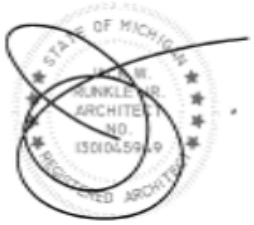
Project Manual
Bid Set



Project: Berkley Schools 2027 Roof Project
Districtwide

Owner: Berkley Schools
14501 Talbot
Oak Park, MI 48237

Date: 10/14/26

Prepared by:

WeatherTech Consulting Group, Inc.
45147 Cass Ave, Utica, MI 48317
Tel: 586-731-3095

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PROJECT DIRECTORY

BERKLEY SCHOOLS:

Berkley Schools
14501 Talbot
Oak Park, MI 48237

Contact: Alexa O'Brien
Director of Facilities & Operations
Email: alexa.obrien@berkleyschools.org

ROOFING CONSULTANT:

Weathertech Consulting Group, Inc.
45147 Cass Ave
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

Project Start:	**No earlier than June 14, 2027**
Substantial Completion:	**No later than August 13, 2027**

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, $1,000,000 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 2027 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	Roof Area(s)	Project Time Frame
Angell Elementary School	3849 Beverly Blvd. Berkley, MI 48072	**RA B, H, J and K**	**6/14/27-8/13/27**
Pattengill Elementary School	3540 Morrison Ave Berkley, Mi 48072	**RA D, E, K1, K2, L, M, N and O**	**6/14/27-8/13/27**
Berkley High School	2325 Catalpa Drive Berkley, MI 48072	**RA B, C1, E, G, J, L, M, M1, N and N1**	**6/14/27-8/13/27**

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: Alexa O'Brien

PROJECT: Berkley Schools 2027 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.

BASE BIDS

1. Bid Angell Elementary School, Reroof RA Area(s) B, H, J and K

A. $_____ Total Bid

Manf _____ Work Days: _____

2. Bid Pattengill Elementary School, Reroof Roof Area(s) RA D, E, K1, K2, L, M, N and O

A. $_____ Total Bid

Manf _____ Work Days: _____

3. Bid Berkley High School, Reroof Roof Area(s) B, C1, E, G, J, L, M, M1, N and N1

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: Alexa O'Brien

Project: Berkley Schools 2027 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 016000

PRODUCT REQUIREMENTS

PART 1 – GENERAL

1.1 PRODUCT OPTIONS AND SUBSTITUTIONS

A. Refer to the terms and conditions of the contract provisions and clauses, including those concerning Optional Materials or Methods (Construction), Materials and Workmanship, Information On “Equal” Products and Brand Name or Equal.

B. Provide Products that comply with Contract Documents, which are undamaged and new at time of installation.

C. Provide Products complete with accessories, trim, finish, safety guards, and other devices and details needed for complete installation and intended use and effect.

D. Substitutions may be considered when the Contractor:
1. Becomes aware of a product or procedure that is more environmentally sensitive or is otherwise advantageous to the Owner;
2. Represents that he has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to that specified;
3. Will provide the same guarantee for the substitution that he would for that specified; and
4. Will coordinate the installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects, at no additional cost to the Owner and at no extension of the Contract completion date.

1.2 PRODUCT DELIVERY REQUIREMENTS

A. Transport and handle Products in accordance with manufacturer's instructions, using means and methods that will prevent damage, deterioration and loss, including theft.

B. Schedule Product delivery to minimize long-term storage at Project site and prevent overcrowding of construction spaces.

C. Coordinate Product delivery with installation schedule to assure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.

D. Deliver Products to Project site in undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.

E. Promptly inspect shipments to ensure that Products comply with project requirements, quantities are correct, Products are undamaged, and properly protected.

F. Provide equipment and personnel to handle Products by methods to prevent soiling, disfigurement, or damage.

1.3 PRODUCT STORAGE AND HANDLING REQUIREMENTS

A. Store and protect Products in accordance with manufacturers' published instructions, with seals and labels intact and legible.

B. Store Products subject to damage by elements above ground, under cover in weathertight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's published instructions.

C. For exterior storage of fabricated Products, place on sloped supports, above ground.

D. Provide off-site storage and protection when Project site does not permit on-site storage or protection.

E. Cover Products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation or potential degradation of Products.

F. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.

G. Provide equipment and personnel to store Products by methods to prevent soiling, disfigurement, or damage.

H. Arrange storage of Products to permit access for inspection. Periodically inspect to verify Products are undamaged and are maintained in acceptable condition.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

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 024100

ROOF REMOVAL AND SUBSTRATE PREPARATION

PART 1 - GENERAL

1.1 SUMMARY

A. Removal of existing roofing components and substrate preparation related to roof replacement work.

1.2 RELATED SECTIONS

A. Section 000300 – Bid Form

B. Section 013300 – Submittal Procedures

C. Section 016000 – Product Requirements

D. Section 030150 – Concrete Roof Deck Repair

E. Section 035116 – Gypsum Concrete Roof Deck Repair and Replacement

F. Section 053123 – Steel Roof Deck Repair and Replacement

1.3 UNIT PRICES

A. Provide unit prices for the work described in Articles 3.6 and 3.7. Refer to Section 003000.

1.4 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 F1667 – Standard Specification for Driven Fasteners: Nails, Spikes, and Staples
   2. American National Standards Institute/Single Ply Roofing Industry (ANSI/SPRI)
      a. Standard Field Test Procedure for Determining the Withdrawal Resistance of Roofing Fasteners
   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)

1.5 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.

1.6 QUALITY ASSURANCE PROCEDURES

A. Applicator Qualifications: A qualified firm that is approved, authorized, or licensed to install the specified products and is eligible to receive a manufacturer's warranty. The firm shall have a minimum of 5 years documented experience performing work equal or similar to the specified work.

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.

1.7 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.

1.8 ENVIRONMENTAL REQUIREMENTS

A. Do not perform roof removal work during inclement weather.

B. Cold weather precautions:
1. Refer to product manufacturer and NRCA requirements and recommendations for cold weather application requirements 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 FASTENERS

A. For re-securement of existing perimeter wood nailers to underlying substrates, identified in PART

3 of this Section:

1. For securement to untreated wood: No. 14 fluorocarbon-coated screws, length as necessary to penetrate minimum 1-1/4-inch depth into underlying wood substrate.
2. For securement to treated wood: Stainless steel screws; length as necessary to penetrate minimum 1-1/4-inch depth into underlying wood substrate.
3. For securement to existing masonry walls: 1/4-inch minimum diameter “Tapcon” screws or other fastener type suitable to adequately secure the wood to the existing masonry wall.

2.2 REPLACEMENT DRAIN COMPONENTS

A. Roof drain assembly: Clamping ring type; cast iron drain bowl, clamping ring, strainer, and related fittings; such as Type 21500 or 21500-AE (Size as necessary to match existing drain pipe size) by Josam Company.
   1. Piping:
      a. To match existing, by size and type; as necessary to comply with applicable insurance requirements, and local codes.
   2. Drain connectors, hangers, and clamps:
      a. Drain connections as required; as necessary to comply with applicable insurance requirements, and local codes.

B. Roof drain clamping ring (for use where existing is missing or damaged): Cast iron; type and size to fit existing drain bowl.

C. Roof drain clamping ring bolts: Type and size to match existing, or as necessary to provide a properly secured clamping ring.

D. Roof drain strainer (for use where existing is missing, fabricated of non-metal materials or damaged): Cast iron; type and size to fit existing drain assembly.

2.3 RETROFIT ROOF DRAIN INSERTS

A. Retrofit roof drain insert: Retrofit drain assembly, clamping ring and strainer: Product such as “Hercules RetroDrain”, manufactured by OMG Roofing Products, Agawam, MA, or approved equal. Size and configuration as necessary to accommodate existing roof drain and pipe.

2.4 OVERFLOW ROOF DRAIN COMPONENTS

A. Roof drain assembly: Clamping ring type; cast iron drain bowl, clamping ring, strainer, and related fittings; such as Type 21500-16 or 21500-AE-16 (Size as necessary to match existing drain pipe size) by Josam Company.
   1. Piping:
      a. To match existing, by size and type; as necessary to comply with applicable insurance requirements, and local codes.
   2. Drain connectors, hangers, and clamps:
      a. Drain connections as required; as necessary to comply with applicable insurance requirements, and local codes.

PART 3 - EXECUTION

3.1 GENERAL

A. Demolition of the existing roof system shall not occur unless the facility is occupied by owner personnel. Verify occupation of facility prior to start of any demolition activities.

B. Exercise caution to avoid damage to components indicated as “existing” or remaining in place. Do not disturb these components.

C. Prior to any cutting, drilling, or removals, view both sides of the surface affected. If damage occurs to existing components, repair or replace components defaced or damaged during removals to the satisfaction of the Owner.

D. Use of torches during roof removal and substrate preparation:
   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 ROOF REMOVAL

A. Removal of existing roofing and related components: Remove and discard all existing roofing materials down to the structural deck. This includes spray-applied polyurethane foam roof systems (where existing), gravel, roofing membranes, base flashings, penetration flashings, insulation, underlying roof membranes, underlayments, and sheet metal flashings and accessories, as indicated in the specifications and drawings. Remove all roofing and related components in a manner that will not cause damage to the underlying structural deck.

B. Remove all loose gravel, dirt and foreign debris from the roof area. Use power broom and or closed vacuum system.

C. Remove all existing membrane, flashing and insulation down to the existing deck. On steel decks, flute/ribs shall be cleaned free of existing gravel, dirt and debris.

   NOTE: Do not remove batt insulation from the flutes of existing acoustical steel decks.

D. Remove obsolete/abandoned roof penetrations and equipment as noted on the project drawings. Prior to removals, confirm and coordinate removal of obsolete penetrations and equipment with the Owner. Repair openings created by the removal of penetrations and equipment as specified.

E. Do not begin work until the substrates have been prepared as specified, and are ready and acceptable to have materials installed. By beginning work, the Contractor acknowledges that the substrates are satisfactory.

F. To the extent possible, inspect the underside of the structural deck for conduit. If conduit is found to be present directly on the underside of structural decks, take necessary precautions to protect these conduits from puncture.

G. Contractor shall take all precautions during roof demolition to protect the building and adjacent surfaces from being soiled and damaged.

H. Coordinate the roof demolition work with new roofing work in such a manner as to keep the new roofing materials, building and building interior dry and watertight.

I. Do not stockpile or store debris on the roof or on the ground. Place all debris in a dumpster. Cover dumpsters left on site overnight with a tarp.

J. Existing roof system protection:
1. Do not use adjacent roof areas as storage areas for roofing materials.
2. Where excessive traffic over new or existing roofing is unavoidable, provide and use 3/4-inch plywood, set over a minimum of 1-1/2 inch thick rigid board insulation to protect roofing components in place (expanded polystyrene insulation is not acceptable).
3. When materials are stored on the roof, provide roof protection as indicated above.

K. Project specific removal instructions:
1. Removal of underlying bituminous roofing membranes and underlayments directly over concrete, cementitious wood fiber, gypsum concrete and lightweight insulating concrete roof decks:
   a. If present, remove overlying roof systems and insulation. Mechanically cut the bituminous roofing membrane into manageable sections, taking care not to damage the underlying roof deck.
   b. Scrape the membrane off of the existing roof deck in a manner that does not damage the existing roof deck.
   c. If bituminous roof membrane or underlayment cannot be removed without damage to the underlying roof deck, immediately notify the Owner for further instruction.
2. Ballasted roof membranes: Sufficient ballast (wind rows) shall be left in place to maintain the integrity of the membrane until replacement.

3.3 TEMPORARY DISPLACEMENT OF ROOFTOP EQUIPMENT

A. Temporary displacement of mechanical units:
1. If mechanical units are to be temporarily displaced, shut off all affected electrical, plumbing and gas lines and disconnect all electrical, plumbing, gas lines and ventilation ducts where required to allow for lifting mechanical units prior to roof removal work. All disconnection of plumbing, gas lines, electrical conduit and ventilation ducts is to be performed by a licensed mechanical/electrical contractor. Coordinate all disconnections with the Owner.
2. Lift units in a manner that will not cause damage to the mechanical unit, mechanical unit components or structural deck.
3. Prior to leaving the site, return units to their original position, resulting in a watertight condition.
4. Ensure mechanical units are returned to their previous operational condition prior to leaving the site.
5. Within high wind and hurricane zones, and if required by local codes: provide additional securement and strapping (hurricane straps) as required to mechanical units displaced during roof replacement work.

B. Temporary displacement of gas lines, conduit, junction boxes and condensate lines:
1. Temporarily displace gas lines, conduit, junction boxes, condensate lines or other items that may interfere with roof replacement work. Any necessary disconnection of gas lines,

conduit and junction boxes is to be performed by a licensed mechanical/electrical contractor as applicable to the work being performed. Coordinate all disconnections with the Owner.

C. After completion of work, reinstall any mechanical units that have been temporarily displaced. Reconnect all electrical, plumbing, gas lines and ventilation ducts where required. All reconnection of plumbing, gas lines, electrical conduit and ventilation ducts is to be performed by a licensed mechanical/electrical contractor. Coordinate all reconnections with the Owner.

D. After completion of work, reconnect any gas lines, conduit and/or junction boxes have been disconnected. Reconnection of gas lines, conduit and/or junction boxes is to be performed by a licensed mechanical/electrical contractor as applicable to the work being performed. Coordinate all reconnections with the Owner.

3.4 DECK INSPECTION

A. Fastener pull-out testing of existing structural decks:
1. If required by the roofing manufacturer, the contractor shall perform fastener pull-out testing of the existing structural deck. The number of tests required shall be determined by the manufacturer. Testing shall be performed in accordance with ANSI SPRI "Standard Field Test Procedure for Determining the Withdrawal Resistance of Roofing Fasteners", unless otherwise determined by the roofing manufacturer. The contractor shall be responsible for costs associated with such tests.

B. After completion of roof removal work, inspect the existing roof deck. If damaged or deteriorated roof deck is encountered, notify the Owner immediately. Refer to Sections 030150, 035113 and 053123 for roof deck repair/replacement procedures.

3.5 RE-SECUREMENT OF PERIMETER WOOD BLOCKING

A. Re-secure wood blocking (nailers) to the underlying substrate at perimeters in a manner to resist a minimum force of 300 lbs. per linear foot, at a minimum spacing of 12-inches on center.

