets for sheet metal thicker than 24 gage steel, 16 oz. copper or .032" aluminum.

C. Sealants
1. Elastomeric Sealant: ASTM C920, elastomeric polyurethane polymer sealant.
   a. Type S, Grade NS, Calss25, Uses NT, M G, A, O
   b. Sealant shall meet MIL-S 8802 and FS-TT-S-001543A requirements
2. Heat Resistant Sealant: One-part, non-slumping for applications with high temperature exposure ranging from -85°F to 500°F - Dow Corning 736 or equal
3. Butyl Sealant: ASTM C 1311- single component, solvent-release butyl rubber sealant; polyisobutylene plasticized: heave bodied for hooked-type expansion joints with limited movement.
4. Sealant Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, non-sag, nontoxic, non-staining tape ½ inch wide and 1/8 inch thick.
5. Pitch Pan Sealant: Two- part, chemical cure polyurethane pourable sealer
   a. As provided by the primary roofing manufacturer

D. Quick-drying, non-expanding concrete grout for pre-filling pitch pans shall meet the following requirements:
   1. Early Volume Change; ASTM C827 – 0% shrinkage
   2. Hardened Volume Change – 0% shrinkage; 0% expansion after set
   3. Compressive Strength; ASTM C109 – 5000 PSI / 7 Days
   4. Acceptable Products;
      a. Thorite
      b. Five Star Grout

E. Primer paint shall conform to Federal Specifications DOD-P-21035A and MIL-P-26915C
   1. Primer paint to be applied by spray, roller or brush in a minimum of two 1-2 mil thick coats to metal surfaces
   2. Approved Product
      a. Rust-O-Leum V2185 Cold Galvanizing Compound, or approved equivalent

F. Termination Bar: 1/8”X1-1/4” type 1035 aluminum with pre-punched holes spaced at 4” o.c. Termination bar to have an integral caulking lip at the top edge.

G. Splash Pads; Precast concrete with a minimum 3,000 psi concrete cured over 28 days, with a minimum 5% air entrainment.

PART 3- EXECUTION

3.01 GENERAL

A. Sheet metal flashings shall withstand wind loads and exposure to weather without failure due to defective fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, or loosen, and shall remain watertight.

B. Thermal Movements: Installed sheet metal flashings to allow for daily temperature induced movements in order to prevent excessive oil canning, buckling, joint separation, failure of joint sealants or metal attachment failure.

3.02 FABRICATION

A. Sheet Metal Fabrication Standard: Fabricate sheet metal flashing and trim to comply with recommendations of the latest edition of the Sheet Metal and Air Conditioning Contractor's National Association's (SMACNA) *Architectural Sheet Metal Manual* that apply to the design, dimensions, metal, and other characteristics of the item indicated.

B. Verify field shapes and measurements prior to metal fabrication.

C. Shop form metal sections true to shape, accurate in size, square and free from tool marks or defects.

D. Form pieces in 10-foot lengths with no joints within 24 inches of corners or intersections.

E. Fabricate cleats and attachment devices as recommended by SMACNA manual; metal thickness to be one full gauge greater the gauge of the metal being secured.

F. Fabricate corners with minimum 24-inch-long legs; seam for rigidity and seal with solder, welding or sealant as appropriate for metal being used.

G. Sheet metal edging, fascia or copings shall extend down over masonry, wood or metal siding covering a minimum of 2 inches of wall surface.

H. Fabricate nonmoving seams in sheet metal with flat-lock seams, except where otherwise indicated. At moving joints, use sealed lapped, bayonet-type or interlocking hooked seams as recommended by SMACNA.

3.03 EXAMINATION

A. Examine substrates and conditions under which sheet metal flashing and trim are to be installed and verify that Work may properly commence. Do not proceed with installation until unsatisfactory conditions have been corrected.

B. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set and nailing strips located.

C. Verify roofing terminations and membrane flashings are in place, sealed, and secure.

3.04 WORKMANSHIP

A. Install sheet metal accurately to the required dimensions and profiles.

B. Sheet metal installations to use concealed cleats or clips without fastening through exposed metal unless otherwise indicated on drawings.

C. Installed sheet metal to be properly secured and weathertight.

D. Sealants to be neatly installed, properly tooled to shed water and create a watertight seal. Remove excessive sealants from installed metal.

3.05 INSTALLATION

A. Install continuous cleats over level, even surfaces, true to line and level as indicated on drawing details.
   1. All clips and cleats to be fastened a maximum of 12 inches o.c. with appropriate corrosion resistant screws and 6 inches o.c. with hot dipped, double coated zinc ring shanked nails.

3.06 PERIMETER SHEET METAL

A. Copings
   1. Secure metal with continuous face cleat and attach interior leg with self-drilling/self-tapping screws with EPDM backed washers with a maximum spacing of 18" o.c. per ANSI/SPRI ES-1 recommendations. ES-1 certification is not required.
   2. Metal joints: Provide one (1) inch high standing seam joints between sections unless otherwise noted on the drawings.
   3. Metal coping to be sloped to shed water.

B. Metal Edge
   1. Provide a minimum 4-inch nailing flange
   2. Secure metal with a continuous face cleat and nail flange with ring shank nails spaced at 3 inches oc per ANSI/SPRI ES-1 recommendations. ES-1 certification is not required.
   3. At laps, provide 1 inch wide “blind S-clip” with butyl sealant embedded in the joint or other approved SMACNA joint method.

C. Counter Flashings
   1. Saw cut reglets in masonry or concrete wall to be a minimum of 1 inch deep by ¼ inch wide.
   2. Secure counterflashing in reglet, apply sealant and wind clips
   3. Attach surface mounted counterflashing with approved fasteners; apply sealant along top edge. Tool sealant to shed water.

3.07 DRAINAGE

A. Gutters – See Spec 07 71 23
B. Scuppers
   1. Provide metal scupper liners for all thru wall scuppers
   2. Provide prefinished metal conductor heads when indicated on drawings.
   3. Scupper to be sized to meet local building codes and SMACNA recommendations

C. Downspouts
   4. Provide the number and size of downspouts as needed to meet the gutter or scupper drainage capacity
   5. Provide support strapping, elbows and outlets
   6. Provide concrete splash blocks

3.08 SHEET METAL FLASHINGS

A. Metal Expansion Joint Covers
   1. When indicated on drawings, provide metal roof to roof or roof to wall metal expansion joint covers (refer to drawing detail page)
   2. Standing seamed, slope metal cover to shed water

B. Hot Stack Flashing
   1. Provide metal flanged sleeve flashing with a minimum 1-inch clearance from hot stack
   2. Provide heat resistant insulation between metal and stack

3. Install rain hood and high temperature sealant as detailed.

C. Pitch Pans
1. Fabricate pans and covers using galvanized metal.
2. Minimum height of 4 inches with a minimum 1-inch clearance between penetration and pitch pan
3. Fill pan with non-shrink grout to a height of 2 inches below top of pan. Install pourable sealer to fill pan and shed water.

