

STATE OF NORTH CAROLINA/BUNCOMBE COUNTY SCHOOLS REQUEST FOR PROPOSAL

RFP #47-12

PROJECT: Enka High Re-Roof Areas K & K1

PROJECT DESIGNER: Mary Beth Kingston, AIA, Assistant Director of Facilities

USING AGENCY: Buncombe County Schools

ISSUE DATE: November 30, 2012

Sealed proposals subject to the conditions made a part hereof will be received until **4:00 p.m., Wednesday, December 19, 2012** for furnishing all labor, materials, equipment, and services incidental and implied, for completion of the project described herein.

PREBID CONFERENCE: Pre-Bid meeting December 5, 2012, 10:00am in the Main Office of Enka High School, located at 475 Enka Lake Road, Candler, NC 28715.

SEND ALL PROPOSALS DIRECTLY TO THE ADDRESS AS SHOWN BELOW:

Buncombe County Schools, Purchasing Division

175 Bingham Road
Asheville, NC 28806

NOTE: Indicate firm name and RFP number on the front of each sealed proposal envelope or package, along with the date for receipt of proposals specified above.

Direct inquiries concerning this RFP to: Mary Beth Kingston, Asst. Director Phone: 828-255-5916
Ron Venturella, Purchasing Officer Phone: 828-255-5891

THE PROCUREMENT PROCESS

The following is a general description of the process by which a firm will be selected to provide services.

1. Request for Proposals (RFP) is issued to prospective contractors.
2. A preproposal conference and/or deadline for written questions is five days prior to due date.
3. Proposals in one original will be received from each offeror in a sealed envelope or package. Each original shall be signed and dated by an official authorized to bind the firm. Unsigned proposals will not be considered.
4. All proposals must be received by the issuing agency not later than the date and time specified on the cover sheet of this RFP.
5. At that date and time the proposals from each responding firm will be opened. Interested parties are cautioned that these costs and their components are subject to further evaluation for completeness and correctness and therefore may not be an exact indicator of an offeror's pricing position. Informal proposals (less than \$ 300,000) are confidential until such time that award has been made. Thereafter, the purchasing division will furnish bid tabs upon request.
6. At their option, the evaluators may request oral presentations or discussion with any or all offerors for the purpose of clarification or to amplify the materials presented in any part of the proposal. However, offerors are cautioned that the evaluators are not required to request clarification; therefore, all proposals should be complete and reflect the most favorable terms available from the offeror.
7. Proposals will be evaluated according to completeness, content, experience with similar projects, ability of the offeror and its staff, and cost. Award of a contract to one offeror does not mean that the other proposals lacked merit, but that, all factors considered, the selected proposal was deemed most advantageous to the State.
8. Offerors are cautioned that this is a request for offers, not a request to contract, and the State/Buncombe County Schools reserves the unqualified right to reject any and all offers when such rejection is deemed to be in the best interest of the State.

(NOTE: THIS FORM MUST BE FULLY EXECUTED AND RETURNED FOR CONSIDERATION OF PROPOSAL)

PROPOSAL FORM

ENKA HIGH RE-ROOF AREAS K & K1

RFP#47-12

DUE DATE: 12-19-12 4:00pm

By submitting this proposal, the potential contractor certifies the following:

- ** This proposal is signed by an authorized representative of the firm.
- ** It can obtain and submit to the Owner insurance certificates as required within 5 calendar days after notice of award.
- ** The cost and availability of all equipment, materials, and supplies associated with performing the services described herein have been determined and included in the proposed cost.
- ** All labor costs, direct and indirect, have been determined and included in the proposed cost.
- ** All taxes have been determined and included in the proposed cost.
- ** The offeror has attended the conference (*if applicable*) or conducted a site visit and is aware of prevailing conditions associated with performing these services.
- ** The potential contractor has read and understands the conditions set forth in this RFP and agrees to them with no exceptions.

Therefore, in compliance with this Request for Proposals, and subject to all conditions herein, the undersigned offers and agrees, if this proposal is accepted within 45 days (normally less) from the date of the opening, to furnish the subject services for a cost not to exceed:

BASE BID: Enka High Re-roof areas K & K1

\$ _____ dollars and _____ /100 \$ _____

ALTERNATE #1: (Deduct) K1 canopy roof to remain as existing

\$ _____ dollars and _____ /100 \$ _____

ALTERNATE #2: (Deduct) Provide .060 TPO membrane in place of .080 membrane

\$ _____ dollars and _____ /100 \$ _____

Unit Price #1: Metal deck replacement per 60sf \$ _____

Unit Price #2: Metal deck repair/overlay per 30sf \$ _____

Unit Price #3: Metal deck repair per 1sf \$ _____

Unit Price #4: Nailer replacement per 1 bd ft \$ _____

Unit Price #5: Stainless steel Threaded rod \$ _____

Drawings & specifications received: _____ Attended prebid conference: _____

OFFEROR: _____

ADDRESS: _____

CITY, STATE, ZIP: _____

TELEPHONE NUMBER: _____ FAX: _____

FED ID No: _____ Type & License #: _____

PROPOSAL FORM CONTINUED ON NEXT PAGE

(NOTE: THIS FORM MUST BE FULLY EXECUTED AND RETURNED FOR CONSIDERATION OF PROPOSAL)

E-MAIL: _____ MBE Status: _____

Principal Place of Business if different from above (See General Information on Submitting Proposals, Item 18.): _____

BY: (Signature) _____ TITLE: _____

DATE: _____ (Typed or printed name) _____

**Bid bond is required with this bid. Forms are included in this bid package.
Please include bid bond in its own separate sealed envelope.**

GENERAL INFORMATION ON SUBMITTING PROPOSALS

1. **EXCEPTIONS:** All proposals are subject to the terms and conditions outlined herein. All responses shall be controlled by such terms and conditions and the submission of other terms and conditions, price lists, catalogs, and/or other documents as part of an offeror's response will be waived and have no effect either on this Request for Proposals or on any contract that may be awarded resulting from this solicitation. Offeror specifically agrees to the conditions set forth in the above paragraph by signature to the proposal.
2. **CERTIFICATION:** By executing the proposal, the signer certifies that this proposal is submitted competitively and without collusion (G.S. 143-54), that none of our officers, directors, or owners of an unincorporated business entity has been convicted of any violations of Chapter 78A of the General Statutes, the Securities Act of 1933, or the Securities Exchange Act of 1934 (G.S. 143-59.2), and that we are not an ineligible vendor as set forth in G.S. 143-59.1. False certification is a Class I felony.
3. **ORAL EXPLANATIONS:** The State/Buncombe County Schools shall not be bound by oral explanations or instructions given at any time during the competitive process or after award.
4. **REFERENCE TO OTHER DATA:** Only information which is received in response to this RFP will be evaluated; reference to information previously submitted shall not be evaluated.
5. **ELABORATE PROPOSALS:** Elaborate proposals in the form of brochures or other presentations beyond that necessary to present a complete and effective proposal are not desired.