3.6 ROOF DRAIN INSPECTION AND REPAIR

A. If drain assemblies are found to be damaged, contact the Owner. Replace drain assemblies found to be damaged ***(Unit Price Work)***:
1. Remove and discard the entire roof drain assembly.
2. Install replacement roof drain bowl, clamping ring, strainer and related fittings at locations of original drain assembly. Connect the bowls to the existing piping in accordance with manufacturer requirements and recommendations, and all local and state plumbing codes.

B. If the clamping ring is missing, damaged, or does not fit the drain strainer, install a new clamping ring ***(Unit Price Work)***.

C. Replace clamping ring bolts at roof drains. If necessary, re-tap clamping ring bolt holes to result in a tightly secured clamping ring.

D. If the roof drain strainer is missing, damaged, or non-metal, install a new roof drain strainer.

3.7 RETROFIT ROOF DRAIN INSERT INSTALLATION

A. Install retrofit roof drain inserts following the requirements and recommendations of the retrofit roof drain insert manufacturer ***(Unit Price Work)***.

END OF SECTION

SECTION 024102

ROOF REMOVAL AND SUBSTRATE PREPARATION FOR STEEP SLOPE ROOFING

PART 1 - GENERAL

1.1 SUMMARY

A. Removal of existing roofing components and substrate preparation related to roof replacement work.

1.2 RELATED SECTIONS

A. Section 016000 – Product Requirements

B. Section 053123 – Steel Roof Deck Repair and Replacement

1.5 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. Factory Mutual Global (FM)
   2. National Roofing Contractors Association (NRCA)

1.6 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.

1.7 QUALITY ASSURANCE PROCEDURES

A. Applicator Qualifications: A qualified firm that is approved, authorized, or licensed to install the specified products and is eligible to receive a manufacturer’s warranty. The firm shall have a minimum of 5 years documented experience performing work equal or similar to the specified work.

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.

1.8 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. Store roll materials standing on end.

D. Protect adjacent materials and surfaces against damage from roofing work. Do not store materials on previously completed roofing.

1.9 ENVIRONMENTAL REQUIREMENTS

A. Do not perform roof removal work during inclement weather.

B. Cold weather precautions:
1. Refer to product manufacturer and NRCA requirements and recommendations for cold weather application requirements 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 FASTENERS

A. For re-securement of existing perimeter wood nailers to underlying substrates, identified in PART 3 of this Section:
1. For securement to untreated wood: No. 14 fluorocarbon-coated screws, length as necessary to penetrate minimum 1-1/4-inch depth into underlying wood substrate.
2. For securement to treated wood: Stainless steel screws; length as necessary to penetrate minimum 1-1/4-inch depth into underlying wood substrate.
3. For securement to existing masonry walls: 1/4-inch minimum diameter “Tapcon” screws or other fastener type suitable to adequately secure the wood to the existing masonry wall.

PART 3 - EXECUTION

3.1 GENERAL

A. Demolition of the existing roof system shall not occur unless the facility is occupied by owner personnel. Verify occupation of facility prior to start of any demolition activities.

B. Exercise caution to avoid damage to components indicated as “existing” or remaining in place. Do not disturb these components.

C. Prior to any cutting, drilling, or removal, view both sides of the surface affected. If damage occurs

to existing components, repair or replace components defaced or damaged during removals to the satisfaction of the Owner.

3.2 ROOF REMOVAL

A. Contractor shall take all precautions during roof demolition to protect the building and adjacent surfaces from being soiled and damaged.

B. Remove and discard all existing roofing materials down to the structural roof deck.

C. Coordinate the roof demolition work with new roofing work in such a manner as to keep the new roofing materials, building and building interior dry and watertight.

D. Remove all roofing and related components in a manner that will not cause damage to the underlying structural roof deck.

NOTE: Do not remove batt insulation from the flutes of existing acoustical steel decks.

E. Remove all loose gravel, dirt and debris from the roof area. Sweep roof area. Ensure all existing nails have been removed or hammered flat.

F. Remove obsolete/abandon roof penetrations and equipment as noted on the drawings or as designated by the owner during the bidding phase. Install new roof deck to match existing structural roof deck at the obsolete openings as per specifications.

G. All products of the roof demolition, loose aggregate, underlayment, shingle materials, flashing materials, sheet metal, fasteners, pieces of deck and general dirt and debris resulting from roof removal shall become the responsibility of the Contractor and shall be removed from the Owner's property.

H. Disposal of materials, including transportation thereof, shall become the responsibility of the contractor, who shall abide by all local, state and federal regulations relating to these materials.

I. Do not store debris on the roof and do not overstress structural roof deck.

J. Do not begin work until the substrates have been prepared as specified, and are ready and acceptable to have materials installed. By beginning work, the Contractor acknowledges that the substrates are satisfactory.

K. Existing roof system protection:
1. Do not use adjacent roof areas as storage areas for roofing materials.
2. Where excessive traffic over new or existing roofing is unavoidable, provide and use 3/4-inch plywood, set over a minimum of 1-1/2 inch thick rigid board insulation to protect roofing components in place (expanded polystyrene insulation is not acceptable).
3. When materials are stored on the roof, provide roof protection as indicated above.

3.3 TEMPORARY DISPLACEMENT OF ROOFTOP EQUIPMENT

A. Temporary displacement of mechanical units:
1. If mechanical units are to be temporarily displaced, shut off all affected electrical, plumbing and gas lines and disconnect all electrical, plumbing, gas lines and ventilation ducts where required to allow for lifting mechanical units prior to roof removal work. All disconnection of plumbing, gas lines, electrical conduit and ventilation ducts is to be

performed by a licensed mechanical/electrical contractor. Coordinate all disconnections with the Owner.

2. Lift units in a manner that will not cause damage to the mechanical unit, mechanical unit components or structural deck.
3. Prior to leaving the site, return units to their original position, resulting in a watertight condition.
4. Ensure mechanical units are returned to their previous operational condition prior to leaving the site.

B. Temporary displacement of gas lines, conduit, junction boxes and condensate lines:
1. Temporarily displace gas lines, conduit, junction boxes, condensate lines or other items that may interfere with roof replacement work. Any necessary disconnection of gas lines, conduit and junction boxes is to be performed by a licensed mechanical/electrical contractor as applicable to the work being performed. Coordinate all disconnections with the Owner.

C. After completion of work, reinstall any mechanical units that have been temporarily displaced. Reconnect all electrical, plumbing, gas lines and ventilation ducts where required. All reconnection of plumbing, gas lines, electrical conduit and ventilation ducts is to be performed by a licensed mechanical/electrical contractor. Coordinate all reconnections with the Owner.

D. After completion of work, reconnect any gas lines, conduit and/or junction boxes have been disconnected. Reconnection of gas lines, conduit and/or junction boxes is to be performed by a licensed mechanical/electrical contractor as applicable to the work being performed. Coordinate all reconnections with the Owner.

3.4 DECK INSPECTION AND RE-SECUREMENT

A. Fastener pull-out testing of existing structural decks:
1. If required by the roofing manufacturer, the contractor shall perform fastener pull-out testing of the existing structural deck. The number of tests required shall be determined by the manufacturer. Testing shall be performed in accordance with ANSI SPRI “Standard Field Test Procedure for Determining the Withdrawal Resistance of Roofing Fasteners”, unless otherwise determined by the roofing manufacturer. The contractor shall be responsible for costs associated with such tests.

B. After completion of roof removal work, inspect the existing roof deck. If damaged or deteriorated roof deck is encountered, notify the Owner immediately. Refer to Section 061516 for roof deck repair/replacement procedures.

END OF SECTION

SECTION 030150

CONCRETE ROOF DECK REPAIR

PART 1 - GENERAL

1.1 SUMMARY

A. Concrete roof deck repair associated with roof replacement work.

1.2 RELATED SECTIONS

A. Section 004113 – Proposal Form

B. Section 013300 – Submittal Procedures

C. Section 016000 – Product Requirements

D. Section 024100 – Roof Removal and Substrate Preparation

E. 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.

1.3 UNIT PRICES

A. Provide unit prices for the work described in paragraphs 3.2.A, 3.2.B and 3.2.C. Refer to Section 004113.

1.4 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 C928 - Standard Specification for Packaged, Dry, Rapid-Hardening Cementitious Materials for Concrete Repairs
      b. ASTM C317 - Standard Specification for Gypsum Concrete

1.5 SUBMITTALS

A. Prior to the start of work, submit the following to the Owner for approval:
   1. Product submittals required within Section 013300, including technical data sheets and Material Safety Data Sheets for products proposed for use.

B. Refer to Section 013300 for procedural requirements related to the submittal process.

1.6 QUALITY ASSURANCE PROCEDURES

A. Applicator Qualifications: A qualified firm that is approved, authorized, or licensed to install the specified products and is eligible to receive a manufacturer’s warranty. The firm shall have a minimum of 5 years documented experience performing work equal or similar to the specified work.

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.

1.7 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.

1.8 ENVIRONMENTAL REQUIREMENTS

A. Do not perform concrete repair 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. Safety Data Sheets (SDSs) of all specified products shall remain on site for the duration of this project.

PART 2 - PRODUCTS

2.1 CONCRETE DECK REPAIR MATERIALS

A. For use at “Repair at Opening Caused by Obsolete Roof Penetration Removal”, as described within paragraph 3.2.A:
   1. Steel plate: 16-gauge galvanized with pre-drilled holes for fasteners and plates.
   2. Fasteners and plates: For securing steel plate to concrete deck: Structural concrete deck plate and fastener system such as JM “Structural Concrete Deck Fasteners and Plates”, #14 fasteners with knurled thread, and minimum 3-inch galvalume plates; fastener length as necessary to penetrate 1-inch minimum into roof deck, manufactured by Johns Manville, Denver, CO, or approved equal.

B. For use at “Localized Concrete Deck Repair”, as described in paragraph 3.2.B:
   1. Bonding agent and reinforcement protection: Sika “Armatec 110 EpoCem”, manufactured by Sika Corporation, Lyndhurst, NJ, or approved equal.
   2. Concrete patch material: Rapid hardening, early strength gaining, cementitious, patching material for concrete, complying with ASTM C 928; such as “SikaQuick 1000”, manufactured by Sika Corporation, Lynhurst, NJ, or approved equal.

C. For use at “Localized Pre-Cast Concrete Deck Joint Repair”, as described in paragraph 3.2.C:
   1. Grout: ASTM C 317, Class A; compressive strength of 500 psi.
   2. Water: Potable.

PART 3 - EXECUTION

3.1 GENERAL

A. Refer to Section 024100 for general work and substrate preparation requirements.

B. Inspect existing concrete decks for holes, spalling, cracks, and other defects. If an opening less than or equal to 8-inches in diameter exists, refer to paragraph 3.2.A, “Repair at Opening Caused by Obsolete Roof Penetration Removal”. If a surface defect exists that will make installation of the specified adhered underlayment or insulation impossible, refer to paragraph 3.2.B, “Localized Concrete Deck Repair”. At pre-cast concrete deck panel structural decks, refer to paragraph 3.2.C, “Localized Pre-Cast Concrete Deck Joint Repair”.

3.2 CONCRETE DECK REPAIR

A. Repair at Opening Caused by Obsolete Roof Penetration Removal ***(Unit Price Work)***:
   1. At locations indicated by the Owner, cover the existing opening with 16-gauge steel plate stock. Lap the plate a minimum of 8-inches beyond the opening on all sides. Fasten the steel plate with specified fasteners and plates 12-inches on center. Secure the plate a minimum of 2-inches in from the outside edge of the repair plate.

B. Localized Concrete Deck Repair ***(Unit Price Work)***:
   1. To the extent indicated by the Owner, remove any damaged or loose existing concrete deck material from the repair area.
   2. Apply bonding agent and reinforcement protection to the repair area following the requirements and recommendations of the product manufacturer.
   3. Apply concrete patch material to the repair area following the requirements and recommendations of the product manufacturer. Ensure finished patch is level and flush with adjacent deck surface.
   4. Allow the patch material time to cure. If necessary, provide temporary protection from inclement weather while the concrete patching material cures. Refer to manufacturer’s requirements for cure time. Inspect the completed repair to ensure the roof deck is suitable to receive new roofing materials.

C. Localized Pre-Cast Concrete Deck Joint Repair ***(Unit Price Work)***:
   1. To the extent indicated by the Owner, remove any damaged or loose existing concrete deck material from the joint repair area.
   2. Apply mortar to the joint area following the requirements and recommendations of the product manufacturer. Ensure finished patch is level and flush with adjacent deck surface.

3. Allow the patch material time to cure. If necessary, provide temporary protection from inclement weather while the concrete patching material cures. Refer to manufacturer's requirements for cure time. Inspect the completed repair to ensure the roof deck is suitable to receive new roofing materials.

END OF SECTION

SECTION 035116

GYPSUM CONCRETE ROOF DECK REPAIR AND REPLACEMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Gypsum concrete roof deck repair and replacement associated with roof replacement work.

1.2 RELATED SECTIONS

A. Section 012200 – Unit Prices

B. Section 013300 – Submittal Procedures

C. Section 016000 – Product Requirements

D. Section 024100 – Roof Removal and Substrate Preparation

E. 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.

1.3 UNIT PRICES

A. Provide unit prices for the work described in paragraphs 3.2.A, 3.2.B and 3.2.C. Refer to Section 012200.

1.4 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 C317 - Standard Specification for Gypsum Concrete
   2. National Roof Deck Contractors Association (NRDCA)
      a. NRDCA 500 – Gypsum Roof Deck Replacement Procedures
      b. NRDCA “Picture Story of Gypsum Roof Deck Repair Sequence”

1.5 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.

1.6 QUALITY ASSURANCE PROCEDURES

A. Applicator Qualifications: A qualified firm that is approved, authorized, or licensed to install the specified products and is eligible to receive a manufacturer’s warranty. The firm shall have a minimum of 5 years documented experience performing work equal or similar to the specified work.

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.

1.7 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.

1.8 ENVIRONMENTAL REQUIREMENTS

A. Do not perform gypsum concrete repair/replacement 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. Safety Data Sheets (SDSs) of all specified products shall remain on site for the duration of this project.