3.09 CLEANING AND PROTECTON

A. Clean exposed metal surfaces, removing substances that may cause metal corrosion or deterioration of metal finish.

B. Maintain sheet metal during construction. Replace any damaged sheet metal.

END OF SECTION

SECTION 076203

SHEET METAL FOR MODIFIED BITUMEN ROOFING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes requirements related to sheet metal fabrication and installation related to modified bitumen roofing.

B. Where prefinished 24-gauge and 22-gauge galvanized steel is specified within this Section, Galvalume may be considered as an acceptable alternative to the specified prefinished galvanized steel. Galvalume shall match the gauge of the specified galvanized steel, and shall meet ASTM A792/A792M-10; AZ-50. All other requirements remain as specified in this Section.

1.2 RELATED SECTIONS

A. Section 013300 – Submittal Procedures

B. Section 075216 – SBS Modified Bitumen Roofing in Cold Adhesive

C. Related Documents: The Contract Documents, as defined in Section 0002000 - Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other documents.

1.3 REFERENCES

A. Reference standards of the following sources are applicable to products and procedures specified in Part 2 - Products and Part 3 – Execution of this Section:
   1. American Society for Testing and Materials (ASTM)
      a. ASTM A653/653M – Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
      b. ASTM A792/A792M-10 – Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process
      c. ASTM D41/D41M - Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing
   2. National Roofing Contractors Association (NRCA)
   3. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA)
      a. SMACNA Architectural Sheet Metal Manual, 7th Edition

1.4 SUBMITTALS

A. Prior to the start of work, submit the following to the Owner for approval:
   1. Product submittals required within Section 013300.

B. Refer to Section 013300 for procedural requirements related to the submittal process.

1.5 QUALITY ASSURANCE PROCEDURES

A. Applicator Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive a manufacturer's warranty. Company shall have a minimum of 5 years documented experience certified by roofing system manufacturer.

B. Single Source Responsibility: Roofing system materials and components shall be supplied and warranted by roofing system manufacturer for specified roofing system and shall be in compliance with specified regulatory requirements.

C. Examine the technical specifications and drawings. Verify all dimensions, detail conditions, roof plan notes and existing site conditions that may affect the work. Verification of existing dimensions and site conditions is the responsibility of the Contractor. No additional compensation will be considered for failure to verify existing dimensions, detail conditions, roof plan note callouts, and existing site conditions.

D. Upon examination, if conflicts between the technical specifications and drawings, and those of federal, state or local regulatory agencies, the product manufacturer, industry roofing standards, or Owner-mandated requirements are discovered, notify the Owner immediately for resolution.

E. The Contractor is responsible that all perimeter edge metal systems meet and comply with ANSI/SPRI ES-1 Testing.

F. During work, if conditions are discovered which do not allow for continuation of the work per the technical specifications and drawings, notify the Owner immediately for resolution.

1.6 DELIVERY, STORAGE AND HANDLING

A. Refer to Section 016000 for transport, handling, storage and product requirements.

B. Deliver materials in manufacturer's original containers, dry, undamaged, seals and labels intact.

C. Store materials in weather protected environment, clear of ground and moisture. Cover insulation, roofing materials, and other moisture-sensitive products with a canvas tarp.

D. Protect adjacent materials and surfaces against damage from roofing work. Do not store materials on previously completed roofing.

1.7 ENVIRONMENTAL REQUIREMENTS

A. Do not perform work during inclement weather. Refer to product manufacturer for outdoor temperature requirements for installation of materials. Do not install materials at times when the outdoor temperature does not fall within the minimum/maximum temperature requirements of the manufacturer.

B. Cold weather precautions:
1. Store products that may be negatively affected by exposure to cold weather, such as primers, adhesives, sealants and cements, in a heated location. Refer to the modified bitumen roofing manufacturer and NRCA requirements and recommendations for additional cold weather application recommendations and restrictions.

C. Safety Data Sheets (SDSs) of all specified products shall remain on site for the duration of this project.

PART 2 – PRODUCTS

2.1 SHEET METAL ACCESSORIES

A. Perimeter edge metal flashing: Field-fabricated or manufacturer-provided factory-fabricated perimeter edge sheet metal flashing system consisting of a perimeter edge fascia and underlying continuous cleat. Refer to the project drawings.
   1. For field-fabricated perimeter edge fascia: Configuration of field-fabricated metal shall match the project drawings. Prefinished galvanized steel, 24-gauge, with Kynar 500 coating; maximum section lengths of 10-feet; standard color selected by the Owner.
      a. Continuous cleats associated with perimeter edge metal flashing systems: Galvanized steel, minimum 22-gauge, ASTM A653/653M; G-90, maximum section length of 10-feet.
   2. For manufacturer-provided factory-fabricated perimeter edge fascia systems: Canted configuration, with a minimum 1-1/2 inch integrated water dam, and no exposed fasteners. The system shall consist of an outer fascia cover with Kynar 500 coating fabricated with minimum 24-gauge galvanized steel or minimum 0.050-inch aluminum; and minimum 22-gauge continuous cleat or extruded aluminum inner retention anchor bar. Standard metal color shall be selected by the Owner. Acceptable pre-fabricated systems and configurations:
      a. Anchor-Tite Canted Fascia, Extended Canted Fascia, or Perma-Tite System 200 Fascia, manufactured by Metal-Era, Waukesha, WI; www.metalera.com.
      b. Other manufacturer-provided, canted perimeter edge fascia systems meeting the requirements listed in Paragraph 2.1.A.2, and receiving prior approval from the Owner.

B. Parapet wall metal flashing: Flashing system consisting of a coping cap and underlying continuous cleat. Refer to the project drawings.
   1. For field-fabricated parapet wall flashing coping cap: Prefinished galvanized steel, 24-gauge, with Kynar 500 coating; maximum section lengths of 10-feet; standard prefinished color selected by the Owner.
      a. Continuous cleats associated with perimeter parapet wall metal flashing: Galvanized steel, minimum 22-gauge, ASTM A653/653M; G-90, maximum section length of 10-feet.
   2. For manufacturer-provided factory-fabricated parapet wall flashing systems: Configuration shall match those indicated on the project drawings. Coping cap pieces shall be joined by standing seams. System shall consist of an outer coping cap cover with Kynar 500 coating fabricated with minimum 24-gauge galvanized steel or minimum 0.050-inch aluminum; and minimum 22-gauge galvanized steel or minimum .063-inch aluminum continuous cleat. Standard metal color shall be selected by the Owner. Acceptable pre-fabricated systems and configurations:
      a. Systems manufactured by Metal-Era, Waukesha, WI; www.metalera.com or OMG Roofing products, Agawam, MA; www.omgroofing.com capable of being joined with standing seams.
      b. Parapet wall metal flashing systems meeting the requirements listed in Paragraph 2.1.A.2, capable of being **joined with standing seams**, and receiving prior approval from the Owner.