In an effort to support the sustainability efforts of the State of North Carolina we solicit your cooperation in this effort.

It is desirable that all responses meet the following requirements:

- All copies are printed **double sided**.
 - All submittals and copies are printed on **recycled paper with a minimum post-consumer content of 30%** and indicate this information accordingly on the response.
 - Unless absolutely necessary, all proposals and copies should **minimize or eliminate use of non-recyclable or non re-usable materials** such as plastic report covers, plastic dividers, vinyl sleeves, and GBC binding. Three-ringed binders, glued materials, paper clips, and staples are acceptable.
 - Materials should be submitted in a format which allows for **easy removal and recycling** of paper materials.
6. **COST FOR PROPOSAL PREPARATION:** Any costs incurred by offerors in preparing or submitting offers are the offerors' sole responsibility; the State of North Carolina/Buncombe County Schools will not reimburse any offeror for any costs incurred.
 7. **TIME FOR ACCEPTANCE:** Each proposal shall state that it is a firm offer which may be accepted within a period of 45 days. Although the contract is expected to be awarded prior to that time, the 45 day period is requested to allow for unforeseen delays.
 8. **TITLES:** Titles and headings in this RFP and any subsequent contract are for convenience only and shall have no binding force or effect.
 9. **CONFIDENTIALITY OF PROPOSALS:** In submitting its proposal the offeror agrees not to discuss or otherwise reveal the contents of the proposal to any source outside of the using or issuing agency, government or private, until after the award of the contract. Offerors not in compliance with this provision may be disqualified, at the option of the State/Buncombe County Schools, from contract award. Only discussions authorized by the issuing agency are exempt from this provision.
 10. **RIGHT TO SUBMITTED MATERIAL:** All responses, inquiries, or correspondence relating to or in reference to the RFP, and all other reports, charts, displays, schedules, exhibits, and other documentation submitted by the offerors shall become the property of the State/Buncombe County Schools when received.
 11. **OFFEROR'S REPRESENTATIVE:** Each offeror shall submit with its proposal the name, address, and telephone number of the person(s) with authority to bind the firm and answer questions or provide clarification concerning the firm's proposal.
 12. **SUBCONTRACTING:** Offerors may propose to subcontract portions of the work provided that their proposals clearly indicate what work they plan to subcontract and to whom and that all information required about the prime contractor is also included for each proposed subcontractor.
 13. **PROPRIETARY INFORMATION:** Trade secrets or similar proprietary data which the offeror does not wish disclosed to other than personnel involved in the evaluation or contract administration will be kept confidential to the extent permitted by NCAC T01:05B.1501 and G.S. 132-1.3 if identified as follows: Each page shall be identified in boldface at the top and bottom as "CONFIDENTIAL". Any section of the proposal which is to remain confidential shall also be so marked in boldface on the title page of that section. Cost information may not be deemed confidential. In spite of what is labeled as confidential, the determination as to whether or not it is shall be determined by North Carolina law.

14. **HISTORICALLY UNDERUTILIZED BUSINESSES:** Pursuant to General Statute 143-48 and Executive Order #150, Buncombe County Schools invites and encourages participation in this procurement process by businesses owned by minorities, women, disabled, disabled business enterprises and non-profit work centers for the blind and severely disabled.

The Contractor agrees in particular to maintain open hiring and employment practices and to receive applications for employment in compliance with all requirements of applicable federal, state and local laws and regulations issued pursuant thereto relating to nondiscriminatory hiring and employment practices. Each Prime Contractor shall undertake an affirmative action program to ensure that no person shall be excluded from participation in any employment activities because of age, sex, race, religion, color, national origin or handicap.

15. **PROTEST PROCEDURES:** If an offeror wants to protest a contract awarded pursuant to this solicitation, they must submit a written request to the Purchasing Officer, Buncombe County Schools, 175 Bingham Road, or PO Box 16771, Asheville, NC 28806. This request must be received by the Purchasing Division within thirty (30) consecutive calendar days from the date of the contract award, and must contain specific sound reasons and any supporting documentation for the protest. **NOTE:** Contract award notices are sent only to those actually awarded contracts, and not to every person or firm responding to this solicitation. Contract status and award notices are available through the purchasing division or the project designer with contact information as shown on the first page of this solicitation. Offeror's may call to obtain a verbal status of contract award. All protests will be handled pursuant to the North Carolina Administrative Code, Title 1, Department of Administration, Chapter 5, Purchase and Contract, Section 5B.1519.
16. **TABULATIONS:** Offeror's may call the purchasing division to obtain a verbal status of contract award.
17. **VENDOR REGISTRATION AND SOLICITATION NOTIFICATION SYSTEM:** Vendor Link NC allows vendors to electronically register free with the State to receive electronic notification of current procurement opportunities for goods and services available on the Interactive Purchasing System. Online registration and other purchasing information are available on the Internet web site: <http://www.state.nc.us/pandc/>.
18. **RECIPROCAL PREFERENCE:** G.S. 143-59 establishes a reciprocal preference law to discourage other states from applying in-state preferences against North Carolina's resident offerors. The "Principal Place of Business" is defined as the principal place from which the trade or business of the offeror is directed or managed.