PART 2 - PRODUCTS

2.1 GYPSUM DECK REPAIR/REPLACEMENT MATERIALS

A. For use at “Repair at Opening Caused by Obsolete Roof Penetration Removal”, described in paragraph 3.2.A:
   1. Steel plate: 16-gauge galvanized with pre-drilled holes for fasteners and plates.
   2. Fasteners: For securing steel plate to gypsum concrete deck: fastener such as OMG Lite-Deck Fastener; fastener length as necessary to penetrate 1-inch minimum into roof deck, manufactured by OMG Roofing Products, Agawam, MA, or approved equal.

B. For use at “Localized Gypsum Concrete Deck Repair” and “Gypsum Concrete Deck Replacement”, described in paragraphs 3.2.B and 3.2.C:
   1. Gypsum Concrete: Ready-mix gypsum which complies with ASTM C317, such as “Gypsum-Concrete Patch”, manufactured by United States Gypsum or approved equal.
   2. Water: Potable.

C. For use at “Gypsum Concrete Deck Replacement”, described in paragraph 3.2.C:
   1. Formboard panels: To match existing in type, thickness and quality, or as necessary to comply with requirements of applicable insurance agencies and local codes.
   2. Reinforcing steel mesh: To match existing in type, configuration and quality, or as necessary to comply with requirements of applicable insurance agencies and local codes.
   3. Galvanized cross tees: Type, configuration and size to match existing.

PART 3 - EXECUTION

3.1 GENERAL

A. Refer to Section 024100 for general work and substrate preparation requirements.

B. Inspect existing gypsum concrete decks for deterioration and other defects. If an opening less than or equal to 8-inches in diameter exists, refer to paragraph 3.2.A, “Repair at Opening Caused by Obsolete Roof Penetration Removal”. If a defect exists that does not extend to the formboard, refer to the paragraph 3.2.B, “Localized Gypsum Concrete Deck Repair”. If the defect extends to and includes the formboard, refer to paragraph 3.2.C, “Gypsum Concrete Deck Replacement”.

3.2 GYPSUM CONCRETE DECK REPAIR AND REPLACEMENT

A. Repair at Opening Caused by Obsolete Roof Penetration Removal ***(Unit Price Work)***:
   1. At locations indicated by the Owner, cover the existing opening with 16-gauge steel plate stock. Lap the plate a minimum of 8-inches beyond the opening on all sides. Fasten the steel plate with specified fasteners 12-inches on center. Secure the plate a minimum of 2-inches in from the outside edge of the repair plate.

B. Localized Gypsum Concrete Deck Repair ***(Unit Price Work)***:
   1. Prior to the start of work, inspect the interior area below the area of damaged gypsum concrete roof deck. Remove items from the replacement area that may be damaged during work activities. Provide adequate interior protection to protect interior surfaces and finishes from damage prior to the start of work. The Contractor shall provide an “Interior Protection Representative” during replacement work.
   2. To the extent indicated by the Owner, remove any damaged or loose existing gypsum concrete deck material from the repair area.
   3. Replace damaged or deteriorated gypsum decking, excluding formboard and mesh, with gypsum patch material of thickness to match existing adjacent gypsum and to provide a structurally sound roof deck.
   4. Allow the patch material time to cure. If necessary, provide temporary protection from inclement weather while gypsum concrete cures. Refer to manufacturer’s requirements for cure time. Inspect the completed repair to ensure the roof deck is suitable to receive new roofing materials.

C. Gypsum Concrete Deck Replacement ***(Unit Price Work)***:
   1. Prior to the start of work, inspect the interior area below the area of damaged gypsum concrete deck. Remove items from the replacement area that may be damaged during

work activities. Provide adequate interior protection to protect interior surfaces and finishes from damage prior to the start of work. The Contractor is to provide an “Interior Protection Representative” during replacement work.

2. To the extent indicated by the Owner, remove damaged, deteriorated and/or loose existing gypsum concrete decking, including reinforcing mesh and formboard. Leave a minimum of 3-inches of fiberglass mesh at each cross tee for tie-in to new reinforced mesh.
3. Install galvanized cross tees. Install formboard(s) into cross tees.
4. Install reinforcing mesh. Tie-in to the existing mesh. Refer to the reinforcing mesh manufacturer and the NRDCA for tie-in requirements.
5. Replace removed gypsum concrete decking with matching type and thickness material, to provide a structurally sound roof deck. Refer to gypsum concrete manufacturer, NRDCA recommendations for installation of gypsum concrete and applicable local codes for additional installation requirements.
6. Allow the patch material time to cure. If necessary, provide temporary protection from inclement weather while gypsum concrete cures. Refer to manufacturer’s requirements for cure time. Inspect the completed replacement to ensure the roof deck is suitable to receive new roofing materials.

END OF SECTION

SECTION 053123

STEEL ROOF DECK REPAIR AND REPLACEMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Steel deck repair and replacement associated with roof replacement.

1.2 RELATED SECTIONS

A. Section 000300 – Bid Form

B. Section 013300 – Submittal Procedures

C. Section 016000 – Product Requirements

D. Section 024100 – Roof Removal and Substrate Preparation

E. 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.

1.3 UNIT PRICES

A. Provide unit prices for the work described in paragraphs 3.3.A, 3.3.B, 3.3.C and Article 3.4. Refer to Section 000300.

1.4 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. Steel Deck Institute (SDI)
   2. Factory Mutual Global (FM)

1.5 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.

1.6 QUALITY ASSURANCE PROCEDURES

A. Applicator Qualifications: A qualified firm that is approved, authorized, or licensed to install the specified products and is eligible to receive a manufacturer’s warranty. The firm shall have a minimum of 5 years documented experience performing work equal or similar to the specified work.

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.

1.7 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.

1.8 ENVIRONMENTAL REQUIREMENTS

A. Do not perform steel deck repair/replacement 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. Safety Data Sheets (SDSs) of all specified products shall remain on site for the duration of this project.

PART 2 – PRODUCTS

2.1 STEEL DECK REPAIR/REPLACEMENT MATERIALS

A. For re-securement of steel deck to structural steel, identified in PART 3 of this Section (Alternate/Unit Price Work): Teks 5 self-drilling fastener with hex washer head, manufactured by ITW Buildex or other FM-approved fastener.

B. For use at “Steel Deck Brushing and Priming”, as described in paragraph 3.3.A:
1. "Rust-Oleum Industrial Enamel Quick Dry Primer" manufactured by Rust-Oleum Corporation, Vernon Hills, Illinois, "Carboline Carbocoat 150 Universal Primer," manufactured by Carboline, St. Louis, Missouri, or approved equal.

C. For use at “Steel Deck Repair”, as described in paragraph 3.3.B:
   1. Steel plate: 16-gauge galvanized with pre-drilled holes for fasteners.
   2. For securing steel plate to steel deck: No. 14 fluorocarbon-coated screws; length as necessary to penetrate minimum 1-inch depth through the deck.
   3. For securing steel plate to underlying structural steel (1/2-inch thick max.): 12-24 x 1-1/4 inch Hex Washer Head, Teks 5, or approved equal.

D. For use at “Steel Deck Replacement”, as described in Article 3.4:
   1. Full sections to match existing in gauge, profile, and finish; as necessary to comply with requirements of applicable insurance agencies and local codes.
   2. Refer to paragraph 2.1.A for fastener requirements.

E. For use at “Steel Deck Replacement”, as described in Article 3.4:
   1. Full sections of deck shall be primed and painted, profile intermediate rib, depth 1-1/2 inch and deck steel thickness of 20 gauge.
   2. Available Manufacturers: subject to compliance with requirements, manufacturers offerings products that may be incorporated into work include but are not limited to, the following:
      a. BHP Steel Building Products USA Inc.
      b. Consolidated Systems, Inc.
      c. Epic Metals Corp.
      d. Nucor Corp; Vulcraft Division
      e. United Steel Deck, Inc.

      Refer to paragraph 2.1.B for fastener requirements

PART 3 - EXECUTION

3.1 GENERAL

A. Refer to Section 024100 for general work and substrate preparation requirements.

3.2 STEEL DECK INSPECTION

A. Inspect exposed steel decks for surface corrosion, severe corrosion, openings, and other defects.

3.3 STEEL DECK REPAIR

A. Re-securement of steel decks ***(/Unit Price Work)***:
   1. In the field of the roof, re-secure the existing steel deck at a maximum spacing of 12-inches on center (every other rib for 1-1/2 in. deck) at underlying supports in the field of the roof. At the roof perimeters and corners, re-secure the deck at a maximum spacing of 6 inches on center (every rib for 1-1/2 in deck) at all underlying supports.
   2. At each deck side lap, secure the deck to the supporting members. For interlocking-type side laps, secure both sides of the lap (upper and lower). For overlap-type side laps, ensure securement penetrates all deck panels at the laps.
   3. Ensure spacing between each side lap fastener or side lap fasteners and supports is no more than 36-inches in the field of the roof and no more than 30-inches on center in the perimeter and corner areas. Fasten overlap-type side laps with specified fasteners.

B. Steel Deck Brushing and Priming ***(Unit Price Work)***: For use at areas of light corrosion, as determined by the Owner:

1. Wire-brush or scrape the surface rust. Remove debris by power vacuum.
2. Apply primer to the repair area; allow primer time to dry.

C. Steel Deck Repair ***(Unit Price Work)***: For use to repair at openings caused by obsolete roof penetration removal or other defects less than 12" by 12" in size, as determined by the Owner:
1. At locations encountered and other locations indicated by the Owner, cover the existing opening with 16-gauge steel plate stock. Lap the plate a minimum of 8-inches beyond the opening on all sides. Fasten the steel plate with specified fasteners and plates 6-inches on center. Secure the plate a minimum of 2-inches in from the outside edge of the repair plate.

3.4 STEEL DECK REPLACEMENT ***(Unit Price Work)***

A. Prior to the start of work, inspect the interior area below the area of damaged steel roof deck. Remove items from the replacement area that may be damaged during work activities. Provide adequate interior protection to protect interior surfaces and finishes from damage prior to the start of work. The Contractor shall provide an "Interior Protection Representative" during replacement work.

B. At deck replacement locations, as indicated by the Owner: Remove defective steel deck panels and install full decking sections to match existing. Install new decking in accordance with the requirements of FM Global, Steel Deck Institute, and applicable local codes.

C. Install deck panels and accessories according to manufacturer's written instructions and requirements.

D. Place deck panels on supporting frame and adjust to final position with ends accurately aligned and bearing on the supporting frame before being permanently fastened. Do not stretch or contract side-lap interlocks.

E. Place deck panels flat and square and fasten to supporting frame without warp or deflection.

F. Cut and neatly fit deck panels and accessories around openings and other work projecting through or adjacent to decking.

G. Provide additional reinforcement and closure pieces at the openings as required for strength, continuity of decking and support of other work.

H. Comply with AWS requirements and procedures for manual shield metal arc welding, appearing and quality of welds and methods used for correcting welding work.

I. Mechanical fasteners may be used in lieu of welding to fasten deck. Install according to deck manufacturer's written instructions.

END OF SECTION

SECTION 061053

MISCELLANEOUS ROUGH CARPENTRY FOR ROOF REPLACEMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Miscellaneous rough carpentry associated with roof replacement.

1.2 RELATED SECTIONS

A. Section 000300 – Bid Form

B. Section 013300 – Submittal Procedures

C. Section 016000 – Product Requirements

D. Section 024100 – Roof Removal and Substrate Preparation

E. Section 024102 – Roof Removal and Substrate Preparation for Steep Slope Roofing

F. 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.

1.3 UNIT PRICES

A. Provide unit prices for removal and replacement of existing damaged or deteriorated wood nailers uncovered during roof removal, miscellaneous wood blocking determined by the Owner to be necessary based on unforeseen conditions uncovered, and other miscellaneous wood blocking/plywood not included in the technical specification and project drawings. Refer to Section 004113.

1.4 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 National Standard Institute (ANSI)
   2. American Wood Preservers Association (AWPA)
   3. American Wood Preservers Institute (AWPI)
   4. Western Wood Products Association (WWPA)

1.5 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.

1.6 QUALITY ASSURANCE PROCEDURES

A. Applicator Qualifications: A qualified firm that is approved, authorized, or licensed to install the specified products and is eligible to receive a manufacturer’s warranty. The firm shall have a minimum of 5 years documented experience performing work equal or similar to the specified work.

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.

1.7 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.

1.8 ENVIRONMENTAL REQUIREMENTS

A. Do not perform work during inclement weather.

B. Safety Data Sheets (SDSs) of all specified products shall remain on site for the duration of this project.

PART 2 – PRODUCTS

2.1 WOOD NAILERS AND WOOD BLOCKING

A. Species and Grade (for non-exposed use): Douglas Fir or Yellow Pine; WWPA Structural Joist and Plank Class, No. 2 Grade.

B. Dimensions: As indicated on the project drawings or required by conditions encountered.

2.2 PLYWOOD

A. Standards: PS 1/ANSI A199.1 for plywood panels.

B. Grade: C-C EXT-APA.

C. Dimensions: Thickness as indicated in drawings or specifications.

2.3 FASTENERS

A. For securing wood to masonry and concrete substrates: 1/4-inch diameter “Tapcon” screws or other fastener type suitable to adequately secure the wood to the building wall.

B. For securing wood to wood:
1. Minimum 8d coated ring shank nails. Length as necessary to penetrate 1-1/4 inches, minimum into underlying wood substrate.
2. No. 14 fluorocarbon-coated screws, or double-dipped galvanized nails; length as necessary to penetrate minimum 1-1/4-inch depth.

C. For fastening to treated lumber: Stainless steel screws; size as necessary for conditions encountered.

D. For fastening wood to other substrates:
1. Fastener type compatible with substrate encountered.

PART 3 - EXECUTION

3.1 GENERAL

A. Refer to Sections 024100 and 024102 for general work and substrate preparation requirements.

3.2 WOOD NAILER AND BLOCKING INSPECTION/REPLACEMENT

A. During roof removal, inspect exposed wood nailers and blocking for damage, deterioration, and other defects.

B. To the extent indicated by the Owner, remove and discard damaged, deteriorated, or otherwise defective wood nailers and blocking and install new wood nailers and blocking to match the adjacent nailers and blocking in size and shape. Refer to Article 3.3 of this Section. ***(Unit Price Work)***.

3.3 WOOD NAILER AND BLOCKING INSTALLATION

A. Provide new wood nailers and blocking as follows:
1. Where indicated on the project drawings.
2. Where wood nailers and blocking were removed and discarded due to damage, deterioration, and other defects ***(Unit Price Work)***.
3. Where conditions allow, for support beneath rooftop conduit and pipes.
4. As necessary for other conditions encountered, such as raising curb heights to allow for minimum 8-inch flashing height.