C. Fascia extensions: Prefinished galvanized steel, 24-gauge, with Kynar 500 coating, maximum section lengths of 10-feet; standard color as selected by the Owner. Refer to project drawings.
   1. Continuous cleats associated with area divider covers: Galvanized steel, minimum 22-gauge, ASTM A653/653M; G-90, maximum section length of 10-feet.

D. Area divider covers: Prefinished galvanized steel, 24-gauge, with Kynar 500 coating, maximum section lengths of 10-feet; standard color as selected by the Owner. Refer to project drawings.
   1. Continuous cleats associated with area divider covers: Galvanized steel, minimum 22-gauge, ASTM A653/653M; G-90, maximum section length of 10-feet.

E. Expansion joint covers: Prefinished galvanized steel, 24-gauge, with Kynar 500 coating, maximum section lengths of 10-feet; standard color as selected by the Owner. Refer to project drawings.
   1. Expansion joint backer pieces associated with expansion joint covers: Galvanized steel, minimum 22-gauge, ASTM A653/653M; G-90, maximum section length of 10-feet.

F. Capped curb covers: Galvanized steel, 18-gauge, ASTM A653/653M; G-90. Fabricate to match dimensions of curb, and as indicated on the project drawings. Fabricate top with a cross-break, providing four-way slope to the outer edges of the cover adequate to remove the potential for standing water at the top of cover.

G. Counterflashings: Prefinished galvanized steel, 24-gauge, with Kynar 500 coating, maximum section lengths of 10-feet; standard color as selected by the Owner. Refer to project drawings.

H. Plumbing vent flashing:
   1. Flanged sleeve: Flange and sleeve formed of minimum 20-ounce cold-rolled copper sheet. The flange shall extend 6-inches, minimum out from the sleeve in all directions. Refer to project drawings.
   2. Vent cap: Cap formed of minimum 20-ounce soft copper, and extending down over the copper flanged sleeve a minimum of 3-inches, and extending down into the interior of the plumbing vent 3-inches, minimum. Refer to project drawings.

I. Tubular penetrations and hoods:
   1. Tubular penetration flanged sleeve: Stainless steel, 24-guage. Fabricate a one-piece flanged sleeve with a flange extending 6-inches minimum out from the sleeve onto the roof membrane. Refer to the project drawings.
   2. Tubular penetration hoods associated with field and pre-fabricated tubular penetration flashings: Stainless steel, 24-guage. Fabricate to dimensions shown on the project drawings.
   3. For securement of tubular penetration hoods: Stainless steel adjustable clamp.

J. Hot stack penetrations:
   1. Hot stack penetration flanged sleeve: Stainless steel, 24-guage. Fabricate a one-piece flanged sleeve with a flange extending 6-inches minimum out from the sleeve onto the structural deck.
   2. Hoods associated with hot stack penetration flashings: Stainless steel, 24-guage. Fabricate to dimensions shown on the project drawings.
   3. For securement of tubular penetration hoods: Stainless steel adjustable clamp.

K. Pitch pans and pitch pan covers:
   1. Pitch pans: Stainless steel, 24-gauge. Fabricate to dimensions shown on drawings, with a minimum 4-inch depth, and flange extending 6-inches minimum out from the pitch pan, and other dimensions to be kept to the minimum size necessary to provide a 2-inch clearance all sides from the penetration. Solder all seams watertight.
   2. Covers associated with pitch pans: Stainless steel, 24-guage. Fabricate to dimensions shown on drawings.

L. Roof sump flashing:
   1. Roof sump flashing: 30-inches by 30-inches, minimum 32-ounce soft copper roof drain flashing sheet.

M. Miscellaneous sheet metal accessories:
1. For terminating flashing: Anchor bar: 1-inch x 1/8-inch extruded aluminum with slotted holes spaced 6 inches o.c. Do not fabricate with a caulk slot.
2. For use beneath sheet metal coping caps, area divider covers, expansion joint covers, capped curb covers and other locations indicated on the project drawings: Self-adhering underlayment meeting the following criteria:
a. Meeting the requirements of ASTM D1970.
b. Approved by the roofing membrane manufacturer for the specified detail condition.

2.2 MISCELLANEOUS MATERIALS

A. Flashing cement and roofing cement: Product compatible with flashing sheet used and approved by the roofing membrane manufacturer for the detail condition encountered.

B. Asphalt primer: ASTM D 41/ D 41M.

C. Butyl tape (for use behind vertical flanges of surface-mounted counterflashing, and other locations indicated on the project drawings): High-temperature, self-adhering double-sided butyl-rubber sealant tape; minimum 1-inch wide by 1/8-inch thick.

D. Self-adhering underlayment (for use beneath coping caps, area divider caps, expansion joint covers, and at other locations indicated on the project drawings):
1. Self-adhering modified bitumen base sheet; product type acceptable to roofing manufacturer, and meeting or exceeding the following requirements:
a. The underlayment shall have a minimum thickness of 40 mils, and shall be approved for use by the roofing membrane manufacturer for the specified application.

2.3 FASTENERS

A. For securing vertical faces of field-fabricated continuous cleats to wood substrates: Minimum 8d coated ring shank nails (at wood substrates), or fasteners appropriate for the existing substrate (at other substrates such as masonry, concrete or metal).

B. For securing vertical faces of factory-fabricated inner retention anchor bars or continuous cleats: Fasteners provide by or recommended by the sheet metal flashing system manufacturer.

C. For securing horizontal flanges associated with field-fabricated perimeter edge fascia pieces and gutters: Roofing nails with smooth, flat, minimum 3/8-inch head; hot-dipped galvanized steel or equivalent corrosion-resistance, No. 11 or No. 12 gauge with barbed shanks and conventional sharp point; ASTM F1667, Type 1, Style 20. Length as necessary to penetrate minimum 1-inch into substrate.

D. For stainless steel: Stainless steel fasteners.

E. For securing aluminum anchor bar: Fasteners appropriate for, and approved by the Owner and roofing manufacturer for the substrate encountered.

F. For securing all other sheet metal flashings: Fasteners indicated on the project drawings, or appropriate and approved by the Owner for the substrate encountered, and compatible with the sheet metal type to be secured. Where fastener heads are exposed, provide fasteners with neoprene gaskets.

2.4 SEALANTS FOR ROOFING

A. Refer to Section 079201.

PART 3 - EXECUTION

3.1 SHEET METAL FLASHING INSTALLATION

A. Perimeter edge metal flashing system:
1. Install perimeter edge metal flashing as shown on the project drawings. Provide sheet metal flashings matching the configurations and dimensions indicated on the project drawings.
a. Secure the horizontal flange and vertical face of continuous cleats with coated ring shank nails 6-inches o.c., max., and within 2-inches of each end of cleat pieces. If the existing substrate is not nailable, use a fastener compatible with the existing substrate fastened at the rates indicated.
b. Place the outer fascia/gravel stop piece. Hook the fascia to the underlying continuous cleat. Secure the horizontal flange with roofing nails 3-inches o.c. in two staggered rows as indicated on the project drawings.