NORTH CAROLINA GENERAL CONTRACT TERMS AND CONDITIONS (Contractual and Consultant Services)

1. **GOVERNING LAW:** This contract is made under and shall be governed and construed in accordance with the laws of the State of North Carolina.
2. **SITUS:** The place of this contract, its situs and forum, shall be North Carolina, where all matters, whether sounding in contract or tort, relating to its validity, construction, interpretation and enforcement shall be determined.
3. **INDEPENDENT CONTRACTOR:** The Contractor shall be considered to be an independent contractor and as such shall be wholly responsible for the work to be performed and for the supervision of its employees. The Contractor represents that it has, or will secure at its own expense, all personnel required in performing the services under this agreement. Such employees shall not be employees of, or have any individual contractual relationship with the Agency.
4. **KEY PERSONNEL:** The Contractor shall not substitute key personnel assigned to the performance of this contract without prior written approval by the Agency's Contract Administrator. The individuals designated as key personnel for purposes of this contract are those specified in the Contractor's proposal.
5. **SUBCONTRACTING:** Work proposed to be performed under this contract by the Contractor or its employees shall not be subcontracted without prior written approval of the Agency's Contract Administrator/Project Designer. Acceptance of an offeror's proposal shall include any subcontractor(s) specified therein.
6. **PERFORMANCE AND DEFAULT:** If, through any cause, the Contractor shall fail to fulfill in timely and proper manner the obligations under this agreement, the Agency shall thereupon have the right to terminate this contract by giving written notice to the Contractor and specifying the effective date thereof. In that event, all finished or unfinished deliverable items under this contract prepared by the Contractor shall, at the option of the Agency, become its property, and the Contractor shall be entitled to receive just and equitable compensation for any satisfactory work completed on such materials. Notwithstanding, the Contractor shall not be relieved of liability to the Agency for damages sustained by the Agency by virtue of any breach of this agreement, and the Agency may withhold any payment due the Contractor for the purpose of setoff until such time as the exact amount of damages due the Agency from such breach can be determined. In case of default by the Contractor, the State may procure the services from other sources and hold the Contractor responsible for any excess cost occasioned thereby. The State reserves the right to require performance bond or other acceptable

alternative guarantees from successful offeror without expense to the State.

Upon the entering of a judgment of bankruptcy of insolvency by or against the Contractor, the Agency may terminate this contract for cause.

Neither party shall be deemed to be in default of its obligations hereunder if and so long as it is prevented from performing such obligations by any act of war, hostile foreign action, nuclear explosion, riot, strikes, civil insurrection, earthquake, hurricane, tornado, or other catastrophic natural event or act of God.

7. **TERMINATION:** The Agency may terminate this agreement at any time by *15 days* notice in writing from the Agency to the Contractor. In that event, all finished or unfinished deliverable items prepared by the Contractor under this contract shall, at the option of the Agency, become its property. If the contract is terminated by the Agency as provided herein, the Contractor shall be paid for services satisfactorily completed, less payment or compensation previously made.
8. **AVAILABILITY OF FUNDS:** Any and all payments to the Contractor are dependent upon and subject to the availability of funds to the Agency for the purpose set forth in this agreement.
9. **CONFIDENTIALITY:** Any information, data, instruments, documents, studies or reports given to or prepared or assembled by the Contractor under this agreement shall be kept as confidential and not divulged or made available to any individual or organization without the prior written approval of the Agency.
10. **CARE OF PROPERTY:** The Contractor agrees that it shall be responsible for the proper custody and care of any property furnished it for use in connection with the performance of this contract or purchased by it for this contract and will reimburse the State for loss of damage of such property.
11. **COPYRIGHT:** No deliverable items produced in whole or in part under this agreement shall be the subject of an application for copyright by or on behalf of the Contractor.
12. **ACCESS TO PERSONS AND RECORDS:** The State Auditor shall have access to persons and records as a result of all contracts or grants entered into by State agencies or political subdivisions in accordance with General Statute 147-64.7. The Contractor shall retain all records for a period of three years following completion of the contract.
13. **ASSIGNMENT:** No assignment of the Contractor's obligations nor the Contractor's right to receive payment hereunder shall be permitted. However, upon written request approved by the issuing purchasing authority, the State may:
 - a. Forward the contractor's payment check(s) directly to any person or entity designated by the Contractor, or
 - b. Include any person or entity designated by Contractor as a joint payee on the Contractor's payment check(s).In no event shall such approval and action obligate the State to anyone other than the Contractor and the Contractor shall remain responsible for fulfillment of all contract obligations.
14. **COMPLIANCE WITH LAWS:** The Contractor shall comply with all laws, ordinances, codes, rules, regulations, and licensing requirements (permits) that are applicable to the conduct of its business, including those of federal, state, and local agencies having jurisdiction and/or authority.
15. **AFFIRMATIVE ACTION:** The Contractor shall take affirmative action in complying with all Federal and State requirements concerning fair employment and employment of people with disabilities, and concerning the treatment of all employees without regard to discrimination by reason of race, color, religion, sex, national origin, or disability.
16. **INSURANCE:** During the term of the contract, the contractor at its sole cost and expense shall provide commercial insurance of such type and with such terms and limits as may be reasonably associated with the contract. As a minimum, the contractor shall provide and maintain the following coverage and limits:
 - a. Worker's Compensation - The contractor shall provide and maintain Worker's Compensation Insurance, as well as employer's liability coverage with minimum limits of \$150,000.00, covering all of Contractor's employees who are engaged in any work under the contract. If any work is subcontracted, the contractor shall require the subcontractor to provide the same coverage for any of its employees engaged in any work under the contract.
 - b. Commercial General Liability - General Liability Coverage on a Comprehensive Broad Form on an occurrence basis in the minimum amount of \$2,000,000.00 Combined Single Limit. (Defense cost shall be in excess of the limit of liability).
 - c. Automobile - Automobile Liability Insurance, to include liability coverage, covering all owned, hired and non-owned vehicles, used in connection with the contract. The minimum combined single limit shall be \$500,000.00 bodily injury and property damage; \$500,000.00 uninsured/under insured motorist; and \$100,000.00 medical payment.

Providing and maintaining adequate insurance coverage is a material obligation of the contractor and is of the essence of this contract. All such insurance shall meet all laws of the State of North Carolina. Such insurance coverage shall be obtained from

companies that are authorized to provide such coverage and that are authorized by the Commissioner of Insurance to do business in North Carolina. The contractor shall at all times comply with the terms of such insurance policies, and all requirements of the insurer under any such insurance policies, except as they may conflict with existing North Carolina laws or this contract. The limits of coverage under each insurance policy maintained by the contractor shall not be interpreted as limiting the contractor's liability and obligations under the contract.