B. Wood securement to wood deck and building construction:
   1. Secure wood members with the specified fasteners as indicated on the project drawings, but no more than 18-inches o.c., and within 6 inches of each end, to adequately secure nailers to the deck or building construction.

C. Wood securement to other wood nailers and blocking: Secure the top nailer(s) to the lower secured nailer with the specified nails or screws, of sufficient length to penetrate a minimum of 1-1/4 inches into the lower wood nailer (for nails) and 1-1/4 inches into the wood (for screws). Fasteners shall be spaced as indicated on the project drawings, but no more than 18 inches o.c. and staggered. Provide fasteners within 6 inches of all ends of nailers.
   1. Within 10 feet of any outside building corner, reduce the indicated fastener spacing by one-half.

3.4 PLYWOOD INSTALLATION

A. Provide new plywood as follows:
   1. Where indicated on the project drawings.
   2. Where existing plywood was removed and discarded due to damage, deterioration, and other defects ***(Unit Price Work)***.

B. Secure plywood to the underlying substrate at a rate of one fastener per one square foot.

END OF SECTION

SECTION 061516

WOOD ROOF DECK REPAIR AND REPLACEMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Wood deck repair and replacement associated with roof replacement.

1.2 RELATED SECTIONS

A. Section 004113 – Proposal Form

B. Section 013300 – Submittal Procedures

C. Section 016000 – Product Requirements

D. Section 024100 – Roof Removal and Substrate Preparation

E. Section 024102 – Roof Removal and Substrate Preparation for Steep Slope Roofing

F. 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.

1.3 UNIT PRICES

A. Provide unit prices for the work described in Articles 3.2A, 3.2B and 3.3. Refer to Section 004113.

1.4 ALTERNATES

A. Provide alternate pricing for re-securement of all wood structural decks within roof replacement areas. Refer to Section 004113.

1.5 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 National Standard Institute (ANSI)
   2. American Wood Preservers Association (AWPA)
   3. American Wood Preservers Institute (AWPI)
   4. Western Wood Products Association (WWPA)

1.6 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.

1.7 QUALITY ASSURANCE PROCEDURES

A. Applicator Qualifications: A qualified firm that is approved, authorized, or licensed to install the specified products and is eligible to receive a manufacturer's warranty. The firm shall have a minimum of 5 years documented experience performing work equal or similar to the specified work.

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.

1.8 PRODUCT DELIVERY, HANDLING AND STORAGE

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.

1.9 ENVIRONMENTAL REQUIREMENTS

A. Do not perform wood deck repair/replacement 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. Safety Data Sheets (SDSs) of all specified products shall remain on site for the duration of this project.

PART 2 – PRODUCTS

2.1 FASTENERS

A. For re-securement of wood deck to underlying structural components, identified in PART 3 of this Section (Alternate/Unit Price Work):
   1. Minimum 8d common nails with ring shanks, complying with the requirements of ASTM F1667. Length as necessary to penetrate minimum 1-1/4-inch depth into underlying wood structural framing.

2.2 WOOD DECK REPAIR/REPLACEMENT MATERIALS

A. For use at “Wood Deck Inspection/Repair”, as described in Article 3.2 of this Section:
   1. Steel plate: 16-gauge galvanized with pre-drilled holes for fasteners and plates.
   2. For securing wood to wood and wood to steel: No. 14 fluorocarbon-coated screws; length as necessary to penetrate minimum 1-1/2 inches into the underlying structural framing.
   3. For securing wood to underlying structural steel (1/2-inch thick max.): 12-24 x 1-1/4 inch Hex Washer Head, Teks 5, or approved equal.

B. For use at “Wood Deck Inspection/Replacement”, as described in Article 3.3 of this Section:
   1. Replacement wood plank:
      a. Wood plank dimensions and type: As required by conditions encountered; Type, grade and species to match dimensions and type of existing wood plank deck.
   2. Replacement plywood:
      a. Plywood dimensions and type: As required by conditions encountered; Type, grade and species to match dimensions and type of existing wood plank deck.
   3. Fasteners:
      a. For securing wood to wood: Minimum 8d common nails with ring shanks, complying with the requirements of ASTM F1667. Length as necessary to penetrate minimum 1-1/2 inch depth into underlying wood structural framing.
      b. For securing wood to steel: No. 14 fluorocarbon-coated screws; length as necessary to penetrate minimum 1-1/2 inches into the underlying structural framing.
      c. For securing wood to underlying structural steel (1/2-inch thick max.): 12-24 x 1-1/4 inch Hex Washer Head, Teks 5, or approved equal.

PART 3 - EXECUTION

3.1 GENERAL

A. Refer to Sections 024100 & 024102 for general work and substrate preparation requirements.

3.2 WOOD DECK INSPECTION AND REPAIR

A. Re-securement of wood decks ***(Unit Price Work)***:
   1. In the field of the roof and perimeters, re-secure the existing wood deck at supported panel edges 6-inches o.c. max., and 12-inches o.c. max. at intermediate panel supports.
   2. At corners, re-secure the existing wood deck at supported panel edges and intermediate panel supports 6-inches o.c. max.

B. Repair at openings caused by obsolete roof penetration removal or other defects less than 12-inches by 12-inches in size ***(Unit Price Work)***:
   1. At locations encountered and other locations indicated by the Owner, cover the existing opening with 16-gauge steel plate stock. Lap the plate a minimum of 8-inches beyond the opening on all sides. Fasten the steel plate with specified fasteners and plates 6-inches on center. Secure the plate a minimum of 2-inches in from the outside edge of the repair plate.

3.3 WOOD DECK INSPECTION AND REPLACEMENT ***(Unit Price Work)***

A. Prior to the start of work, inspect the interior area below the area of damaged wood roof deck. Remove items from the replacement area that may be damaged during work activities. Provide adequate interior protection to protect interior surfaces and finishes from damage prior to the start of work. The Contractor shall provide an “Interior Protection Representative” during replacement work.

B. Inspect deck for structurally unsound or otherwise defective areas and for fastening deficiencies. Perform treatments as indicated:
   1. Remove defective decking and repair resultant openings:
      a. Install replacement decking with the long dimension across the supports. Leave a 1/8-inch gap at all edges and end joints. Install shims as necessary between the replacement decking and the structural members to ensure that the replacement decking is flush with adjacent decking.
      b. Mechanically attach the new wood decking to the underlying supports using the specified fasteners.
   2. Install additional fasteners where the existing fasteners missed the underlying supports or where the number of fasteners installed does not meet minimum code requirements.
   3. Remove loose or protruding nails or hammer them down flush with the deck surface.

C. Sweep deck clean before installing new materials. Collect and bag sweepings on roof. Do not sweep over edge of roof.

END OF SECTION

SECTION 072215

UNDERLAYMENT FOR ROOF REPLACEMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Installation of insulation underlayment over concrete, gypsum concrete and steel structural roof decks.

1.2 RELATED SECTIONS

A. Section 013300 – Submittal Procedures

B. Section 016000 – Product Requirements

C. Section 024100 – Roof Removal and Substrate Preparation

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.

1.3 REFERENCES

A. Reference standards of the following sources are applicable to products and procedures specified in Part 2 - Products of this Section:
   1. American Society for Testing and Materials (ASTM)
      a. ASTM D2178 - Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing
      b. ASTM D4601 - Standard Specification for Asphalt-Coated Glass Fiber Base Sheet Used in Roofing
      c. ASTM D312 - Standard Specification for Asphalt Used in Roofing
      d. ASTM D41 - Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing
      e. ASTM D4586 - Standard Specification for Asphalt Roof Cement, Asbestos-Free

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. 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. Store roll materials standing on end.

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 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 INSULATION UNDERLAYMENT

A. At concrete structural decks:
1. Self-adhering modified bitumen base sheet; product type acceptable to roofing manufacturer, and meeting or exceeding the following requirements:
a. The completed underlayment system shall have a minimum thickness of 70 mils. The underlayment system may consist of a single underlayment sheet with a minimum thickness of 70 mils, or a two-ply of underlayment sheets with a thickness less than 70 mils, resulting in a combined system thickness of 70 mils, minimum.
b. Approved for use by the roofing membrane manufacturer on concrete decks, and as an underlayment for the application of polyisocyanurate insulation with low-rise urethane foam adhesive.
c. Capable of achieving the wind uplift requirements for the project location within the specified roof system assembly.

B. At gypsum concrete structural decks:
1. Asphalt-coated base sheet, glass fiber reinforced; No. 43, ASTM D4601, Type II; product type acceptable to the roofing membrane manufacturer.

C. At acoustical steel decks:
1. Red rosin paper; 36-inch width, minimum; 3 pounds per 100 square feet, minimum.

2.2 FASTENERS

A. For securing asphalt-coated base sheet to gypsum concrete:
1. Fastener type approved by the roofing manufacturer for securement into the existing gypsum concrete, cementitious wood fiber or lightweight insulating concrete substrate. The fastener shall meet the following requirements:
a. The fastener length shall be as necessary to achieve the wind uplift requirements for the project location, based on the fastening patterns provided in this Section.
b. The fastener shall be approved for use by the roofing membrane manufacturer in the specified application.

2.3 ADHESIVES, PRIMERS AND CEMENTS

A. For adhering self-adhering underlayment:
1. Primer and adhesive recommended by the product manufacturer for adhesion to the existing substrate.

B. For sealing roof penetrations and roof-to-wall transitions:
1. Flashing cement: ASTM D4586, Type I.

PART 3 - EXECUTION

3.1 GENERAL

A. Prior to installation, inspect the existing roof deck. Ensure that the roof deck has been prepared as required in Section 024100, and is ready and acceptable to receive insulation underlayment materials.

3.2 INSULATION UNDERLAYMENT INSTALLATION

A. Installation of self-adhering underlayments over concrete decks:
   1. If required by the product manufacturer, apply primer or adhesive to the substrate encountered. Allow primer time to dry.
   2. Install the self-adhering underlayment, following the requirements and recommendations of the product manufacturer.
   3. Seal roof penetrations and roof-to-wall terminations (including roof-to-wall and roof-to-roof curb terminations) with roofing cement.

B. Mechanical attachment of asphalt-coated base sheet over cementitious wood fiber, gypsum concrete and lightweight insulating concrete:
   1. Mechanically fasten the asphalt-coated base sheet into the deck. Refer to the roofing manufacturer for instructions related to fastening pattern requirements. At a minimum, install fasteners at the following rates:
      a. Field of roof: Fasten laps 9-inches o.c., and 18-inches o.c. in two equally spaced, staggered rows between laps.
      b. At perimeters: Fasten laps 6-inches o.c., and 9-inches o.c. in two equally spaced, staggered rows between laps.
      c. At corners Fasten laps 7-inches o.c., and 7-inches o.c. in three equally spaced, staggered rows between laps.

C. Installation of red rosin paper over steel decks:
   1. Loose-lay the underlayment on the deck. Fasten in place, if necessary, in a manner sufficient to hold the red rosin paper in place during installation of the overlying insulation and roofing system.

END OF SECTION

SECTION 072221

ROOF INSULATION AND COVER BOARD OVER UNDERLAYMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Installation of roof insulation and cover board over underlayment in roof areas with existing concrete & gypsum concrete structural roof decks.

1.2 RELATED SECTIONS

A. Section 013300 – Submittal Procedures

B. Section 016000 – Product Requirements

C. Section 024100 – Roof Removal and Substrate Preparation

D. Section 030150 – Concrete Roof Deck Repair

E. Section 035116 – Gypsum Concrete Roof Deck Repair and Replacement

F. Section 072215 – Underlayment for Roof Replacement

G. 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.

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 C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board
      b. ASTM C208 - Standard Specification for Cellulosic Fiber Insulating Board
      c. ASTM D312 - Standard Specification for Asphalt Used in Roofing
      d. ASTM C1177 - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing
      e. ASTM C1278 - Standard Specification for Fiber-Reinforced Gypsum Panel

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. 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. Protect foam insulation from direct sunlight exposure.

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 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 ROOF INSULATION

A. Polyisocyanurate roof insulation; ASTM C1289, Type II, Class 1, Grade 2 (20 psi); HCFC-Free and Zero Ozone Depletion Potential (ODP); product type acceptable to the roofing membrane manufacturer.
   1. Roof Areas Pattengill Elementary Areas D, L, M, N & O – Angell Elementary Areas B, H & J:
      a. Thickness: One layer of 2.6 inch thick insulation over one layer of 2.6 inch thick insulation (5.2-inches total).
      b. Long Term Thermal Resistance (LTTR) Value: 5.6 minimum per inch.
      c. Board Size:
         1) Bottom and top layers: 4-feet by 4-feet.

B. Tapered polyisocyanurate roof insulation system; ASTM C1289, Type II, Class 1, Grade 2 (20 psi); HCFC-Free and Zero Ozone Depletion Potential (ODP); product type acceptable to the roofing manufacturer.
   1. Roof Areas Berkley High School Areas J, J1, L, M, M1 & N:
      a. Slope and Thickness: Tapered insulation system over one layer of 2.6 inch thick flat stock insulation. The completed insulation system shall have a minimum starting thickness (including 2.6 inch layer) o f3.1 inches, and an insulation system slope of 1/8-inch per foot.
      b. Long Term Thermal Resistance (LTTR) Value: 5.6 minimum per inch.
      c. Board Size:
         1) Bottom layer of 2-inch thick insulation and insulation used as “fill” for the overlying tapered insulation system: 4-feet by 4-feet. Maximum thickness of insulation “fill” shall be 2-inches.
         2) Overlying tapered insulation system: 4-feet by 4-feet. Maximum thickness of tapered insulation boards shall be 2-1/2 inches.

2.2 CRICKET AND SADDLE INSULATION

A. Tapered polyisocyanurate roof insulation as necessary to achieve slopes and dimensions indicated in Article 3.3 and on the drawings, and as necessary to allow for proper drainage to existing drainage accessories; ASTM C1289, Type II, Class 1; Minimum 20 psi; HCFC-Free and Zero Ozone Depletion Potential (ODP); product type acceptable to the roofing manufacturer.