B. Perimeter parapet wall metal flashing:
1. Install parapet wall metal flashing as shown on the project drawings. Provide sheet metal flashings matching the configurations and dimensions indicated on the project drawings.
a. Prior to installation of continuous cleat and coping caps, install the specified self-adhering underlayment over the top of parapet wall. Extend self-adhering membrane down exterior face a minimum of 1-inch below exposed wood blocking, and down inner wall face as shown on the project drawings.
b. Fabricate continuous cleats with a kick-up, creating a minimum 1/2-inch per foot slope toward the roof.
c. Secure the horizontal flange and vertical face of continuous cleats with coated ring shank nails 6-inches o.c., max., and within 2-inches of each end of cleat pieces. If the existing substrate is not nailable, use a fastener compatible with the existing substrate fastened at the rates indicated.
d. Place the coping cap sections. At the outer face, hook the coping cap fascia to the underlying continuous cleat. At the inner face, secure the flange with minimum #12 fasteners, fitted with neoprene gaskets, 18-inches o.c., max., and within 2-inches of each end.
e. Join adjacent coping cap sections using a standing seam, with a 1” height. Where upturned standing seam ends meet, apply continuous sealant to the joint, fold over and crimp the two adjoining pieces. Button punch the completed assembly watertight. Refer to the project drawings.
f. Where coping caps terminate at walls, turn membrane min. 1-inch up wall. Turn coping cap piece min. 2-inches up wall. Seal and secure as indicated on the project drawings. Install counterflashing over exposed end piece.

C. Fascia extensions:
1. Secure fascia extensions with coated ring shank nails or other specified fasteners appropriate for the substrate condition encountered, 6-inches o.c. max.

D. Area divider covers:
1. Prior to installation of continuous cleat and area divider covers, install the specified self-adhering underlayment over the top of area divider. Extend self-adhering membrane down each face as shown on the project drawings.
2. Install covers and related continuous cleats, as detailed, at locations indicated on the project drawings.

3. Fabricate to match configuration and dimensions indicated on the project drawings.
4. Fastening: Secure non-cleated vertical faces with specified fasteners appropriate for the substrate encountered fitted with neoprene gaskets, spaced 18-inches o.c. max., and within 2-inches of each end.
5. Join adjacent area divider sections using a standing seam, with a 1" height. Where upturned standing seam ends meet, apply continuous sealant to the joint, fold over and crimp the two adjoining pieces. Button punch the completed assembly watertight. Refer to the project drawings.
6. Where area divider covers terminate at walls, turn membrane min. 1-inch up wall. Turn area divider cover min. 2-inches up wall. Seal and secure as indicated on the project drawings. Install counterflashing over exposed end piece.

E. Expansion joint covers:
1. Prior to installation of continuous cleat and expansion joint covers, install the specified self-adhering underlayment over the top of expansion joint. Extend self-adhering membrane down each face as shown on the project drawings.
2. Install covers and related backer pieces, as detailed, at locations indicated on the project drawings.
3. Fabricate to match configuration and dimensions indicated on the project drawings.
4. Fastening: Secure vertical faces with specified fasteners appropriate for the substrate encountered fitted with neoprene gaskets, spaced 18-inches o.c. max., and within 2-inches of each end.
5. Join adjacent expansion joint cover sections using a standing seam, with a 1" height. Where upturned standing seam ends meet, apply continuous sealant to the joint, fold over and crimp the two adjoining pieces. Button punch the completed assembly watertight. Refer to the project drawings.
6. Where expansion joint covers terminate at walls, turn membrane min. 1-inch up wall. Turn expansion joint cover piece min. 2-inches up wall. Seal and secure as indicated on the project drawings. Install counterflashing over exposed end piece.

F. Capped curb covers:
1. Prior to installation of capped curb covers, install the specified self-adhering underlayment over the top of the capped curb. Extend self-adhering membrane down each face as shown on the project drawings.
2. Install covers, as detailed, at locations indicated on the project drawings.
3. Fabricate to match configuration and dimensions indicated on the project drawings.
4. Fastening: Secure vertical faces with specified fasteners appropriate for the substrate encountered fitted with neoprene gaskets, spaced 18-inches o.c. max., and within 2-inches of each end.

G. Counterflashings: Provide counterflashings, as detailed, at locations indicated on the project drawings:
1. Where indicated, cut reglets into masonry walls to accommodate reglet-mounted counterflashing.
2. Fabricate counterflashing to the configurations and dimensions indicated on the project drawings. Fabricate counterflashings with a 3/4-inch hemmed drip edge. For surface mounted counterflashings, fabricate with a 1/2-inch 45-degree angle sealant slot along the top edge of the counterflashing.
3. If existing conditions allow, fabricate counterflashings with a minimum 4-inch vertical face.
4. Where indicated on the project drawings, install butyl tape to the back side of vertical counterflashing flanges.
5. Secure counterflashings with specified fasteners appropriate for substrate condition encountered, fitted with neoprene washers. Space fasteners 12-inches o.c. max., and within 2-inches of each end.

H. Plumbing vent flashings:
1. Install copper plumbing vent flashings as indicated on the project drawings.
2. Prior to flashing application, ensure both sides of the plumbing vent bottom flange have been primed. Prior to stripping application, set the flange in a full bed of roofing cement.

I. Tubular penetrations flashings:
1. Fabricate and install tubular penetration flashings as indicated on the project drawings.
2. Prior to flashing application, ensure both sides of the tubular penetration bottom flange have been primed. Prior to stripping application, set the flange in a full bed of roofing cement.
3. Install tubular penetration hoods as indicated on the project drawings.
4. Where soldering is required at stainless steel flanged sleeves, hoods, and pitch pans: Solder all seams and laps watertight. Prior to soldering of stainless steel, clean work area using solvents and wire brush; removing dirt, oil, grease, and other contaminants from the work area. Tin the work area by applying acid (flux). Perform soldering work. After completion of work, remove excess acid (flux) from the work area.

J. Hot stack penetration flashings:
1. Fabricate and install hot stack penetration flashings as indicated on the project drawings.
2. Prior to flashing application, ensure both sides of the hot stack penetration flashing bottom flange have been primed. Prior to stripping application, set the flange in a full bed of roofing cement.
3. Install hoods as indicated on the project drawings.
4. Where soldering is required at stainless steel flanged sleeves, hoods, and pitch pans: Solder all seams and laps watertight. Prior to soldering of stainless steel, clean work area using solvents and wire brush; removing dirt, oil, grease, and other contaminants from the work area. Tin the work area by applying acid (flux). Perform soldering work. After completion of work, remove excess acid (flux) from the work area.