The Contractor shall furnish a Certificate of Insurance as proof of the above coverages. Certificate will contain provision that the insurance coverages cannot be canceled, reduced in amount or coverage eliminated without 30 days written notice to the Buncombe County Board of Education. Owner's Protective insurance must list the Buncombe County Board of Education as a "Named Insured" as its interest may appear. Owner's approval of Certificate of Insurance does not decrease or relieve the contractor's responsibility for maintaining insurance coverage as required in this Request for Proposal.

17. **ADVERTISING:** Contractor agrees not to use the existence of this contract, the name of the agency, or the name of the State of North Carolina as part of any commercial advertising.
18. **ENTIRE AGREEMENT:** This contract and any documents incorporated specifically by reference represent the entire agreement between the parties and supersede all prior oral or written statements or agreements. This Request for Proposals, any addenda thereto, and the offeror's proposal are incorporated herein by reference as though set forth verbatim.

All promises, requirements, terms, conditions, provisions, representations, guarantees, and warranties contained herein shall survive the contract expiration or termination date unless specifically provided otherwise herein, or unless superseded by applicable Federal or State statutes of limitation.
19. **AMENDMENTS:** This contract may be amended only by written amendments duly executed by the Agency and the Contractor.
20. **TAXES:** G.S. 143-59.1 bars the Secretary of Administration from entering into contracts with vendors if the vendor or its affiliates meet one of the conditions of G. S. 105-164.8(b) and refuse to collect use tax on sales of tangible personal property to purchasers in North Carolina. Conditions under G. S. 105-164.8(b) include: (1) Maintenance of a retail establishment or office, (2) Presence of representatives in the State that solicit sales or transact business on behalf of the vendor and (3) Systematic exploitation of the market by media-assisted, media-facilitated, or media-solicited means. By execution of the bid document the vendor certifies that it and all of its affiliates, (if it has affiliates), collect(s) the appropriate taxes.
21. **GENERAL INDEMNITY:** The contractor shall hold and save the State/Buncombe County Schools, its officers, agents, and employees, harmless from liability of any kind, including all claims and losses, with the exception of consequential damages, accruing or resulting to any other person, firm, or corporation furnishing or supplying work, services, materials, or supplies in connection with the performance of this contract, and from any and all claims and losses accruing or resulting to any person, firm, or corporation that may be injured or damaged by the contractor in the performance of this contract and that are attributable to the negligence or intentionally tortious acts of the contractor provided that the contractor is notified in writing within 30 days that the State/Buncombe County Schools has knowledge of such claims. The contractor represents and warrants that it shall make no claim of any kind or nature against the State's agents who are involved in the delivery or processing of contractor goods to the State. The representation and warranty in the preceding sentence shall survive the termination or expiration of this contract.

**CONTRACTOR'S SALES TAX REPORT
NC State and Local Sales Taxes Paid**

Buncombe County Schools

CONTRACTOR: _____ **PO#/RFP#** _____

Address: _____ **For Period:** _____

Invoice Date	Invoice #	Type of Property	NC Tax 4.75%	County Tax 2.25%	Name of County
		TOTAL	\$	\$	

I certify that the above figures do not include any tax paid on supplies, tools and equipment which were used to perform this contract and only includes those building materials, supplies, fixtures and equipment which actually became a part of or annexed to the building or structure. I certify that, to the best of my knowledge, the information provided here is true, correct, and complete.

Sworn to and subscribed before me,

This the _____ day of _____, 20____

Signed

Notary Public

My Commission Expires: _____

Print or Type Name of Above & Title

Seal

NOTE:
This certified statement may be subject to audit.

The North Carolina General Assembly has amended the Statute to provide refunds of sales and use tax to local school units in accordance with the provisions of G.S. 105-164. 14(c) effective with tax paid on or after July 1, 1998.

These refunds are to include the “sales and use taxes paid by contractors on building materials, supplies, fixtures and equipment that become a part of or annexed to a building or structure that is owned or leased by the governmental entity and is being erected, altered or repaired for use by the governmental entity (G.S. 105-164.14).”

Sales and Use Tax Technical Bulletin Section 18-2F specifies: “To substantiate a refund claim for sales or use taxes paid on purchases of building materials, supplies, fixtures and equipment by its contractor, the claimant must secure from such contractor certified statements setting forth all of the following information:

- a. the date the property was purchased;
- b. the type of property purchased :
- c. the project for which the property was used:
- d. if the property was purchased in this State, the county in which it was purchased;
- e. if the property was not purchased in this State, the county in which the property was used; and
- f. the amount of sales and use taxes paid.

In the event the contractor makes several purchases from the same vendor, such certified statement must indicate the invoice numbers, the inclusive dates of the invoices, the total amount of the invoices and the State and local sales and use taxes paid thereon. Such statement must also include the cost of any tangible personal property withdrawn from the contractor's warehouse stock and the amount of sales and use tax paid thereon by the contractor. Similar certified statements by his subcontractors must be obtained by the general contractor and furnished to the claimant. Any local sales or use taxes must be shown separately from the State sales or use taxes. The contractor's statements must not contain sales or use taxes paid on purchases of tangible personal property purchased by such contractors for use in performing the contract which does not annex to, affix to or in some manner become a part of the building or structure that is owned or leased by a governmental agency and is being erected, altered or repaired for use by a governmental entity as defined by G.S. 105-164.14(c). Examples of property on which sales or use tax has been paid by the contractor and which shall not be included in the contractor's statement are scaffolding, forms for concrete, fuel for the operation of machinery and equipment, tools, repair parts and equipment rentals.

Please read entire specification package. You will be held accountable for all information. NO payment shall be made if specifications are not followed.

Scope: The Work consists of removing the existing built up roof system to metal deck on Building C (Roof Areas K and K1) and replacing with mechanically fastened rigid insulation to meet new energy code and fully adhered .080 TPO roof membrane. The base bid area involved is approximately 13,600 square feet. All system elements are to be provided within the 20 year full system 72 mph warrantee and to meet applicable codes.

Work Schedule: Work may be completed on good weather days as defined in the specifications and as coordinated with school testing schedule. **Work schedule begins the date the purchase order is issued** and is to be completed in 120 days.

Qualifications: All bidders must furnish a list of North Carolina Contractor Licenses, which they hold.