2.3 TAPERED EDGE AND CANT STRIPS

A. Tapered Edge Strips:
   1. For single-ply roof membrane systems: Polyisocyanurate, ASTM C1289; (zero to 1-1/2 inches thick x 12 inches wide or zero to 2-inches thick x 24 inches wide), or as indicated by conditions shown on the project drawings; product type acceptable to the roofing manufacturer.

B. Cant Strips: Fiberboard, ASTM C208; minimum 4-inch face except as indicated on the project drawings.

2.4 BATT INSULATION AND POLYETHYLENE

A. Batt fiberglass insulation; 25 percent recycled glass content, R-Value of 3.1 per inch, minimum.

B. Polyethylene film: Fire-retardant, 12-mil thickness.

2.5 ADHESIVE

A. Where specified, for adhering cover board, and bottom, intermediate, and top layer(s) of insulation, tapered insulation systems, and tapered insulation used in saddle and cricket construction where indicated in PART 3 of this Section: Low-rise urethane foam adhesive; product acceptable to the roofing manufacturer and is capable of meeting the specified wind uplift requirements.

PART 3 - EXECUTION

3.1 GENERAL

A. Ensure that the substrate has been prepared as necessary, and is ready and acceptable to receive insulation materials. Refer to Section 024100 for material removals and general work and substrate preparation requirements.

B. Refer to Sections 030150 & 035116 for deck repair and replacement requirements.

C. Refer to Section 072215 for underlayment requirements specific to the existing structural deck type.

3.2 INSULATION AND COVER BOARD INSTALLATION

A. Closely butt the insulation boards and roof cover boards.

B. Stagger board joints by the maximum dimensions possible.

C. Neatly cut insulation and roof cover boards to fit around all penetrations through the roof deck. At locations where less than a full-sized sheet of insulation or cover board is required, use the largest size practical to fill in the area. Do not install numerous small sections of cover board or insulation at these locations.

D. Fill gaps between boards, and between boards and walls, curbs, blocking, and equipment with additional insulation material.

E. Protect all insulation and cover board from weather and standing water at all times. Do not install more insulation and cover board than can be completely covered with the roofing membrane on the same day.

F. Install temporary water cut-offs at the edges of insulation at the end of each workday.

G. Prior to installing the insulation, inspect the underside of the roof deck to determine if objects, such as sprinklers, lights, conduits, fans, or gas lines are attached to the deck. Exercise caution to ensure that insulation fasteners do not penetrate these objects.

H. Adhesion of insulation and cover board:
   1. Adhere cover board and underlying layer(s) of insulation using the specified adhesive. Refer to the roofing manufacturer for application instructions and requirements.
      a. Adhere cover board and underlying insulation boards with specified low-rise urethane foam at the following rates:
         1) Field of roof: 3/4-inch wide bands of adhesive, 12-inches o.c.
         2) At perimeters: 3/4-inch bands of adhesive, 6-inches o.c.
         3) At corners: 3/4-inch wide bands of adhesive, 4-inches o.c.

3.3 INSULATION SADDLE AND CRICKET INSTALLATION

A. Install insulation saddles and crickets to provide positive drainage to drainage accessories, and where indicated on the project drawings. Unless otherwise indicated on the Project Drawings, the width and finished slope of saddles shall be:
   1. If the finished roof slope of the project roof area is 1/8-inch per foot, the finished slope of saddles shall be 1/4-inch per foot, and the length-to-width ratio of saddles shall be 2:1.
   2. If the finished roof slope of the project roof area is 1/4-inch per foot, the finished slope of saddles shall be 1/2-inch per foot, and the length-to-width ratio of saddles shall be 3:1.
   3. If the finished roof slope of the project roof area is 1/2-inch per foot, the finished slope of saddles shall be 1-inch per foot, and the length-to-width ratio of saddles shall be 4:1.

B. Adjust saddle and cricket dimensions, if necessary, to accommodate actual field conditions. Prior to saddle/cricket modifications, notify the Owner of proposed modifications for approval.

C. Adhere saddles and crickets using the specified adhesive.

D. Provide insulation crickets behind all roof curbs greater than 24-inches in width.

3.4 BATT INSULATION INSTALLATION

A. Install polyethylene sheeting at locations indicated on the project drawings. Drape sheeting down and into expansion joints to match elevation of existing structural deck. Secure sheeting with fasteners spaced 12-inches o.c., maximum. Install unfaced batt insulation into the space created.

END OF SECTION

SECTION 072223

ROOF INSULATION AND COVER BOARD OVER STEEL ROOF DECKS

PART 1 - GENERAL

1.1 SUMMARY

A. Installation of roof insulation and cover board over existing steel structural roof decks.

1.2 RELATED SECTIONS

A. Section 013300 – Submittal Procedures

B. Section 016000 – Product Requirements

C. Section 024100 – Roof Removal and Substrate Preparation

D. Section 053123 – Steel Roof Deck Repair and Replacement

E. Section 072215 – Underlayment for Roof Replacement

F. 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.

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 C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board
      b. ASTM C208 - Standard Specification for Cellulosic Fiber Insulating Board
      c. ASTM D312 - Standard Specification for Asphalt Used in Roofing
      d. ASTM C1177 - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing
      e. ASTM C1278 - Standard Specification for Fiber-Reinforced Gypsum Panel

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. 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. Protect foam insulation from direct sunlight exposure.

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 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 ROOF INSULATION

A. Polyisocyanurate roof insulation; ASTM C1289, Type II, Class 1, Grade 2 (20 psi); HCFC-Free and Zero Ozone Depletion Potential (ODP); product type acceptable to the roofing membrane manufacturer.
   1. Roof Area Berkley High School Areas E East Gym & G:
      a. Thickness: One layer of 2-inch thick insulation over one layer of 2.6 inch thick insulation (5.2 inches total).
      b. Long Term Thermal Resistance (LTTR) Value: 5.6 minimum per inch.
      c. Board Size: 4-feet by 8-feet where mechanical attachment is specified, 4-feet by 4-feet where adhesion is specified.
   2. Roof Areas B & C1:
      a. Thickness: One layer of 2-inch thick insulation.
      b. Long Term Thermal Resistance (LTTR) Value: 5.6 minimum per inch.
      c. Board Size: 4-feet by 8-feet where mechanical attachment is specified, 4-feet by 4-feet where adhesion is specified.

2.2 CRICKET AND SADDLE INSULATION

A. Tapered polyisocyanurate roof insulation as necessary to achieve slopes and dimensions indicated in Article 3.3 and on the drawings, and as necessary to allow for proper drainage to existing drainage accessories; ASTM C1289, Type II, Class 1; Minimum 20 psi; HCFC-Free and Zero Ozone Depletion Potential (ODP); product type acceptable to the roofing manufacturer.

2.3 TAPERED EDGE STRIPS

A. Tapered Edge Strips:
   1. For single-ply roof membrane systems: Polyisocyanurate, ASTM C1289; (zero to 1-1/2 inches thick x 12 inches wide or zero to 2-inches thick x 24 inches wide), or as indicated by conditions shown on the project drawings; product type acceptable to the roofing manufacturer.

B. Cant Strips: Fiberboard, ASTM C208; minimum 4-inch face except as indicated on the project drawings.

2.4 BATT INSULATION AND POLYETHYLENE

A. Batt fiberglass insulation; 25 percent recycled glass content, R-Value of 3.1 per inch, minimum.

B. Polyethylene film: Fire-retardant, 12-mil thickness.

2.5 INSULATION FASTENERS AND PLATES

A. For mechanical attachment of polyisocyanurate insulation and/or cover board (where specified): Fluorocarbon coated or galvanized self-drilling screw and plate system; product type acceptable to the roofing manufacturer. Fastener length as necessary to penetrate through cover board/insulation layer(s) and through the top steel deck flute a minimum of 3/4-inch and a maximum of 1-inch.
   1. Minimum insulation plate diameter: 3-inches.
   2. Minimum fastener size: No. 14.

2.6 ADHESIVE

A. Where specified, for adhering cover board, and bottom, intermediate, and top layer(s) of insulation, tapered insulation systems, and tapered insulation used in saddle and cricket construction where indicated in PART 3 of this Section: Low-rise urethane foam adhesive; product acceptable to the roofing manufacturer and is capable of meeting the specified wind uplift requirements.

PART 3 - EXECUTION

3.1 GENERAL

A. Ensure that the substrate has been prepared as necessary, and is ready and acceptable to receive insulation materials. Refer to Section 024100 for material removals and general work and substrate preparation requirements.

B. Refer to Section 072215 for underlayment requirements specific to roofing over acoustical steel deck and other steel decks, if applicable.

3.2 INSULATION AND COVER BOARD INSTALLATION

A. Closely butt the insulation boards and roof cover boards.

B. Stagger board joints by the maximum dimensions possible.

C. Neatly cut insulation and roof cover boards to fit around all penetrations through the roof deck. At locations where less than a full-sized sheet of insulation or cover board is required, use the largest size practical to fill in the area. Do not install numerous small sections of cover board or insulation at these locations.

D. Fill gaps between boards, and between boards and walls, curbs, blocking, and equipment with additional insulation material.

E. Protect all insulation and cover board from weather and standing water at all times. Do not install more insulation and cover board than can be completely covered with the roofing membrane on the same day.

F. Install temporary water cut-offs at the edges of insulation at the end of each workday.

G. Prior to installing the insulation, inspect the underside of the roof deck to determine if objects, such as sprinklers, lights, conduits, fans, or gas lines are attached to the deck. Exercise caution to ensure that insulation fasteners do not penetrate these objects.

H. Mechanical attachment and adhesion of cover board and polyisocyanurate insulation:
   1. Mechanical attachment: Fasteners shall penetrate into the deck, penetrating a minimum of 3/4-inch and a maximum of 1-inch into the top flute of the existing steel deck. Do not penetrate the bottom flute of the steel deck, or use fasteners that have the potential to extend beyond the bottom flute of the steel deck. Refer to the roofing manufacturer for instructions related to fastening pattern requirements.
   2. Fastening and adhesion rates:
      a. Field of roof: Mechanically-fasten through top and any underlying insulation layers into the underlying structural deck with specified insulation plates and

fasteners. Secure at a rate of 12 fasteners per 4' X 8' insulation board or 32 square feet (One fastener per 2.67 square feet of board). Adhere cover board with low-rise urethane foam adhesive, applying 3/4-inch beads 12-inches o.c.

b. At perimeters: Mechanically-fasten through top and any underlying insulation layers into the underlying structural deck with specified insulation plates and fasteners. Secure at a rate of 24 fasteners per 4' X 8' insulation board or 32 square feet (One fastener per 1.33 square feet). Adhere overlying cover board with low-rise urethane foam adhesive, applying 3/4-inch beads 6-inches o.c.

c. At corners: Mechanically-fasten through cover board, underlying insulation layer(s) and into the underlying structural deck with specified insulation plates and fasteners. Secure at a rate of 32 fasteners per 4' X 8' insulation board or 32 square feet (One fastener per 1.00 square feet).

3.3 INSULATION SADDLE AND CRICKET INSTALLATION

A. Install insulation saddles and crickets to provide positive drainage to drainage accessories, and where indicated on the project drawings. Unless otherwise indicated on the Project Drawings, the width and finished slope of saddles shall be:

1. If the finished roof slope of the project roof area is 1/8-inch per foot, the finished slope of saddles shall be 1/4-inch per foot, and the length-to-width ratio of saddles shall be 2:1.
2. If the finished roof slope of the project roof area is 1/4-inch per foot, the finished slope of saddles shall be 1/2-inch per foot, and the length-to-width ratio of saddles shall be 3:1.
3. If the finished roof slope of the project roof area is 1/2-inch per foot, the finished slope of saddles shall be 1-inch per foot, and the length-to-width ratio of saddles shall be 4:1.

B. Adjust saddle and cricket dimensions, if necessary, to accommodate actual field conditions. Prior to saddle/cricket modifications, notify the Owner of proposed modifications for approval.

C. Adhere saddles and crickets using the specified adhesive.

D. Provide insulation crickets behind all roof curbs greater than 24-inches in width.

3.4 BATT INSULATION INSTALLATION

A. Install polyethylene sheeting at locations indicated on the project drawings. Drape sheeting down and into expansion joints to match elevation of existing structural deck. Secure sheeting with fasteners spaced 12-inches o.c., maximum. Install unfaced batt insulation into the space created.

END OF SECTION

SECTION 073113

ASPHALT SHINGLE ROOFING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes requirements related to the installation of asphalt shingle roofing, flashings, and related accessories.

1.2 RELATED SECTIONS

A. Section 013300 – Submittal Procedures

B. Section 016000 – Product Requirements

C. Section 024102 – Roof Removal and Substrate Preparation for Steep Slope Roofing

D. Section 079201 – Sealants

E. 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.

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 D1970 - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection
      b. ASTM D226 - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing
      c. ASTM D4869 - Standard Specification for Asphalt-Saturated Organic Felt Underlayment Used in Steep Slope Roofing
      d. ASTM D3462 - Standard Specification for Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules
      e. ASTM E108 - Standard Test Methods for Fire Tests of Roof Coverings
      f. ASTM D3161 - Standard Test Method for Wind-Resistance of Asphalt Shingles (Fan-Induced Method)
      g. ASTM F1667 - Standard Specification for Driven Fasteners: Nails, Spikes, and Staples
      h. ASTM D4586 - Standard Specification for Asphalt Roof Cement, Asbestos-Free
      i. ASTM B370 - Standard Specification for Copper Sheet and Strip for Building Construction
   2. American National Standards Institute (ANSI)
   3. Asphalt Roofing Manufacturers Association (ARMA)
      a. ARMA Residential Asphalt Roofing Manual, 5th Edition
   4. Certified Roofing Torch Applicator (CERTA) Program, developed by the Midwest Roofing Contractors Association (MRCA) and National Roofing Contractors Association (NRCA)

5. National Roofing Contractors Association (NRCA)
   a. The NRCA Roofing Manual: Steep-Slope Roof Systems - 2013
6. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA).
   a. SMACNA Architectural Sheet Metal Manual, 7th Edition
7. Underwriters Laboratories, Inc. (UL)
   a. UL 790 - Exterior Exposure, Standard Test Methods for Fire Tests of Roof Coverings
   b. UL 997 - Wind Resistance of Prepared Roof Covering Materials

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. 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. Store roll materials standing on end.

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 asphalt shingle 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.

1.8 CONTRACTOR GUARANTEE

A. The Contractor shall provide a two-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 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 Work at no cost to the Owner.