K. Pitch pans and pitch pan covers:
1. Fabricate and install pitch pans and pitch pan covers where indicated on the project drawings. Do not use pitch pans at tubular penetrations without the approval of the Owner.
2. Prior to flashing application, ensure both sides of the pitch pan bottom flange have been primed. Prior to stripping application, set the flange in a full bed of roofing cement.
3. Where possible, provide a pitch pan cover over the completed pitch pan.
4. Where soldering is required at stainless steel flanged sleeves, hoods, and pitch pans: Solder all seams and laps watertight. Prior to soldering of stainless steel, clean work area using solvents and wire brush; removing dirt, oil, grease, and other contaminants from the work area. Tin the work area by applying acid (flux). Perform soldering work. After completion of work, remove excess acid (flux) from the work area.

L. Roof sump flashings:
1. Install sheet metal roof sump flashings at roof drains as indicated on the project drawings.
2. Prior to flashing application, ensure both sides of the copper roof sump flashing have been primed. Set copper flashing over modified bitumen base ply. Prior to application of copper flashing, install a three-course stripping of roofing cement and woven glass fabric over the modified bitumen base ply in the roof sump area.

M. Miscellaneous sheet metal installations:
1. Anchor bar installation: Fasten the upper edges of modified bitumen flashings with an anchor bar installed in accordance with the project drawings and requirements of the roofing membrane manufacturer. At wood substrates, roofing nails affixed with a 1-inch diameter metal cap may be used in lieu of the specified anchor bar. If roofing nails/metal caps are used, secure top edge of flashing 6-inches o.c., max.

2. Self-adhering underlayment installation: Install self-adhering underlayment beneath coping caps, area divider covers, expansion joint covers, capped curb covers, and other locations indicated on the project drawings.

END OF SECTION

SECTION 07 71 23

MANUFACTURED GUTTERS

PART 1- GENERAL

REFERNCE STANDARDS:

1. ANSI/SPRI GT-1 – Test Standard for Gutter Systems.

1.01 SUMMARY

A. Gutters - Furnish and install premanufactured water control components per the drawings and specifications, including all clips, sealant, fasteners, and joining to make weathertight and watertight. Components and accessories shall be factory-fabricated and supplied by a specified Manufacturer.
B. Contractor shall utilize the Manufacturer's technical representative to perform field measuring, takeoff, shop drawing development, and order processing for all gutter components specified in this section.
C. Approved Manufacturers:
    a. Hickman
    b. Metal Era
    c. Or Approved Equal
D. Warranty – 30 years, 160 MPH warranty
E. Gutter Size:

2. Gutter Size:
    a. Reference drawing for details.
3. Formed Lengths: 12’-0”.
4. Fastener Holes: Pre-punched.
5. Internal Brackets: 2-piece adjustable size.
    a. Material: Extruded Aluminum.
    b. Finish: Mill.
    c. Width: 1”.
    d. Spacing: 24” O.C. (Standard Design); 18” O.C. (FM Design)
6. Concealed Splice Plates
    a. Material: Same as gutters.
    b. Finish and Color: Same as gutters.
    c. Width: 6”.

7. Formed Lengths: 12’-0”.
8. Fastener Holes: Pre-punched.
9. Pre-Assembled Z-Bracket:
    a. Material: .125” Aluminum
    b. Finish: Mill.
    c. Width: 2”.
    d. Spacing: 32” O.C.
10. Lower Mounting Hanger:
    a. Material: Same as gutters.

b. Finish: Same as gutters.
c. Formed Lengths: 12’-0”.
d. Fastener Holes: Pre-punched

11. Concealed Splice Plates
a. Material: Same as gutters.
b. Finish and Color: Same as gutters.
c. Width: 6”.

F. Factory-Fabricated Accessories: (Welded and/or Quicklock)
Miters.
End caps.
Expansion joints.
Special corners.
Material, Finish, and Color: Same as gutters.

G. Fasteners:
Suitable for intended substrate.
Provided by gutter manufacturer.

H. Downspouts: [Box Downspout and/or Open-Face Downspout].

1. Material: [24 ga. Galvanized pre-finished steel]

2. Formed Lengths: 12’-0”.

3. Seams: Double Seam Lock.

4. Attachment Straps: As per manufacturer
a. Width: 2”.
b. Straps per 12-Foot Downspout Length: 3.

5. Standard Elbows: As per manufacturer
a. Material: Match downspouts.
b. Finish: Match downspouts.
c. Color: Match downspouts.

6. Offset Elbows: [Wall condition and/or Eave condition].
a. Material: 0.050” aluminum.
b. Finish: Match downspouts.
c. Color: Match downspouts.

7. Outlets: 0.040” aluminum.

8. Downspout Transitions:
a. Material: Match downspouts.
b. Finish: Match downspouts.
c. Color: Match downspouts.
d. Seams: (Metal-Lok and/or Welded)

PART 2 EXECUTION

2.1 EXAMINATION

A. Examine areas to receive gutters.

B. Verify surfaces to support gutters are clean, dry, secure, and of proper dimensions.

C. Verify roof edge is level and wood nailers are straight.

D. Notify Architect of conditions that would adversely affect installation.

E. Do not begin installation until unacceptable conditions are corrected.

2.2 INSTALLATION

A. Install products in accordance with manufacturer's instructions at locations indicated on the Drawings.

B. Install products to allow water to drain from edge of roof.

C. Install products to allow for thermal movement.

D. Joint Sealants: Apply joint sealants in accordance with manufacturer's instructions.

E. Review lengths of straight pieces before cutting to avoid creating relatively short sections adjacent to full-length sections.

F. Isolate products from ACQ treated wood blocking or other galvanically incompatible material with appropriate membrane material.

2.3 CLEANING

A. Clean products promptly after installation in accordance with manufacturer's instructions.

B. Remove clear protective vinyl film.

C. Do not use harsh cleaning materials or methods that could damage finish.

2.4 PROTECTION

A. Protect installed products to ensure that, except for normal weathering, products will be without damage or deterioration at time of Substantial Completion.

END OF SECTION

SECTION 07 72 00

ROOF ACCESSORIES

PART 1- GENERAL

1.01 SUMMARY

A. Section includes roof hatches, safety railing and roof access ladders.

1.02 RELATED DOCUMENTS

A. Contract Documents – All

B. Section 01 33 00 – Submittals

C. Section 01 33 26 - Quality Assurance

D. Section 06 10 00 – Rough Carpentry

E. Section 07 54 00 – Fully Adhered EPDM Single Ply Roofing

F. Section 07 62 00 – Sheet Metal Flashing and Trim

1.03 REFERENCE STANDARDS

A. General: All standards refer to the latest edition or revision, unless otherwise noted.

B. ASTM A653/A653M – *Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process*

C. ASTM B209 – *Standard Specification for Aluminum Sheet and Read Plate*

D. ASTM C920 – *Standard Specification for Elastomeric Joint Sealants*

E. Factory Mutual Global - *Approval Guide* and *Loss Prevention Data Sheets*

1.04 QUALITY ASSURANCE

A. Contractor to provide adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts, specified requirements and methods needed for proper performance of the work outlined in this section.