Contractor's Responsibility: The Contractor shall be responsible for the construction site during the performance of the work. The Contractor shall be responsible for any and all damages to persons and property during the performance of the work and shall further provide all necessary safety measures and shall fully comply with all federal state and local laws, building rules, rules and regulations to prevent accidents or injury to persons or property on or about the location of the work site. This is to include OSHA 1910, General Construction, or those regulations mandated by these specifications. Special attention will be made to proper barricading of the work areas due to the work progressing within an actively operating office atmosphere.

Safety Regulations: The Contractor shall adhere to the rules, regulations and interpretations of the North Carolina Department of Labor relating to Occupational Safety and Health Standards for the Construction Industry (Title 29, Code of Federal Regulations, Part 1926, published in Volume 39, Number 122, Part II, June 24, 1974 Federal Register) which is hereby incorporated in these specifications.

Codes: All work shall be done in accordance with the specifications and shall comply with North Carolina Building Code, Underwriters' Rules and Regulations and Federal, State and Local Regulations covering work of this nature. Whenever drawings or specifications are in excess of such laws, codes and regulations, the specifications shall hold. All equipment shall have U. L. labels attached.

Permits: The Contractor must secure all permits required for the job completion, obtain and deliver to Owner, all certification of inspection issued by the authorities having jurisdiction, with Contractor paying cost of same. **All final certificates must be delivered to owner prior to request for final payment.**

Workers on Job: All employees of the Contractor shall, while on Buncombe County Board of Education property, act in a professional and courteous manner. All workers shall be expected to wear long pants and shirts while on Board property. Also, all employees of the Contractor must "sign in" in the main office upon entering the facility and must "sign out" upon leaving the property. Any employee of the Contractor may be told to leave the property by either the Principal or the Assistant Director, if they do not follow the above procedure. The employee shall be replaced with another at no additional cost to the Buncombe County Board of Education.

In accordance with G.S. 14-208.18, all persons who (1) are required to register under the Sex Offender and Public Protection Program AND (2) have been convicted of certain sexually violent offenses or any offense where the victim was under the age of 16 years at the time of the offense are expressly forbidden to knowingly be present on any property owned or operated by the school system, including school buildings, athletic fields, playgrounds, parking lots, school buses, activity buses or other property of any kind for any reason, including attendance at sporting events or other school related functions, whether

before, during or after school hours. It is the responsibility of the contractor or vendor that their employees and sub-contractors are in accordance with G.S. 14-208.18.

Equipment and Tools: The Contractor shall use no equipment or tools that are owned by the Buncombe County Board of Education. Also, no employees of the Buncombe County Board of Education shall be utilized by the Contractor except for opening locked doors and giving directions.

Materials: No materials shall be stored on site and the Buncombe County Board of Education is not responsible for any materials, equipment or tools lost or stolen from the site.

Clean Up: The area of work shall be cleaned daily so that the Buncombe County Board of Education shall not incur any additional costs to make the area suitable for the work process. Also, the Contractor shall utilize no trash receptacles or dumpsters owned by the Buncombe County Board of Education. All trash and removed materials shall be properly disposed of off the property.

Change in the Work: Changes in the work after execution of the purchase order shall be based upon written agreement by the Owner and the Contractor.

When unforeseen site conditions are identified that require time sensitive changes in the work, the Owner may authorize the Contractor to perform the work, who shall document the time and materials spent to perform the work. The contractor shall provide a lump sum itemized and supported by sufficient substantiating data to permit evaluation, including timesheets, digital photos, material lists and invoices as requested.

For all Change Orders, Overhead, Profit and General Conditions combined, in the total cost to the Owner, shall not exceed the following:

For additive change order work (lump sum):

1. For a Prime Contractor, for any Work performed by its own forces, twenty percent (20%) of the cost.
2. For a Prime Contractor, for Work performed by its subcontractor, ten percent (10%) of the amount due the subcontractor.
3. For each subcontractor included, for any Work performed by the subcontractor's own forces, fifteen percent (15%) of the cost.

Deductive change order work (lump sum)

The Prime Contractor shall include a deduction of at least ten percent (10%) profit. No deduction is required for overhead.

Additive or Deductive Change Order work (unit price)

Overhead, Profit and General Conditions are included in unit prices. Unit Prices are to be added to or deducted from the purchase order as a net amount.

Performance of Work: All work shall be performed at the highest level of quality. The Owner shall be responsible for determining the quality of work, and may notify the Contractor of same. **ANY WORK COMPLETED THAT IS NOT SUITABLE TO THE OWNER SHALL BE REPEATED BY THE CONTRACTOR AT NO COST TO THE OWNER.** Any damage to existing area or utilities will be the responsibility of the Contractor. **NO EXCEPTIONS.**

Bonds: Bonds are required if any bid is over \$100,000. Forms are included in this bid package. Bid bond must be in its own separate sealed envelope.

Drawings & Specs: 3 pages of drawings and 28 pages of specs are attached. Please contact Buncombe County Schools Purchasing at 828-255-5891 if drawings or specs are not attached.

The Buncombe County Board of Education reserves the right to reject any or all bids for any or no reason, and to waive informalities.

BID BOND

(IT IS MANDATORY TO USE THIS FORM-Furnished in duplicate)

Date of Execution
of this Bond: _____

Name and Address of
Principal (Bidder): _____

Name and Address
of Surety: _____

Name and Address
of Obligee: THE BUNCOMBE COUNTY BOARD OF EDUCATION, a body
corporate of the State of North Carolina, 175 Bingham Road,
Asheville, NC 28806.

Amount of Bond: 5% of the maximum potential contract award for all bids submitted.

Bid and Proposal
dated: _____

KNOW ALL MEN BY THESE PRESENTS, That we, the PRINCIPAL above named and SURETY above named who is duly licensed to act as SURETY in the State of North Carolina, are held and firmly bound unto THE BUNCOMBE COUNTY BOARD OF EDUCATION, a body corporate of the State of North Carolina, as Obligee, in the penal sum of FIVE PERCENT (5%) of the amount bid in the bid and proposal described in lawful money of the United States of America, for the Payment of which, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such, that if the Principal shall be awarded the contract for which the bid and proposal above described is submitted and shall execute the contract, give bond for the faithful performance of the contract, and give bond for the payment to all persons supplying labor and material in the prosecution of the work provided for in said contract, within then (10) days after the award of the same to the Principal above named, then this obligation shall be null and void; but the Principal above named fails to so execute such contract and give performance bond and payment bond as required by Section 129 of Chapter 143 of the General Statutes of North Carolina, as amended, and Article 3 of Chapter 44A of the General Statutes of North Carolina, as amended the Surety shall, upon demand, forthwith pay to the Obligee the amount of this bond set forth above.