PART 2 – PRODUCTS

2.1 ASPHALT SHINGLE ROOF SYSTEM SUMMARY

A. Acceptable asphalt shingle roofing manufacturers and systems include those identified in Articles 2.2 and 2.3, and meeting the requirements listed within those Articles.

2.2 SELF-ADHERING MEMBRANE AND UNDERLAYMENT

A. For use at eaves, rakes, ridges, penetrations, valleys, skylights, dormers, behind apron and step flashings, locations indicated on the drawings and other locations required by the asphalt shingle manufacturer: Self-adhering membrane; butyl-rubber based, approved for use by the asphalt shingle manufacturer, and meeting the following criteria:
   1. Meeting the requirements of ASTM D1970.
   2. Approved by the selected asphalt shingle manufacturer for use as a self-adhering membrane for asphalt shingle roofing. Acceptable products include:
      a. StormGuard Leak Barrier, manufactured by GAF Corporation.
      b. WinterGuard, manufactured by CertainTeed Corporation.
      c. Weatherlock Flex Ice and Water Barrier, manufactured by Owens Corning Corporation.

d. Other self-adhering membranes approved by the selected asphalt shingle manufacturer, and meeting the requirements listed in paragraphs 2.2.A and 2.2.A.1.

B. For use in the field of the roof: Synthetic, polymer-based roofing underlayment, meeting the following criteria:
1. Meeting or exceeding the physical requirements of ASTM D 226 and ASTM D 4869.
2. Per the manufacturer, an allowable exposure rating of 120 days, minimum.
3. Approved by the selected asphalt shingle manufacturer for use as an underlayment for asphalt shingle roofing. Acceptable products include:
a. Deck Armor Synthetic Underlayment, manufactured by GAF Corporation.
b. Diamond Deck High Performance Synthetic Underlayment, manufactured by CertainTeed Corporation.
c. Deck Defense High Performance Underlayment, manufactured by Owens Corning Corporation.
d. Other synthetic underlayments approved by the selected asphalt shingle manufacturer, and meeting requirements listed in paragraphs 2.2.B, 2.2.B.1 and 2.2.B.2.

2.3 ASPHALT SHINGLES

A. Type: ASTM D3462; Glass-fiber reinforced, architectural laminated shingle. Acceptable asphalt shingle manufacturers and shingles:
1. Timberline American Harvest, manufactured by GAF Corporation, Wayne, NJ, (973) 628-3000.
2. Landmark Pro, manufactured by CertainTeed Corporation, Valley Forge, PA, (800) 233-8990.
3. TruDefinition Duration, manufactured by Owens Corning, Toledo, OH, (800) 438-7465.
4. Other asphalt shingle systems, meeting the requirements of this Article, and approved by the Owner.

B. Fire Resistance: ASTM E108 or ANSI/UL 790, Class A.

C. Wind Uplift Rating: ASTM D3161, Class F, or UL 997. The installed asphalt shingle system shall have a minimum wind rating of 130 miles per hour.

D. Color: As determined by Owner.

E. Starter course shingles: Use starter course shingles manufactured by the asphalt shingle manufacturer or specified shingles trimmed following the manufacturer’s requirements.

F. Ridge, hip and other specialty shingles: Use shingles manufactured by the asphalt shingle manufacturer or specified shingles trimmed following the manufacturer’s requirements.

2.4 ASPHALT SHINGLE ROOF FASTENERS

A. For fastening underlayment:
1. Roofing nails with smooth, flat, minimum 3/8-inch head and 1” 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 through the underside of deck (at plywood decks) or minimum 3/4-inch into substrate (at wood plank decks).

B. For fastening asphalt shingles:
1. 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, Style 20. Length as necessary to penetrate through the underside of deck (at plywood decks) or minimum 3/4-inch into substrate (at wood plank decks).

2.5 ROOFING CEMENT

A. Type: ASTM D4586 Asphalt Roofing Cement, Type II (asbestos free); product manufactured by, or approved by the roofing membrane manufacturer.

2.6 SHEET METAL AND FLASHING ACCESSORIES

A. Prefinished galvanized steel: Kynar 500 coating, 24-gauge; color as selected by Owner; use the following metal components where indicated:
1. Drip edges and perimeter fascia: Fabricate drip edges and fascia with a minimum 3-inch flange. Fabricate to dimensions and configurations indicated on the project drawings.
a. Continuous cleats associated with drip edges and perimeter fascia (for use at fascia with a face greater than 5-inches in length and at other locations indicated on the project drawings): Galvanized steel; 22-gauge, minimum.
2. Fascia extensions: Fabricate fascia extensions to the dimensions and configurations indicated on the drawings.
a. Continuous cleats associated with drip edges and perimeter fascia (for use at fascia with a face greater than 5-inches in length and at other locations indicated on the project drawings): Galvanized steel; 22-gauge, minimum.
3. Counterflashings and step flashings: Fabricate to the dimensions and configurations indicated on the project drawings.
4. Gutter fascia extensions: Fabricate to the dimensions and configurations indicated on the project drawings.
5. Apron and backer/cricket flashings: Field-verify dimensions of chimneys, curbs and other rooftop penetrations where apron and backer/cricket flashings will be necessary. Fabricate to dimensions required to properly flash these penetrations.
6. Step flashing: Fabricate step flashing with a minimum 4-inch horizontal flange and minimum 4-inch vertical leg. Fabricate step flashing in minimum 7-inch widths to allow for minimum 2-inch headlap over downslope step flashing piece.

B. Tubular penetration flashings:
1. At plumbing and sanitary vents: Prefabricated flashing with elastomeric collar, or other product the manufactured by, or approved by the asphalt shingle roofing manufacturer.
2. At tubular penetrations where a prefabricated flashing cannot be slipped over the existing penetration: Sheet metal flanged sleeve and hood.
a. 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, and a sleeve extending 8-inches above the roof surface, minimum.
b. Tubular penetration hood: Stainless steel, 24-guage. Fabricate to dimensions necessary to accommodate tubular penetration circumference.
c. For securement of tubular penetration hoods: Stainless steel adjustable clamp.

2.7 MISCELLANEOUS MATERIALS

A. Ridge Vents: Vents providing 16 square inches of net free area per lineal foot of vent, minimum. Acceptable ridge vents:
   1. Cobra Ridge Vent, manufactured by GAF Corporation.
   2. VentSure 4-Foot Strip Heat and Moisture Ridge Vent with Weather PROtector Moisture Barrier, manufactured by Owens Corning Corporation.
   3. ShingleVent II, manufactured by Air Vent, Inc., Dallas, TX, (800) 247-8368.

B. Other ventilation accessories, including soffit vents and other rooftop vents:
   1. Provide accessories manufactured by, or approved by, the asphalt shingle roofing manufacturer.

C. For use at sheet metal flashing strip-ins, and where indicated on drawings:
   1. Pressure-sensitive EPDM flashing material; non-reinforced, nominal 60-mil thickness, black color. Type acceptable to asphalt shingle roofing manufacturer for specific flashing conditions encountered. Minimum 5-inch width.
   2. Primer: Type compatible with pressure-sensitive EPDM flashing and acceptable to the asphalt shingle roofing manufacturer.

D. Butyl tape: for use behind counterflashing flanges and other locations indicated where indicated on the drawings. Width and thickness as necessary to create a seal between the existing substrate and secured counterflashing.

2.8 SEALANT

A. Refer to Section 079201.

PART 3 - EXECUTION

3.1 GENERAL

A. Refer to Section 024102 for general work and substrate preparation requirements.

B. 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 UNDERLAYMENT INSTALLATION

A. Install self-adhering underlayment eaves, rakes, ridges, penetrations, valleys, skylights, dormers, behind apron and step flashings, locations indicated on the drawings and other locations required by the asphalt shingle manufacturer.
   1. Follow the written installation requirements of the self-adhering underlayment manufacturer.

2. Lay self-adhering underlayment flat, wrinkle free. Install the underlayment at locations indicated. At eaves, install underlayment parallel to the eave edge. At rake edges, install the underlayment beneath the flange of the rake edge metal. Refer to the project drawings.
3. Extend self-adhering underlayment 24 horizontal inches beyond interior wall of the building envelope, minimum.
4. At a minimum, side laps shall be overlapped 4 inches, and end laps shall be overlapped 8-inches. Refer to NRCA and manufacturer requirements and follow the more stringent requirement.
5. Using a roller, roll underlayment to ensure proper adhesion to structural deck.

B. Install synthetic underlayment at all locations not covered by self-adhering membrane. Follow written installation requirements of the underlayment manufacturer.
1. Except as modified by these specifications and drawings, follow the written installation requirements of the synthetic underlayment manufacturer.
2. Unroll the underlayment parallel with the eave edge. Lay underlayment flat, wrinkle free. Do not over stretch during installation.
3. Secure the underlayment following the requirements and recommendations of the synthetic underlayment manufacturer, and at the rate and configuration recommended by the manufacturer.
4. At a minimum, side laps shall be overlapped 2-inches, and end laps shall be overlapped 4-inches. Refer to NRCA and manufacturer requirements and follow the more stringent requirement.

3.3 ASPHALT SHINGLE ROOFING INSTALLATION

A. Asphalt shingle roof system general installation instructions:
1. Install the specified asphalt shingle roofing system, including self-adhering membranes and underlayments, in accordance with the requirements and recommendations of the asphalt shingle roofing manufacturer, using the manufacturer's current printed instructions, and the recommendations outlined in the NRCA "Roofing Manual: Steep-Slope Roof Systems – 2013", and ARMA "Residential Asphalt Roofing Manual, 5th Edition".
2. Use chalk lines as visible guides to ensure the proper exposure, coverage, and horizontal and vertical alignment of the shingles.
3. Apply shingles across and diagonally up the roof, as recommended by the asphalt shingle manufacturer.
4. Install six nails per full length shingle. Do not nail into or above the factory-applied adhesive strips. Refer to asphalt shingle roofing manufacturer printed instructions for recommended location of nails. Remove any underdriven nails, and repair and damage caused by defective fastening with roofing cement. If severe damage occurs during nail removal, replace the full shingle.
5. Shingle exposure shall be as recommended by the asphalt shingle manufacturer.

B. Starter course shingle installation:
1. At eaves, install one row of starter strip shingles.
a. Fasten the starter strip shingles in accordance with the requirements of the asphalt shingle roofing manufacturer. Overhang the eave consistently by 1/4-inch to 3/4-inch, unless indicated otherwise by the asphalt shingle manufacturer.

C. First and succeeding courses:
1. During installation, check installation of shingle courses to ensure proper alignment of cutouts, and correct horizontal and vertical orientation of course.

2. Bond the tabs of the first shingle course to the starter strip, using a quarter-sized dab of roofing cement placed on the starter strip 12-inches o.c. Press the first course firmly into the roofing cement.
3. On steep slope roofs exceeding 12-inches per foot in slope, in areas defined as “high wind areas”, or when required by the asphalt shingle roofing manufacturer, bond shingle tabs by “hand tabbing”, placing a quarter-sized dab of roofing cement 12-inches o.c. and pressing the overlying shingle firmly into the roofing cement.

D. Hip flashing:
1. Hip flashings:
a. Install shingles manufactured by the asphalt shingle manufacturer or specified shingles trimmed following the manufacturer’s requirements, following the printed instructions of the asphalt shingle roofing manufacturer.

****

NOTE TO SPECIFIER

EDIT the sheet metal list. DELETE items not applicable to the project.

****

3.4 SHEET METAL FLASHING INSTALLATION

A. Drip edges and perimeter fascia:
1. Continuous cleats: If required, provide continuous cleats where indicated on the project drawings. Secure as indicated on the project drawings.
2. Drip edges and perimeter fascia: Hook the edge/fascia to the underlying continuous cleat (if applicable). Secure as indicated on the project drawings.

B. Fascia extensions:
1. Continuous cleats: If requires, provide continuous cleats where indicated on the project drawings. Secure the vertical face of the continuous cleat as indicated on the project drawings.
2. Fascia extensions: Hook fascia extensions to the underlying cleat (if applicable). Secure fascia extensions as indicated on the project drawings.

C. Counterflashings: Install counterflashings at locations indicated on the project drawings as follows:
1. Install continuous butyl tape behind vertical face of counterflashing.
2. Secure counterflashings with fasteners spaced as indicated on the project drawings.
3. Provide a continuous bead of sealant along the top edge of surface-mounted counterflashings to shed water and provide a watertight seal.

D. Slip counterflashings: Install slip counterflashings at locations where existing sheet metal counterflashings cannot be lifted or removed, and at other locations indicated on the drawings as follows:
1. Install continuous butyl tape behind vertical face of counterflashing.
2. Secure counterflashings with fasteners spaced as indicated on the project drawings.

E. Apron, backer and cricket flashings:
1. Install apron and backer/cricket flashings at roof curbs, chimneys, wall terminations, locations indicated on the project drawings, and at locations recommended by the asphalt shingle roofing manufacturer.
a. At penetrations greater than 24-inches, roof slopes greater than 6:12 (27 degrees), when a large volume on snow or ice could accumulate behind a roof

penetration or when the average January temperature is 30°F (-1°C) or lower, install cricket flashings in lieu of backer flashings behind roof penetrations.

b. Where cricket widths exceed 18-inches, provide wood framing and plywood support beneath sheet metal cricket flashing.

c. Secure apron and backer/cricket flashings to the underlying substrate with fasteners appropriate to the substrate.

F. Step flashings:

1. Install step flashings at roof curbs, chimneys, wall terminations, locations indicated on drawings, and at locations recommended by the asphalt shingle roofing manufacturer.

a. At the locations indicated above, install step flashing at the end of each shingle course. Install step flashing with a minimum headlap of 2-inches, and a 4-inch extension onto the underlying shingle.

b. Secure step flashings to the underlying substrate with fasteners appropriate to the substrate.

G. Tubular penetration flashing: Flash round pipe penetrations with a manufacturer recommended pipe flashing boot.

1. At plumbing and sanitary vents: Flash round pipe penetrations with the specified elastomeric flashing boot. Follow the requirements of NRCA and the asphalt shingle roofing manufacturer.

2. At other tubular penetrations: Flash tubular penetration with the specified sheet metal flanged sleeve and hood. Follow the requirements of NRCA and the asphalt shingle roofing manufacturer.