1.05 DELIVERY, STORAGE AND HANDLING

A. Store materials to prevent twisting, bending or abrasion to metal surfaces.

B. Slope stored metal to ensure accumulated moisture may not cause discoloration or metal corrosion.

C. Check all materials to verify conformance to specification requirements or as otherwise approved for use on the project.

D. Handle and store materials on roof in a manor to prevent overloading of the deck or building structure.

PART 2 – PRODUCTS

2.01 ROOF ACCESS HATCHES

A. Roof hatches to be single leaf type for ladder access; size as indicated on drawings.

B. Approved Manufacturers:
1. Bilco Co.: www.bilco.com
2. Dur-Red Products: www.dur-red.com/#sle.
3. Milcor, Inc: www.milcorinc.com/#sle.

C. Materials and Fabrication
1. Hatch cover, curb and counter flashing: 14-gauge galvanized steel: ASTM A653/A653M with G90/Z275 Zinc coating, hot-dipped galvanized steel.
2. Cover liner: 22-gauge galvanized steel
3. Insulation: 1 inch fiberglass or polyisocyanurate board
4. Cover to be fitted with a watertight EPDM gasket.
5. All metal corners to be shop welded
6. Prime painted finish
7. Provide all hardware, fasteners and accessories

2.02 ROOF HATCH SAFETY RAILING

A. Non penetrating type roof hatch safety railing meeting OSHA 29 CFR 1910.29 fall protection regulations.

B. Approved Manufacturers:
1. Bilco Co.: www.bilco.com
2. Dur-Red Products: www.dur-red.com/#sle

C. Materials and Fabrication
1. Posts and rails: 1 ¾ inch schedule 40 pipe in 6061 T6 aluminum alloy
2. Support brackets; 6063 T5 aluminum extrusion
3. Spring hinges and all fasteners: Type 316 stainless steel
4. Sized to fit roof access hatch
5. Self closing; latched gate

2.03. FIXED ROOF ACCESS LADDERS

A. Fixed roof access ladders to be shop fabricated, fully welded steel meeting OSHA 1926.29 requirements

B. Side rails of exterior fixed ladders must extend 42 inches above roof or the ladder landing platform.

C. Steel ladder rungs must be corrugated, knurled, dimpled or coated with skid-resistant material to minimize slippage

D. Fully welded support brackets and supports

E. All fasteners and sealant to properly attach ladder to wall construction

PART 3- EXECUTION

3.01 GENERAL

A. Roof accessories shall withstand wind loads and exposure to weather without failure due to defective fabrication, installation, or other defects in construction. Completed installed assembly shall not rattle, or loosen, and shall remain watertight

3.02 FABRICATION

A. Manufactured metal components to be true to shape, accurate in size, square and free from tool marks or defects.

3.03 EXAMINATION

A. Examine substrates and conditions under which roof accessories are to be installed and verify that Work may properly commence. Do not proceed with installation until unsatisfactory conditions have been corrected

3.04 CLEANING AND PROTECTON

A. Clean exposed metal surfaces, removing substances that may cause metal corrosion or deterioration of metal finish.

END OF SECTION

SECTION 07 90 00

JOINT SEALANTS

PART 1- GENERAL

1.01 SUMMARY

A. Section includes exterior elastomeric joint sealant work.

1.02 RELATED DOCUMENTS

A. Contract Documents – All

B. Section 07 54 00 – Fully Adhered EPDM Single Ply Roofing

C. Section 07 62 00 – Sheet Metal Flashing and Trim

1.03 REFERENCE STANDARDS

A. General: All standards refer to the latest edition or revision, unless otherwise noted.

B. ASTM – American Society for Testing and Materials:
1. ASTM C719 – *Standard Test Method for Adhesion and Cohesion of Elastomeric Joint Sealants Under Cyclic Movement (Hockman Cycle)*
2. ASTM C792 – *Standard Test Method of Effect of Heat Aging on Weight Loss, Cracking and Chalking of Elastomeric Sealants*
3. ASTM C920 – *Standard Specification for Elastomeric Joint Sealants*
4. ASTM C1193 – *Standard Guide for Use of Joint Sealants*
5. ASTM D1056 - Standard Specification for Flexible Cellular Materials—Sponge or Expanded Rubber
6. ASTM E119 – *Standard Test Methods for Fire Tests of Building Construction and Materials*

C. FS- Federal Specifications, Standards and Commercial Item Descriptions:
1. Federal Specification Standard TT-S-00230C – *Elastomeric Type, Single Component (for Caulking, Sealing and Glazing in Buildings and Other Structures)*
2. Federal Specification Standard TT-S-001543B – *Silicone Rubber Base (for Caulking, Sealing and Glazing in Buildings and Other Structures)*

1.04 SUBMITTALS

A. Submit manufacturer’s product data sheets and installation instructions for each required joint sealant product.

B. Submit manufacturer’s standard bead samples.

C. Quality Control Submittals:

1. Submit certification by joint sealant manufacturer that sealants plus the primers and cleaners required for sealant installation comply with local regulations controlling use of volatile organic compounds
2. Submit certificates from manufacturers of joint sealants attesting that their products comply with specification requirements and are suitable for the use indicated.
1. Submit compatibility and adhesion test reports from elastomeric sealant manufacturer indicating that materials forming joint substrates and joint sealant backings have been tested for compatibility and adhesion with joint sealants. Include sealant manufacturer's interpretation of test results relative to sealant performance and recommendations for primers and substrate preparation needed to obtain adhesion.
2. Submit product test reports for each type of joint sealants indicated, evidencing compliance with requirements specified.

1.05 QUALITY ASSURANCE

A. Contractor to provide adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts, specified requirements and methods needed for proper performance of the work outlined in this section.

B. VOC Limits: Provide joint sealant products that comply with the SCAQMD Rule 1168, Adhesive and Sealant Applications.

C. Obtain joint sealant materials from a single manufacturer for each different product required.

D. Product Testing:
   2. Provide comprehensive test data for each type of joint sealant based on tests conducted by a qualified independent testing laboratory on current product formulations within a 24-month period preceding date of Contractor's submittal of test results to Architect.
   2. Test elastomeric sealants for compliance with requirements specified by reference to ASTM C 920. Include test results for hardness, stain resistance, adhesion and cohesion under cyclic movement (per ASTM C 719), low-temperature flexibility, modulus of elasticity at 100 percent strain, effects of heat aging, and effects of accelerated weathering.

E. Preconstruction Field Testing:
   1. Prior to installation of joint sealants, field-test their adhesion to joint substrates.
   2. The Owner’s Consultant will conduct field tests for each type of elastomeric sealant and joint substrate indicated.

F. Test Method:
   1. Test joint sealants by hand pull method.
   2. Install joint sealants in 5-feet joint lengths using same materials and methods for joint preparation and joint sealant installation required for completed Work. Allow sealants to cure fully before testing.