IN WITNESS WHEREOF, the Principal above named and the Surety above named have executed this instrument under their several seals on the date set forth above.

Principal (Name of individual, individual and trade name, partnership, corporation or joint venture)

WITNESS:

_____ BY: _____ (Seal)
(Proprietorship or Partnership)

TITLE: _____
(Owner, partner, office held in corporation, joint venture)

(Corporate Seal)

ATTEST: (Corporation)

BY: _____

TITLE: _____
(Corporate Secretary or Assistant Secretary only)

SURETY (Name of Surety Company)

WITNESS:

_____ BY: _____
TITLE: Attorney-in-Fact

(Corporate Seal of Surety)

(Address of Attorney-in-Fact)

COUNTERSIGNED:

N.C. Licensed Resident Agent

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SECTION 01110: SUMMARY OF WORK

PART 1 - GENERAL

1.1 SUMMARY OF WORK

A. Project Identification:

1. Project Name: **13-Enka High School Reroof Areas K and K1**
Location: 475 Enka Lake Road, Candler, NC 28715
2. School Phone: 828-670-5000

B. Contract Documents, Drawings dated 11-01-2012 were prepared by Mary Beth Kingston, AIA, Facilities Department, Buncombe County Schools (828-255-5916).

C. 24 x 36 Drawing list:

Cover, A104.1 Roof Plan and Details, A105.1 Details

Technical Specifications list:

01110: Summary of Work, 01200 Price and Payment Procedures, 01400 Quality Requirements, 07530 Single Ply Membrane Roof

D. Scope involves Building C (Roof Areas K and K1). The base bid area involved is approximately 13,600 square feet. Contractor is responsible to verify existing conditions including, but not limited to, utilities, site access and dimensions in prior to submitting their bid. Components, accessories, and work normally associated with, or necessary for a complete, watertight and warrantable roof system, shall be included in the proposal if not specifically noted or required in the bid documents including connections to adjacent roofs. Hidden conditions, or existing defects that could not have been anticipated prior to demolition shall be considered adds to the scope of work if not provided for in the drawings, specification or Allowances.

Contractor is to take responsibility for all electrical, plumbing, mechanical and other related trade work necessary to facilitate project operations. Contractor is responsible for re-locating any and all conduit, HVAC units, curbs, and /or plumbing necessary to comply with the requirements of these documents. All work to conform with the requirements of state and local codes, including jurisdictional permitting.

Roof Area K (Approximately 12,900 square feet):

1. Completely remove BUR roof system, fiberglass board insulation and gyp board down to deck.
2. Inspect and repair, overlay or replace steel deck as necessary and per Allowances.
3. Install new gyp board to maintain UL roof rating.
4. Inspect and resecure existing wood nailers in coordination with Owner and per FM1-49 and per Allowance.
5. As shown, install new wood nailers at base flashing conditions and to flush out all nailers with the new roof system using KDAT lumber and corrosion resistant fasteners.

SECTION 01110: SUMMARY OF WORK

6. Mechanically fasten 2 layers roof insulation.
7. Mechanically fasten ½" high density polyisocyanurate board.
8. Fully adhere .080 TPO membrane with all cut edges sealed w/ min 4" fully welded unreinforced membrane. Cut edge sealant shall not be used as the sole water sealant on cut edges of reinforced membrane.
9. Install new ANSI-SPRI ES-1 metal with full coverage of nailers and components not intended to be exposed to view.
10. Replace all existing drain clamp bolts with new stainless steel bolts after tapping threads as necessary to provide full clamping. Replace cracked, damaged or missing drain clamps as required with cast iron components to provide full clamping at roof drains. Replace all missing or damaged strainers with new cast iron strainers by the original roof drain mfg. or approved equal.
11. All work shall be completed in accordance with the roof system mfg's published recommendations and details for a 20 year full system and 72mph wind speed. Roof design for uplift pressure shall include 90mph wind speed.
12. Provide a 20 year, NDL, full system warranty by manufacturer, 20 year manufacturer's material warranty and 2 year contractor's warranty.

Roof Area K1 (Approximately 720 square feet):

1. Inspect existing roof for wet areas and inform Owner of any issues.
2. Prepare existing roof surface as required by manufacturer for overlay membrane installation.
3. Mechanically fasten ½" high density polyisocyanurate board.
4. Mechanically fasten any additional tapered insulation as required to provide positive drainage.
5. Notes 8-12 in description for Roof Area K roof installation above.

E. ALTERNATES:

1. ALTERNATE#1: (Deduct): K1 canopy roof to remain as existing.
2. ALTERNATE #2: (Deduct): Provide .060 TPO membrane in place of .080 membrane.

See Allowances and Unit Prices specified for project for full description.

F. **EXISTING ROOF STRUCTURE INFORMATION (NOTE ALL ROOFS ARE 1HR RATED PER THE DESIGNATED UL ASSEMBLY. REPLACEMENT MUST CORRESPOND EXACTLY TO THE DESCRIPTION PROVIDED)**

1. Building C (Roof Area K): The existing roof deck and roofing system consists of bar joists, 1-1/2" metal deck, 5/8" gyp bd, vapor barrier, 2 layers 1-5/8" fiberglass insulation board, tapered perlite insulation and BUR. The drainage system consists of internal roof drains. There are existing expansion joint systems that shall be replaced with new bellows, insulation fill, and metal caps.
2. Building C Canopy (Roof Area K1): The canopy construction is as follows, steel framing with metal deck, 1-5/8" fiberglass insulation board, tapered perlite insul

SECTION 01110: SUMMARY OF WORK

and cants with BUR membrane. Note roof to wall reglet flashing that must be reused without damage or replaced as specified.