3.5 MISCELLANEOUS INSTALLATIONS/TREATMENTS

A. Install ventilation accessories, including ridge vents, soffit vents and other rooftop vents at locations recommended by the asphalt shingle roofing manufacturer following the printed instructions of the manufacturer.

B. Sheet metal flashing strip-ins:

1. Install specified strip-in where indicated on drawings.

C. Butyl tape:

1. Install specified butyl tape behind counterflashings where indicated on drawings.

END OF SECTION

SECTION 075323

FULLY-ADHERED EPDM ROOFING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes requirements related to the installation of fully-adhered Ethylene Propylene Diene Monomer (EPDM) roofing membrane and flashings, related accessories, and warranty and guarantee requirements.

1.2 RELATED SECTIONS

A. Section 013300 – Submittal Procedures

B. Section 016000 – Product Requirements

C. Section 024100 – Roof Removal and Substrate Preparation

D. Section 061053 – Miscellaneous Rough Carpentry for Roof Replacement

E. Section 072221 – Roof Insulation and Cover Board over Underlayment

F. Section 072223 – Roof Insulation and Cover Board over Steel Roof Decks

G. Section 076205 – Sheet Metal for EPDM Roofing

H. 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.

1.3 ALTERNATES

A. Provide an alternate price for the 20-Year Warranty described in paragraph 1.9.A.

1.4 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 D4637 - Standard Specification for EPDM Sheet Used In Single-Ply Roof Membrane
   2. Certified Roofing Torch Applicator (CERTA) Program, developed by the Midwest Roofing Contractors Association (MRCA) and National Roofing Contractors Association (NRCA)
   3. National Roofing Contractors Association (NRCA)
   4. Underwriters Laboratories (UL)

1.5 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.

1.6 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.

1.7 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.

1.8 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. NOTE: Do not install EPDM roofing at temperatures below 35°F (2°C).
2. When the outside temperature is forecast to fall below 40°F (5°C), store unused materials in a heated location. Remove these materials only when ready for installation. Sealants, adhesives, primers and pressure-sensitive flashings should be maintained at a temperature of 40°F (5°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.

3. During cold weather applications, limit EPDM roll widths to 10-feet maximum. After unrolling the EPDM membrane, allow the membrane additional time to relax.
4. Be aware of potential condensation formation on the EPDM roof surface during application/flash-off of adhesives and primer. Remove condensation using a heat gun prior to adhesion to the insulation or cover board substrate. Do not use an open flame to remove condensation from the roof membrane or flashing materials.
5. Refer to the EPDM 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.

1.9 MANUFACTURER WARRANTY AND CONTRACTOR GUARANTEE

A. Provide a price for 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 inspection by a technical representative of the roofing membrane manufacturer 18-20 months after date of Final Acceptance. The technical representative shall provide a report of the inspection to the Owner no later than 60 days after the inspection.
2. Roofing manufacturer shall provide unlimited repairs during the warranty period with no cost limitation.
3. Temporary emergency repairs may be made by United States Postal Service without voiding warranty provisions. Permanent repairs shall be made in accordance with the requirements of the roofing membrane manufacturer.
4. A copy of the Record Document Roof Plan Drawings, Roof Detail Drawings, and Record Fully-Adhered EPDM Roofing Specification Section shall be attached to the warranty.

B. The Contractor shall provide a two-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 EPDM ROOFING SYSTEM SUMMARY

A. The complete roofing membrane system assembly shall consist of products meeting or exceeding the requirements listed in Article 2.2.

B. The complete roofing system assembly shall achieve a UL Class A fire rating.

2.2 ROOFING MEMBRANE

A. EPDM roofing membrane; fire resistant, cured, non-reinforced, nominal 90-mil thickness, black color; in compliance with ASTM D4637.

B. EPDM flashing membrane:
   1. Cured: fire-resistant, non-reinforced, nominal 90-mil thickness, black color; in compliance with ASTM D4637. Meeting or exceeding the standards listed in paragraph 2.2A.
   2. Uncured: Non-reinforced, minimum 60-mil thickness, black color. Type approved by roofing manufacturer for specific flashing conditions encountered.

2.3 EPDM MEMBRANE SPLICE SYSTEM

A. Cleaner/primer: Product approved by roofing membrane manufacturer.

B. In-seam splice tape: Splice tape; minimum 6-inch width, product approved by the roofing membrane manufacturer.

2.4 OUTERSEAM FLASHING SYSTEM

A. Cleaner/primer: Product approved by roofing membrane manufacturer.

B. Outerseam flashing stripping: EPDM pressure-sensitive flashing product, as indicated on the project drawings.

2.5 PERIMETER REINFORCEMENT SYSTEM

A. Cleaner/primer: Product approved by roofing membrane manufacturer.

B. Reinforced perimeter fastening strip: Product approved by the roofing membrane manufacturer.

C. Fasteners and plates: Product approved by the roofing membrane manufacturer; 2-inch diameter plates and minimum #14 fasteners.

2.6 PERIMETER EPDM MEMBRANE STRIPPINGS

A. For use at locations where perimeter edge fascia metal stripping is required:
   1. Bottom stripping: EPDM pressure-sensitive flashing product, minimum 5-inch width. Top stripping: EPDM pressure-sensitive flashing product, minimum 9-inch width.

2.7 RELATED EPDM PRODUCTS

A. Adhesives, cements, sealants, water cut-off mastics, prefabricated accessories, and other related items: Unless otherwise indicated, products manufactured by, or approved by the roofing membrane manufacturer.

2.8 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.

2.9 MISCELLANEOUS MATERIALS

A. Walkpads: Product approved by the roofing manufacturer.

B. Splashblocks: Concrete; size as necessary to accommodate existing condition.

C. 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.

D. 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.

E. 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.

F. 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.

G. 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.

H. 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.

I. 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.

J. 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.

K. Snow/ice retention system: Product such as “Snow Bars For Membrane with Anchor Pad” manufactured by “Ace Clamp”, Plainville, CT, or approved equal.
1. Size and configuration as necessary to accommodate existing conditions.

PART 3 - EXECUTION

3.1 GENERAL

A. Refer to Section 024100 for general work and substrate preparation requirements.

B. Ensure that the insulation and cover board substrate is installed as specified in Sections 072221, & 072223 are suitable to receive roofing membrane materials.

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. Do not use bituminous products in conjunction with EPDM materials. Petroleum-based products, grease, oil and solvents should not come in contact with the EPDM roof membrane system.

C. All membrane splicing and bonding surfaces must be clean and dry.

D. Install only as much roofing as can be completed in a work day, including flashing and detail work. All installed field seams shall be sealed to a watertight condition prior to leaving the site daily.

E. Sequence roofing work to eliminate the use of installed roofing as a walkway, or as a storage platform for materials.

F. 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.

G. 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.

H. 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.

I. Do not use open flame to dry the roof membrane or to heat the flashing materials.

3.3 PERIMETER REINFORCEMENT SYSTEM INSTALLATION

A. Install perimeter reinforcement strips at the base of walls, curbs, hatches, area transitions, elevation changes, where indicated on the project drawings, and other locations recommended by the roofing membrane manufacturer.

B. Prior to installation of roofing membrane, position the reinforcing cover strip adjacent to the wall/curb transition. Spot-adhere the strip to the underlying cover board as necessary to hold in place.

C. Secure the strip with specified fasteners and 2-inch plates 12-inches o.c. Position the plates in a manner that allows the reinforcing perimeter strip to extend 1/2-inch, minimum out beyond the plate toward the wall//curb transition.

D. At locations where horizontal placement of the reinforcing perimeter strip and securement into the underlying structural deck is not possible or desirable, contact the roofing membrane manufacturer for instructions related to alternate placement and securement methods.

E. Install the fully-adhered membrane over the perimeter reinforcing strip, following the recommendations and requirements of the roofing membrane manufacturer for adhesion.

3.4 EPDM MEMBRANE SPLICE SYSTEM INSTALLATION

A. Ensure splice area is clean, dry and free of foreign material or contaminants.

B. Apply primer to the splice area as recommended by the roofing membrane manufacturer.

C. Install specified in-seam splice tape at field-spliced seams. Install in-seam splice system in accordance with roofing membrane manufacturer requirements. Position in-seam splice tape in a manner that allows a consistent 1/8-inch “bleed out” from overlying membrane sheet.

D. Set overlying EPDM roofing membrane sheet.

3.5 FLASHINGS AND STRIPPINGS

A. Complete all flashings on a daily basis as the roof system work progresses.

B. Wall flashings: Install flashings as indicated on the project drawings and in accordance with the requirements and recommendations of the roofing membrane manufacturer.
1. Follow manufacturer-generated details for flashing requirements at inside (90-degree) and outside (270-degree) corners of curbs and walls.

C. Roof curb and hatch flashings: Install flashings as indicated on the project drawings and in accordance with the requirements and recommendations of the roofing membrane manufacturer.
1. Follow manufacturer-generated details for flashing requirements at inside (90-degree) and outside (270-degree) corners of curbs and walls.
2. Install pressure-sensitive flashing at the base seam(s) of curbs and roof hatches:
   a. Ensure seam area is clean, dry and free of foreign material or contaminants.
   b. Apply primer to the outerseam flashing area as recommended by the roofing membrane manufacturer.
   c. Where indicated, install specified outerseam flashing at seams. Position the outerseam flashing over the center of the seam and install in accordance with the requirements of the roofing membrane manufacturer.

D. Tubular penetration flashings: Install tubular penetration flashings as indicated on the project drawings and in accordance with the requirements and recommendations of the roofing membrane manufacturer.
1. Finished tubular penetration flashings shall be a minimum of 8-inches above the finished roof membrane elevation.
2. Install pressure-sensitive flashing at the base seam(s) of tubular penetrations:
   a. Ensure seam area is clean, dry and free of foreign material or contaminants.
   b. Apply primer to the outerseam flashing area as recommended by the roofing membrane manufacturer.
   c. Where indicated, install specified outerseam flashing at seams. Position the outerseam flashing over the center of the seam and install in accordance with the requirements of the roofing membrane manufacturer.

E. Pitch pan flashings:
1. Install pressure-sensitive flashing at pitch pan penetrations. Refer to Section 076205 for pitch pan fabrication requirements. Install flashings as indicated on the project drawings.
2. Install pressure-sensitive flashing at the base seam(s) of pitch pans:
   a. Ensure seam area is clean, dry and free of foreign material or contaminants.
   b. Apply primer to the outerseam flashing area as recommended by the roofing membrane manufacturer.
   c. Where indicated, install specified outerseam flashing at seams. Position the outerseam flashing over the center of the seam and install in accordance with the requirements of the roofing membrane manufacturer.

F. Sheet metal flange strippings:
1. Install pressure-sensitive flashing at perimeter edge metal flanges. Refer to Section 076205 for perimeter edge metal fabrication requirements.
a. Install strippings as indicated on the project drawings.

G. Follow the additional requirements and recommendations of the roofing membrane manufacturer regarding flashing product installation.

3.6 SHEET METAL FLASHINGS

A. Refer to Section 076205 for sheet metal flashing requirements related to EPDM roofing.

3.7 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. 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.

F. 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.

G. 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.

H. Rooftop unit support curbs:
1. Install unit support curbs where indicate on the project drawings.

2. Flash support curbs in accordance with the requirements of this Section, the project drawings, and the requirements and recommendations of the roofing membrane manufacturer.

I. 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.

J. 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.

K. Extendable safety post installation:
   1. Install new safety post following the written instructions, recommendations, and requirements of the roof hatch manufacturer.

L. 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.

M. Snow/ice retention system”
   1. Install following the manufacturers recommendations and requirements.

END OF SECTION

SECTION 075323 & 073113 – ATTACHMENT A

CONTRACTOR WATERTIGHT INTEGRITY ACKNOWLEDGEMENT LETTER

_____
Date

Project Name: _____

Project Street Address: _____

City, State, Zip Code: _____

Per the requirements of this Section and Berkley Michigan School District, The contractor of record, _____, agrees to maintain watertight integrity of the facility roofing system at all times during the course of the project. Contractor will provide a sealed, watertight roof system upon completion of daily work. This work includes a sealed, watertight tie-in between any existing and new roof systems.

No more roofing may be removed than can be replaced with a completed roof system in the same work day. To include; perimeter, penetration and ancillary detail flashings.

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 of record.

Signed,

Authorized Contractor Representative:_____

Authorized Contractor Representative Name (Printed):_____

Authorized Contractor Representative After-Hours Emergency Phone Number:_____

Project Foreman Name (Printed):_____

Project Foreman After-Hours Emergency Phone Number:_____

SECTION 076205

SHEET METAL FOR EPDM ROOFING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes requirements related to sheet metal fabrication and installation related to fully-adhered Ethylene Propylene Diene Monomer (EPDM) 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 016000 – Product Requirements

C. Section 075323 – Fully-Adhered EPDM Roofing

D. Section 079201 – Sealants

E. 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.

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 F1667 – Standard Specification for Driven Fasteners: Nails, Spikes, and Staples
   2. ANSI/SPRI/FM4435 ES-1 Test Standard for Edge Systems with Low Slope Roofing Systems
   3. National Roofing Contractors Association (NRCA)
   4. 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 project manual 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 EPDM 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 prefinished 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. Gutters: Prefinished galvanized steel, 24-gauge, with Kynar 500 coating. Fabricate gutters to match dimensions indicated on the project drawings, minimum dimension of 6-inches by 6-inches; fabricate in 10-foot sections, with a 4-inch horizontal flange and a 1/2-inch hug at the inner edge of the flange.
   1. Gutter hangers and spacers: Painted galvanized steel, 1-inch wide by 1/8-inch thick. Paint color to match gutter.

I. Scuppers:
   1. Scupper liners: Stainless steel, 22-gauge. Fabricate scupper liners in accordance with the project drawings, and following the requirements and recommendations of SMACNA. Solder all seams watertight.
   2. Conductor boxes and scupper closure plates: Prefinished galvanized steel, 24-gauge, with Kynar 500 coating; standard color as selected by the Owner. Fabricate these components in accordance with the project drawings, and following the requirements and recommendations of SMACNA.

J. Downspouts: Prefinished galvanized steel, 24-gauge with Kynar 500 coating; color as selected by the Owner. Minimum downspout dimensions shall be 4-inch by 5-inch. Fabricate downspouts with a “Pittsburgh Lock” seam, and in accordance with the project drawings and “SMACNA Architectural Sheet Metal Manual, 7th Edition”, Figures 1-32B and 1-32F. Size the hangers to match downspouts.