3. Make knife cuts horizontally from one side of joint to the other followed by 2 vertical cuts approximately 2 inches long at side of joint and meeting horizontal cut at top of 2-inch cuts. Place a mark 1 inch from top of 2-inch piece.
4. Use fingers to grasp 2-inch piece of sealant just above 1-inch mark; pull firmly down at a 90-degree angle or more while holding a ruler alongside of sealant. Pull sealant out of joint to the distance recommended by sealant manufacturer for testing adhesive capability, but not less than that equaling specified maximum movement capability in extension; hold this position for 10 seconds.
5. Test dissimilar substrates being sealed separately. Extend the vertical cut along one side of the joint and checking the adhesion to the opposite side as detailed above. Repeat for the other side of joint.
6. Report whether or not sealant in joint connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each type of product and joint substrate.

G. Evaluation of Field Test Results:
1. General sealants not evidencing adhesive failure from testing, in absence of other indications of noncompliance with requirements, will be considered satisfactory. Do not use sealants that fail to adhere to joint substrates during testing.
2. Concrete/Masonry/Stone sealants must provide minimum 3 in. (300% extension) tab pull without bond loss. Do not use sealant that fails to extend minimum 3 in.

1.06 DELIVERY, STORAGE AND HANDLING

A. Deliver materials in the original unopened containers with intact labels indicating manufacturer, product name and designation, color, expiration period for use and curing time.

B. Store and handle materials in compliance with manufacturer's recommendations.

1.07 PROJECT CONDITIONS

A. Environmental Conditions:
1. Do not proceed with installation of joint sealants under the following conditions:
a. When ambient and substrate temperatures are outside of the limits permitted by joint sealant manufacturer.
b. When Joint substrates are wet
2. Do not proceed with installation of joint sealants over contaminated surfaces. Remove all contaminates that may interfere with sealant adhesion.

1.08 WARRANTY

A. Provide sealant manufacturer's standard 20-year warranty. Include coverage of installed sealants and accessories against failure to achieve a watertight seal or loss of adhesion, cohesion ore color stability.

PART 2 – PRODUCTS

2.01 MANUFACTURERS

A. General
   1. Manufacturers are listed to set a standard for design and product performance.
   2. Products of manufacturers that not listed may be proposed for substitution, provided that they are equal in design, product performance and warranty to the products specified.
   3. The burden of proof of equality of proposed products is on the Contractor.

B. Approved Manufacturers:
   1. Dow Corning Corporation
   2. Pecora Corporation
   3. Sonneborn Building Products (BASF)
   4. Tremco

2.02 ELASTOMERIC SEALANTS

A. Provide joint sealants, joint fillers, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.

B. Provide manufacturer's standard chemically curing elastomeric sealants that comply with ASTM C 920 and other requirements indicated on each Elastomeric Joint Sealant Data Sheet at end of this Section, including those requirements referencing ASTM C 920 classifications for Type, Grade, Class, and Uses.

C. Where additional movement capability is required other than the specified by the sealant manufacturer for the product specified, provide products with the capability, when tested for adhesion and cohesion under maximum cyclic movement per ASTM C 719, to withstand the required percentage change in the joint width existing at time of installation and remain in compliance with other requirements of ASTM C 920 for uses indicated.

D. Concrete/Masonry/Stone: One-component, premium-grade, polyurethane-base, elastomeric sealant. ASTM Specifications: C-920 Type M, Grade P & NS, Class 25.
   1. Federal Specifications: TT-S-00230C (COM-NBS) Class A for one-component building sealants

E. Alternate: Two-component, premium-grade, polyurethane-base, elastomeric sealant of matching color. ASTM specification: C-920 Type M, Grade P & NS, Class 25.
   1. Federal Specifications: TT-S-00227E (COM-NBS) Class A for two-component building sealants of matching color.

F. Color: To match existing

2.03 ACCESSORIES

A. Backing Materials:
   1. Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers and other joint fillers; approved for

applications indicated by sealant manufacturer based on field experience and laboratory testing.
a. Backer rod general sealant: Open-cell polyurethane.
b. Backer rod concrete/masonry/stone sealant: Closed-cell polyethylene.

A. Bond-Breaker Tape:
1. Pressure sensitive adhesive polyethylene tape, TEFLON or polyurethane foam tape, as recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure.

B. Primer:
1. Material recommended by joint sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint sealant-substrate tests and field tests.
2. Product: Dow Corning 1200 Prime Coat

C. Cleaners for Nonporous Surfaces:
1. Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming in any way joint substrates and adjacent nonporous surfaces, and formulated to promote optimum adhesion of sealants with joint substrates.

D. Masking Tape:
1. Pressure-sensitive adhesive paper tape, non-staining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3- EXECUTION

3.01 EXAMINATION

A. Examine joints indicated to receive joint sealants, with installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint sealant performance. Do not proceed with installation of joint sealants until unsatisfactory conditions have been corrected. Immediately notify Architect and WeatherTech Consulting Group of unsatisfactory conditions.

3.02 PREPARATION

A. Surface Cleaning of Joints:
1. Clean out joints immediately before installing joint sealants to comply with recommendations of joint sealant manufacturer and the following requirements:
2. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
3. Clean concrete, masonry, unglazed surfaces of ceramic tile, and similar porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of

developing optimum bond with joint sealants. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air.
4. Remove laitance and form release agents from concrete.
5. Clean metal, glass, porcelain enamel, glazed surfaces of ceramic tile, and other nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.

B. Joint Priming:
1. Prime all joint substrates. Apply primer to comply with joint sealant manufacturer's recommendations. Confine primers to areas of joint sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape:
1. Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.03 JOINT SEALANT INSTALLATION

A. General Requirements:
1. Comply with joint sealant manufacturer's printed installation instructions applicable to products and applications indicated, except where more stringent requirements apply.
2. Comply with recommendations of ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

B. Installation of Sealant Backings:
1. Install joint fillers to provide support of sealants during application and at position required to produce the cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
2. Do not leave gaps between ends of joint fillers.
3. Do not stretch, twist, puncture, or tear joint fillers.
4. Remove absorbent joint fillers that have become wet prior to sealant application and replace with dry material.
5. Install bond breaker tape between sealants where backer rods are not used between sealants and joint fillers or back of joints.

C. Installation of Sealants:
1. Install sealants using a pressure gun with nozzle cut to fit joint width. Ensure sealant is deposited in a uniform continuous bead without gaps or air pockets. Ensure sealants are directly contacting and fully wetting joint substrates, completely filling recesses provided for each joint configuration, and providing uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability. Install sealants at the same time sealant backings are installed.

D. Tooling of Nonsag Sealants:

1. Within 10 minutes of sealant application, tool sealants to form smooth, uniform beads of configuration indicated, to eliminate air pockets, and to ensure contact and adhesion of sealant with sides of joint. Remove excess sealants from surfaces adjacent to joint. Do not use tooling agents that discolor sealants or adjacent surfaces or are not approved by sealant manufacturer.
2. Provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.