G. WORK RESTRICTIONS

1. Contractor's Use of Premises: During construction, Contractor shall have limited use of site and building. Contractor's use of premises is limited by Owner's right to perform work or employ other contractors on portions of Project and by the need for uninterrupted operation of public school activities and instruction.
2. Contractor shall meet with the school principal and Facilities Department prior to start of work or mobilization to determine acceptable access to the roof, staging, parking areas, storage areas, work hours, access to the site, check in and material delivery procedures. Any other use or area of the premises is not allowed unless authorized by the school principal and Facilities Department.
3. Contractors on site shall not interact with school personnel or students except those contact persons expressly identified by the school principal. Tobacco products are not allowed to be consumed, firearms and weapons are not allowed on Board of Education property.
4. Contractor to maintain existing building in a weathertight condition throughout construction period and take every precaution against injuries to persons or damage to property.
5. Contractor to record by photos or video existing interior and exterior site conditions prior to start of work. Contractor to protect other roof and site features and will repair any damages or make restitution acceptable to the Owner's satisfaction as required.
6. Contractor shall not overload or permit any part of the structure to be loaded with weights that will endanger its safety or to cause deflection to the roof system.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

- A. Purchase Order is to be executed within 30 days of receipt of bids and Owner's acceptance of low bid proposal.
- B. Project time to completion date is 120 days after issuance of Purchase Order.
- C. Weather days are to be submitted on a timely basis, at the end of each month.
- D. The completion date is determined by acceptance of the roof by the membrane manufacturer as documented in writing.

END OF SECTION 01110

SECTION 01200 - PRICE AND PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Architect under allowance and shall include taxes, freight and delivery to Project site.
- B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials under allowance shall be included as part of the Contract Sum and not part of the allowance.

1.2 UNIT PRICES

- A. Unit price is an amount incorporated in the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased. Unit prices are also the basis for quantities described in Allowances portion of the work. Work which requires the use of Unit prices and Allowances is to be installed only after approval by the Owner of the specific use.
- B. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.

1.3 ALTERNATES

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
 - 2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

SECTION 01200 - PRICE AND PAYMENT PROCEDURES

1.4 SUBSTITUTION PROCEDURES

- A. Substitutions include changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor after award of the Contract.
 - 1. Submit three copies of each request for product substitution.
 - 2. Submit requests within 10 days after the Notice of Award.
 - 3. Do not submit unapproved substitutions on Shop Drawings or other submittals.
 - 4. Identify product to be replaced and show compliance with requirements for substitutions. Include a detailed comparison of significant qualities of proposed substitution with those of the Work specified, a list of changes needed to other parts of the Work required to accommodate proposed substitution, and any proposed changes in the Contract Sum or the Contract Time should the substitution be accepted.
 - 5. Architect will review the proposed substitution and notify Contractor of its acceptance or rejection.

1.5 CONTRACT MODIFICATION PROCEDURES

- A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time.
- B. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work.
 - 1. Proposal Requests are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within 20 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time.
- C. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect.
- D. Architect may issue a Construction Change Directive. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in the Purchase Order.
 - 1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- E. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

SECTION 01200 - PRICE AND PAYMENT PROCEDURES

1.6 PAYMENT PROCEDURES

- A. Application for Payment Forms: Use forms acceptable to Architect and Owner as form for Applications for Payment.
- B. Submit one copy of each application for payment according to the schedule established in Owner/Contractor Agreement.
 - 1. With each Application for Payment, submit sales tax forms.
 - 2. Project Closeout: Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien and BCS "Re-Roofing Administrative & Close Out Requirements" provided at the end of this section which includes the following requirements:
 - a. Completion of punch list and final walk through with Owner.
 - b. Accepted Warrantees.
 - c. Documentation of project acceptance by Authorities Having Jurisdiction.
 - d. Final change order with BCS "Resolution of Allowances and Change Orders" completed (form provided at the end of this Section).
 - e. Repair bag.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALLOWANCES

A. Reference Unit Prices for declared costs of comparable work. Allowances scheduled and related costs are included in the base bid and apply to Alternates. Unused Allowances will be credited to the Owner in the amount of the declared Unit Prices or the dollar amount noted in the Allowance:

- 1) **Allowance #1:** Per Unit Price #1 (Deck replacement):
120 sq ft (2 Units) of 22 ga galv 1-1/2" steel roof deck in 2 locations. Contractor shall have a total 120 sq ft of deck on site at the beginning of work to be used for replacement or overlay to avoid delays and exposure of the building to the weather. If not used or partially used, the contractor will turn over the metal deck to the owner if requested and credit the owner for labor, overhead and profit only.
- 2) **Allowance #2:** Per Unit Price #2 (Deck Repair/Overlay):
120 sq ft (4 Units) of rust repairs/prep and rusty metal primer coating of steel deck and overlay deck in 4 locations. The metal deck required to be on site per Allowance #1 may be used for overlay where necessary. If not used or partially used, the contractor will turn over the metal deck to the owner, if requested, and credit the owner for labor, overhead and profit only.

SECTION 01200 - PRICE AND PAYMENT PROCEDURES

- 3) **Allowance #3:** Per Unit Price #3 (Deck Repair):
240 sq ft (240 Units) of rust repairs/prep and rusty metal primer coating of steel deck in numerous spot locations. See specifications for rust remediation procedures and products.
- 4) **Allowance #4:** Per Unit Price #4 (Nailer Replacement):
100 bd ft replacement of KDAT nailers beyond that required in the documents. Nailers required to flush out the existing nailers to the new roof system are included in the base bid.
- 5) **Allowance #5:** Per Unit Price #5 (Threaded Rod):
Eighty (80) ½" stainless steel threaded rods x 10" length. Threaded rods are to supplement to the existing nailers to ensure compliance with FM1-49 for perimeter nailer securement.
- 6) **Allowance #6:** \$ 2000 to disconnect, lift and move, then reinstall 1 mini-split roof top unit. A licensed electrician/HVAC shall be employed and any required permits provided.

3.2 SCHEDULE OF UNIT PRICES

A. UNIT PRICES QUOTATION SCHEDULE:

- 1) **Unit Price #1** (Deck replacement):
Replace 1 1/2" steel deck with new galvanized 22 gauge decking per 60 sq. ft. area.
- 2) **Unit Price #2** (Deck Repair/Overlay):
Rust repairs/prep, application of rusty metal primer coating to effected areas then ovelay and fastening of new 1-1/2" x 22 gauge galvanized steel decking Allowance per 30 sq ft area.
- 3) **Unit Price #3** (Deck Repair):
Rust/repairs/prep and rusty metal primer coating of steel deck in spot locations. Allow-
ance per 1 sq ft area.
- 4) **Unit Price #4** (Nailer Replacement):
Replacement of wood blocking or nailers with new KDAT treated lumber, per specifica-
tion, and stainless steel fasteners per FM1-49. Cost per board ft. Note that nailers added
for required securement or to flush out the perimeter edges to the new roof system are
included in the base bid and shall not involve the Allowance or Unit Price.
- 5) **Unit Price #5** (Threaded Rod):
Install ½"x 10" stainless steel threaded rod anchors thru perimeter wood nailers epoxy
grouted into masonry per FM1-49. Allowance per individual rod.