K. Pitch pans:
   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. Tubular penetration hoods:
1. Tubular penetration hoods associated with field and pre-fabricated tubular penetration flashings: Stainless steel, 24-guage. Fabricate to dimensions shown on the project drawings.
2. For securement of tubular penetration flashings and sheet metal hoods at tubular penetrations: Stainless steel adjustable clamp.

M. 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 flashings and sheet metal hoods at tubular penetrations: Stainless steel adjustable clamp.

N. 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.

2.2 MISCELLANEOUS MATERIALS

A. 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.

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.

2.5 SEALANTS FOR ROOFING

A. Refer to Section 079201.

PART 3 - EXECUTION

3.1 SHEET METAL INSTALLATION

A. Perimeter edge metal flashing system:
1. For field-fabricated perimeter edge metal flashing systems, install 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.
2. For manufacturer-provided factory-fabricated perimeter edge metal flashing systems, install perimeter edge metal flashing system following the recommendations and requirements of the system manufacturer.

B. Parapet wall metal flashing:
1. For field-fabricated parapet wall metal flashing systems, install as shown on the project drawings. Provide sheet metal flashings matching the configurations and dimensions indicated on the project drawings.
a. Fabricate continuous cleats with a kick-up, creating a minimum 1/2-inch per foot slope toward the roof.
b. 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.
c. 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.
d. 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.
e. 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.
2. For manufacturer-provided factory-fabricated parapet wall metal flashing systems, install perimeter edge metal flashing system following the recommendations and requirements of the system manufacturer.

C. Fascia extensions:
1. Secure fascia extensions with coated ring shank nails at wood substrates or other specified fasteners appropriate for other substrate conditions encountered, 6-inches o.c. max.

D. Area divider covers:
   1. Install covers and related continuous cleats, as detailed, at locations indicated on the project drawings.
   2. Fabricate to match configuration and dimensions indicated on the project drawings.
   3. 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.
   4. Join adjacent area divider 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.
   5. 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. Install covers and related backer pieces, as detailed, at locations indicated on the project drawings.
   2. Fabricate to match configuration and dimensions indicated on the project drawings.
   3. 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.
   4. 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.
   5. 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. Install covers, as detailed, at locations indicated on the project drawings.
   2. Fabricate to match configuration and dimensions indicated on the project drawings.
   3. 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. Gutters:
1. Fabricate and secure gutter hangers to substrate as indicated on the project drawings with fasteners compatible with the substrate encountered. Install specified gutter hangers 30-inches o.c. max.
2. Install the specified gutter spacers 30-inches o.c. Install gutter spacers between gutter hanger locations. Seal and secure the spacers to the gutter assembly as indicated on the project drawings.
3. Overlap individual gutter sections 1-1/2 inches. Seal overlap, and pop-rivet sections together with two rows of pop rivets. Space pop rivets 1/2-inch min., and 3/4-inch max. in each row. Completed gutter sections shall not exceed 40-feet in length.
4. Secure the flange with roofing nails 3-inches o.c. max., in two staggered rows.
5. Gutter expansion joints: Provide gutter expansion joints at locations recommended by SMACNA, and fabricated following the recommendations of SMACNA.

I. Scuppers:
1. Scupper liners: Install scupper liners as indicated on the project drawings. Install scupper liners following the requirements and recommendations of SMACNA.
2. Cover plates: At the exterior face of the scupper, install cover plates. Fabricate and install cover plates to the configurations and dimensions indicated on the project drawings, and following the requirements and recommendations of SMACNA.
3. Conductor boxes: If indicated on the project drawings, install conductor boxes. Fabricate and install conductor boxes to the configurations and dimensions indicated on the project drawings, and following the requirements and recommendations of SMACNA.

J. Downspouts: Fabricate the downspouts as indicated in PART 2 of this Section. Install the downspouts to match the configurations and dimensions indicated on the project drawings, and following the requirements and recommendations of SMACNA. Secure downspouts in accordance with the requirements and recommendations of SMACNA, using fasteners appropriate for the substrate encountered.
1. Install new downspouts at locations to match existing downspouts, with a minimum of two downspouts per completed gutter section uninterrupted by expansion joints.
2. Terminate the base of downspouts to match existing condition, unless indicated otherwise on the drawings.

K. Pitch pan flashings and pitch pan covers:
1. Fabricate and install pitch pans and pitch pan covers where indicated on the project drawings. Fabricate to the configurations and dimensions indicated on the project drawings. Flash pitch pans as indicated on the project drawings. Do not use pitch pans at tubular penetrations without the approval of the Owner.
2. Where soldering is required at stainless steel pitch pan covers: 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. Tubular penetration hoods:
1. Flash tubular penetrations as indicated on the project drawings.
2. Fabricate hoods to the configurations and dimensions indicated on the project drawings. Install tubular penetration hoods at tubular penetrations.
3. 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.

4. Secure top edge of flashing and hoods with the specified stainless steel adjustable clamp. Seal the top edges of flashing and clamps with sealant.

M. Hot stack penetration flashings:

1. Provide hot stack penetration flashings and associated hoods where indicated on the project drawings. Fabricate flanged sleeve and hoods to the configurations and dimensions indicated. Flash hot stack penetrations as indicated on the project drawings.
2. Where soldering is required at stainless steel pitch pan covers: 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.
3. Secure top edge of flashing and hoods with the specified stainless steel adjustable clamp. Seal the top edges of flashing and clamps with high-temperature sealant.

N. Miscellaneous sheet metal accessories:

1. Anchor bar installation: Fasten the upper edges of EPDM flashings with an anchor bar installed in accordance with the requirements of the roofing membrane manufacturer.

END OF SECTION

SECTION 079201

SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes product and execution requirements related to the installation of sealants associated with sheet metal flashing work, sealants at high-temperature penetrations, sealants associated with windows, and sealants at building expansion and control joints, if applicable.

1.2 RELATED SECTIONS

A. Section 013300 – Submittal Procedures

B. Section 016000 – Product Requirements

C. 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.

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 C 920 – Standard Specification for Elastomeric Joint Sealants
      b. ASTM C 661 - Standard Test Method for Indentation Hardness of Elastomeric Type Sealants by Means of a Durometer
      c. ASTM C 679 - Standard Test Method for Tack-Free Time of Elastomeric Sealants
      d. ASTM C 719 - Standard Test Method for Adhesion and Cohesion of Elastomeric Joint Sealants Under Cyclic Movement (Hockman Cycle)
      e. ASTM C 794 - Standard Test Method for Tack-Free Time of Elastomeric Sealants
      f. ASTM C 1135 - Standard Test Method for Determining Tensile Adhesion Properties of Structural Sealants
      g. ASTM C 1193 - Standard Guide for Use of Joint Sealants
      h. ASTM C 1248 - Standard Test Method for Staining of Porous Substrate by Joint Sealants

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 project manual 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.

1.6 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 sealant 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.

1.8 MANUFACTURER WARRANTY AND CONTRACTOR GUARANTEE

A. Provide a manufacturer 20-Year Product Warranty covering sealant.

B. The Contractor shall provide a five-year contractor guarantee covering workmanship related to building envelope sealant work.

PART 2 – PRODUCTS

2.1 GENERAL

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another, joint substrates under conditions of service and application, and any adjacent or previous sealants, as demonstrated by the sealant manufacturer.

B. Color of exposed exterior sealants used in conjunction with sheet metal flashings shall match adjacent sheet metal, unless otherwise indicated by the Owner. Color of all other sealants shall be determined by Owner.

2.2 SEALANT

A. Building Joint Sealant: One-component, ultra-low modulus, neutral-cure, architectural-grade silicone rubber sealant; in compliance with ASTM C 920, Type S, Grade NS; Class 50, Use NT, G, A O. Color as directed by Owner. Products such as:
1. Dow Corning 795 Silicone Building Sealant, manufactured by Dow Corning; www.dowcorning.com.
2. GE SCS2000 SilPruf Silicone Sealant and Adhesive, manufactured by GE; www.GE.com/silicones.
3. Other sealants meeting the requirements listed in Paragraph 2.2.A, and approved by the Owner prior to use.

B. Window Sealant: Perimeter and butterfly joint sealants (frame-to-frame and frame-to-dissimilar material Dow Corning 790 sealant. Glazing (frame-to-glass) Dow Corning 795 sealant.

C. Roofing Sheet Metal Sealant: Moisture-cured, non-sag, urethane sealant, in compliance with ASTM C 920, Type S, Grade NS. Color to match sheet metal or as directed by Owner.
1. Closed-cell backing materials, bond breakers, and primers as recommended by the sealant manufacturer for the joint conditions encountered.

D. High-temperature sealant: For use at high-temperature penetrations and other locations where high temperatures are anticipated: Product such as “736 Heat Resistant Sealant”, manufactured by Dow Corning, or other product approved by Owner for temperature and substrate conditions encountered.
1. Heat resistant sealant shall be rated to withstand intermittent temperatures up to 500 degrees Fahrenheit, minimum.

E. Sealant primer: Type recommended and approved by sealant manufacturer for substrate encountered.

F. Joint filler, backer rod and bond breaker tape:
1. Product(s) recommended and approved by sealant manufacturer for substrate encountered.

2. Size and configuration as necessary for condition encountered.

PART 3 - EXECUTION

3.1 SEALANT INSTALLATION

A. Sealant installation related to sheet metal flashings:
   1. Surface preparation: Prior to installation, prepare surfaces specified to receive sealant as recommended by the sealant manufacturer. Clean surfaces immediately before installation of sealants to provide surfaces suitable for the installation of sealant, removing all foreign material, dust, oil, grease, water, surface dirt, and existing paint. Clean metal surfaces using a solvent that leaves no residue, such as toluene or xylene. Use clean clothes or lint-free paper towels for cleaning with solvents and drying.
   2. Priming: If required or recommended by the sealant manufacturer, apply primer in accordance with the sealant manufacturer's written instructions. Apply primer with a clean, dry, lint-free cloth. Do not dilute materials. Flooding of the substrate surface is not permitted. Continue primer to areas of sealant bond only.
   3. Sealant installation: Install sealant where shown on the project drawings in accordance with the requirements and recommendations of the sealant manufacturer.
      a. Use sealant-dispensing equipment to push sealant bead into opening. Fill joint opening to full and proper configuration. Apply in continuous operation.
      b. Before skinning or curing begins, tool sealant with metal spatula. Provide concave, smooth, uniform, sealant finish. Eliminate air pockets and ensure complete contact on both sides of joint opening. Tool joints in one continuous stroke. The use of soaps, oils, water and or alcohols as tooling aids are not permitted.

B. Sealant installation at high temperature penetrations:
   1. Surface preparation: Prior to installation, prepare surfaces specified to receive sealant as recommended by the sealant manufacturer. Clean surfaces immediately before installation of sealants to provide surfaces suitable for the installation of sealant, removing all foreign material, dust, oil, grease, water, surface dirt, and existing paint. Clean metal surfaces using a solvent that leaves no residue, such as toluene or xylene. Use clean clothes or lint-free paper towels for cleaning with solvents and drying.
   2. Priming: If required or recommended by the sealant manufacturer, apply primer in accordance with the sealant manufacturer's written instructions. Apply primer with a clean, dry, lint-free cloth. Do not dilute materials. Flooding of the substrate surface is not permitted. Continue primer to areas of sealant bond only.
   3. Sealant installation: Install sealant where shown on the project drawings in accordance with the requirements and recommendations of the sealant manufacturer.
      a. Use sealant-dispensing equipment to push sealant bead into opening. Fill joint opening to full and proper configuration. Apply in continuous operation.
      b. Before skinning or curing begins, tool sealant with metal spatula. Provide concave, smooth, uniform, sealant finish. Eliminate air pockets and ensure complete contact on both sides of joint opening. Tool joints in one continuous stroke. The use of soaps, oils, water and or alcohols as tooling aids are not permitted.

C. Sealant installation at coping joints, and building expansion and/or control joints:
   1. Surface preparation: Prior to installation, prepare surfaces specified to receive sealant as recommended by the sealant manufacturer. Clean surfaces immediately before installation of sealants to provide surfaces suitable for the installation of sealant,

removing all foreign material, dust, oil, grease, water, surface dirt, and existing paint. Clean metal surfaces using a solvent that leaves no residue, such as toluene or xylene. Use clean clothes or lint-free paper towels for cleaning with solvents and drying.

2. Priming: If required or recommended by the sealant manufacturer, apply primer in accordance with the sealant manufacturer's written instructions. Apply primer with a clean, dry, lint-free cloth. Do not dilute materials. Flooding of the substrate surface is not permitted. Continue primer to areas of sealant bond only.
3. Sealant installation: Install sealant where shown on the project drawings in accordance with the requirements and recommendations of the sealant manufacturer.
    a. Sealant backing: Provide backer rod with a minimum diameter that is 25 percent greater than the joint width. Install backer rod with blunt instrument. Install without gaps, twisting, stretching, or puncturing backing material. Use proper backer rod size to ensure uniform depth to achieve correct profile, coverage, and performance. Where backer rods must terminate, use bond breaker tape.
    b. Bond breaker: Install on backside of joint where backing is not feasible.
    c. Maintain a 2-to-1 ratio of joint width to sealant depth in accordance with the manufacturer's requirements.
    d. Use sealant-dispensing equipment to push sealant bead into opening. Fill joint opening to full and proper configuration. Apply in continuous operation.
    e. Before skinning or curing begins, tool sealant with metal spatula. Provide concave, smooth, uniform, sealant finish. Eliminate air pockets and ensure complete contact on both sides of joint opening. Tool joints in one continuous stroke. The use of soaps, oils, water and or alcohols as tooling aids are not permitted.
    f. Complete horizontal joints prior to vertical joints. Lap vertical sealant over horizontal joints.

3.2 FIELD QUALITY CONTROL

A. Perform adhesion tests in accordance with manufacturer's instructions and ASTM C 1193, Method A, Field-Applied Sealant Joint Hand-Pull Tab.
    1. Perform one adhesion test per building elevation, minimum.
    2. For sealants applied between dissimilar materials, test both sides of joint.

B. Sealants failing adhesion test shall be removed, substrates cleaned, sealants re-installed, and re-testing performed.

C. Maintain test log and submit report to Architect indicating tests, locations, dates, results, and remedial actions.

END OF SECTION