3.04 FIELD QUALITY CONTROL

A. Arrange for the owner and Weather Tech Consulting Group to visit the construction site during the construction period, as frequently as recommended by manufacturer. The Weather Tech Consulting Group will observe the installation methods and practice and will report to the Owner

B. When installation is completed, Weather Tech Consulting Group will make a visual inspection of the installation and perform random testing as recommended by manufacturer. If testing demonstrates that sealants are not installed to the satisfaction of the Weather Tech Consulting Group satisfaction, remove and replace without additional cost to the Owner.

3.05 CLEANING AND PROTECTON

A. Clean off excess sealants or sealant smears adjacent to joints as work progresses by methods and with cleaning materials approved by manufacturers of joint sealants and of products in which joints occur.

B. Protect joint sealants during and after curing period from contact with contaminating substances or from damage resulting from construction operations or other causes so that they are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so that installations with repaired areas are indistinguishable from original work.

END OF SECTION

SECTION 22 14 26.13

ROOF DRAINS

PART 1 - GENERAL

1.01 SUMMARY

A. Furnish new clamping rings, domes, and bolts for all existing drains where existing drain components are broken, deteriorated or otherwise un-useable. Replace broken or damaged drain bowl assemblies on a unit price basis.

B. Install new roof drains, drain lines and tie-ins to existing plumbing as indicated on drawings or on a unit price basis as authorized by change order.

C. Drain Inserts as indicated on drawings or on a unit price basis authorized by change order

1.02 RELATED DOCUMENTS

A. Contract Documents – All

B. Section 01 33 00 – Submittals

C. Section 01 33 26 - Quality Assurance

D. Section 07 54 00 – Fully Adhered EPDM Membrane Roofing

1.03 REFERENCE STANDARDS

A. General: All standards refer to the latest edition or revision, unless otherwise noted.

B. International Plumbing Code

C. State of Michigan Plumbing Code

D. Local building codes and regulations

E. ANSI/SPRI: *RD-1 2019 Performance Standard for Retrofit Drains*

1.04 QUALITY CONTROL

A. Contractor to provide adequate numbers of skilled workmen who are thoroughly trained and experience in the necessary crafts, specified requirements and methods needed for proper performance of the work outlined in this section.

B. All roof drains and plumbing work shall be installed by a licensed plumber in accordance with all applicable local and State building codes and regulations.

1.05 DELIVERY, STORAGE AND HANDLING

A. Deliver materials in the original unopened containers with intact labels indicating manufacturer, product name and description.

PART 2 – PRODUCTS

2.01 MANUFACTURERS

A. General
   1. Manufacturers are listed to set a standard for design and product performance.
   2. Products of manufacturers that are not listed may be proposed for substitution, provided that they are equal in design, product performance and warranty to the products specified.
   3. The burden of proof of equality of proposed products is on the Contractor.

B. Approved Manufacturers:
   1. Josam Co.
   2. Zurn Co.
   3. J.R. Smith
   4. Sioux Chief
   5. Wade

2.02 ROOF DRAINS

A. Replacement roof drains to be equivalent to the Z-100 Dura coated main roof drain, with a cast iron body and combination membrane flashing clamp/gravel guard and low silhouette aluminum or cast-iron dome, as manufactured by Zurn or approved equal. Drains to have no hub option for use with no hub piping. Install 18 gage galvanized steel roof sump receiver at all drains.

B. Replacement roof drains and roof drain parts shall match existing construction with regard to type, size and configuration to the extent possible.

C. Replacement roof drains shall match existing size.

D. New roof drains shall be 4" diameter drains unless otherwise noted on the drawings.

E. Provide new stainless steel drain bolts and washers at all drains.

2.03 DRAIN LINES

A. Schedule 40 PVC piping, tie-ins to existing plumbing and accessories for new drain lines shall meet the requirements of all applicable State and Local building codes. Where required by code cast iron drain lines shall be used in lieu of PVC piping.

2.04 PIPE INSULATION

A. All horizontal piping shall have 1/2" fiberglass insulation with integral vapor barrier with Zeston fittings or approved equal.

2.05 EXPANSION JOINT COUPLINGS

A. All new roof drains shall be provided with flexible, no-hub, expansion joint couplings between the drain outlets and the new drain lines.

2.06 DRAIN INSERTS

A. At drain locations where existing drain assembly is unusable, installation of a drain insert must be approved by Consultant and Owner. Approved work to be performed on a unit price basis.

B. Drain inserts: One piece spun 11-gauge aluminum body, heavy duty cast aluminum strainer dome and clamping ring, sized to properly fit existing drain line.

C. Drain insert to meet ANSI/SPRI RD-1 2019 requirements.

D. Approved products:
   1. Hercules – Roof Drain – OMG Roofing Products

PART 3 - EXECUTION

3.01 INSTALLATION – ROOF DRAINS

A. Install interior protection below the area where drains are to be installed or replaced prior to proceeding with the demolition work.

B. Cut appropriate opening if necessary and install steel roof drain sump pans on existing decking and fasten to deck 6" o.c. with #14 self-tapping sheet metal screws.

C. Provide 1.5" X 1.5" X .25" angle iron support framing under the new drain sumps. Securely fasten new angle iron supports to existing roof framing members.

D. Install new roof drain body in new sump per the manufacturer's recommendations.

3.02 INSTALLATION - DRAIN PIPING

A. Install all no hub piping, sized as required for new drains as is appropriate, securely supported from building structure on 10-foot centers or less, if necessary, for proper installation. Minimum pitch to be 1/8" per foot.

B. Properly support all fittings and joints such that they do not bend or warp.

C. All horizontal piping shall have 1/2" fiberglass insulation with integral vapor retarder to prevent condensation. Tape all joints.

3.03. QUALITY CONTROL

A. The building is to remain absolutely watertight during installation of new drains. The deck and new membrane are not to be cut if any ponding water exists on roof surface.

B. Be careful not to damage any interior or exterior finishes, including floors, ceilings, and walls.

C. Restore all surfaces damaged by the operations of this section to like new condition, at no additional cost to the owner.

3.04 VERIFICATION

A. Upon completion of the installation of each drain and attached piping, visually inspect and verify that all components are complete and properly installed. Verify that all new drains and piping are securely attached to the building structure, are in working order, and are absolutely watertight via water testing. See Specification Attachment A

3.05 CLEANUP

A. At completion of all plumbing work, remove all construction debris and equipment from job site. Contractor is to ensure that all building components (ceilings, lights, etc.) are undamaged and properly in place.

END OF SECTION

Flood Test Acknowledgement

Pursuant to Substantial Completion and by executing this document, the contractor confirms that:

1) A Flood Test of the roof has been completed to verify that **all** drains are working and no leaks occur in the roof drainage and flashing systems or any other work completed for completion of the Contract Documents.

- Document flood testing with photographs and submit to Owner/Consultant any documentation of leaks, prior to final payment.

School/Bldg.: _____

Address: _____

Acknowledged By:

_____
Name

_____ _____
Signature *Date*

_____
Company Name

Attachment A