SECTION 01200 - PRICE AND PAYMENT PROCEDURES

3.3 SCHEDULE OF ALTERNATES

A. Provide amounts on the Bid Form for the following Alternates that may be taken by the Owner:

- 1) **Alternate #1** (Deduct Roof Area K-1): Provide a lump sum to leave Roof Area K-1 in existing condition.
- 2) **Alternate #2** (Deduct for .060 TPO membrane):

END OF SECTION 01200

Buncombe County Schools Facilities Department

Re-Roofing Administrative & Close Out Requirements

Pre-Construction Administrative Requirements

Received

1. Approved Submittals
2. Pre-Installation Notice; Accepted by roof manufacturer
3. Permits

Project Close Out

1. Final walk-thru with Owner/report
2. Approved completion of Punch List
3. Resolution of Allowances & Change Orders
prepared by Contractor & approved by Owner
4. Accepted warranties
 - a. Manufacturer's NDL full-system warranty, as specified
 - b. Manufacturer's 20 year material warranty, as specified
 - c. Contractor's 2 year warranty
 - d. Applicable Special Project warranty documents, i.e.
flashings and edge metal pass thru warranties and/or riders
5. Repair bag (specific to EPDM or TPO roof project)
 - a. (1) reinforced 100', 6" wide roll EPDM/TPO peel & stick flashing
 - b. (1) non-reinforced 100', 6" wide roll EPDM/TPO peel & stick flashing
 - c. (1) 1 gal splice cleaner/primer
 - d. (2) tubes lap sealant/cut edge sealant
 - e. (2) chip brushes
 - f. (2) 3M cleaning/scrub pads
 - g. (6) pressure-sensitive patches
 - h. (1) medium size canvas tool bag
6. Documentation of acceptance from Authorities Having Jurisdiction (AHJ)
7. Final invoice

NOTES:

Resolution of Unit Prices, Allowances and Change Orders

(reference specifications, addendums & bid form)

Unit Price#/Description	Unit Price	Amount Used	Subtotal	Related Allowance Amount	Total Credit or Increase

Any additional change order descriptions and amounts, as approved prior to installation

Total Deduction/Increase to Purchase Order

Total Deduction/Increase to Purchase Order

SECTION 01400 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Testing and inspecting services shall be performed by independent testing agencies.
- B. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements, comply with the most stringent requirement. Refer uncertainties to Architect for a decision.

1.2 SUBMITTALS

- A. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, notices, receipts for fee payments, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.3 QUALITY ASSURANCE

- A. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum. The actual installation may exceed the minimum within reasonable limits. Indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision.
- B. Testing Agency Qualifications: An independent agency with the experience and capability to conduct testing and inspecting indicated; and where required by authorities having jurisdiction, that is acceptable to authorities.
- C. No later than 10 days prior to the pre-roofing conference, Contractor shall provide the Owner, in writing, the names of the proposed project manager, job superintendent, and foreman for approval. The Owner, without giving cause, may request an additional name, or names to be submitted for approval. Once approved, the superintendent will not be changed except with the consent of the Owner.
- D. Contractor's superintendent shall maintain one complete set of the contractor documents and submittals on the job site.
- E. Installer qualifications:
 - 1. Acceptable contractor to have a minimum of 3 years experience in successfully installing the same or similar materials and be certified by the roofing materials manufacturer to install the primary roofing products.

SECTION 01400 - QUALITY REQUIREMENTS

2. Have a minimum of five years experience in installing roofing systems under the same firm name as submitted in the bid and certified by the manufacturer.
3. All crew members on site to be experienced and have a working knowledge of the system being installed.
4. Contractor shall provide a full time onsite superintendent who meets the following qualifications:
 - a. "Superintendent" is the person on the job site at all times while work is being performed whose primary responsibility is to supervise and direct the performance of the Work.
 - b. Able to demonstrate knowledge of roofing systems being installed.
 - c. In possession of a cell phone at all times.
 - d. Meet Owner approval.
 - e. The superintendent shall have had a minimum of five years continuous experience as a re-roofing job superintendent.

1.4 QUALITY CONTROL

A. Contractor's Responsibilities:

1. Repair and protection of work and materials are Contractor's responsibility.
2. Should any work or materials not conform with requirements of the Specifications or become damaged during the progress of the work, such work or materials shall be removed and replaced, together with any work disarranged by such alterations, at any time before completion and acceptance of the project. All such work shall be done at the expense of the Contractor.
3. Contractor will coordinate documents with manufacturer and perform such testing, reporting and communication incidental to projections of the warranty procedures.

B. Manufacturer's Field Services:

1. Manufacturer's technical representative shall also perform quality assurance visits to ensure materials are being properly installed and as required to obtain the specified warranty.
2. Manufacturer's final inspection shall be performed with BCS personnel in attendance. A minimum of five days' written notice is required.

C. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

D. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Promptly notify Architect and Contractor of irregularities or deficiencies in the Work observed during performance of its services.
2. Do not release, revoke, alter, or increase requirements of the Contract Documents or approve or accept any portion of the Work.
3. Do not perform any duties of Contractor.

SECTION 01400 - QUALITY REQUIREMENTS

- E. Associated Services: Cooperate with testing agencies and provide reasonable auxiliary services as requested. Provide the following:
1. Access to the Work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
 4. Facilities for storage and field curing of test samples.
 5. Security and protection for samples and for testing and inspecting equipment.
- F. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.
- G. Special Tests and Inspections: Owner will engage a qualified testing agency to conduct special tests and inspections required by authorities having jurisdiction as indicated in Statement of Special Inspections attached to this Section.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01400

SECTION 07530 –SINGLE-PLY MEMBRANE ROOF

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary General Conditions and Division-1 Specification sections, apply to this section.

1.02 SUMMARY

- A. Furnish and install elastomeric sheet roofing system, including:
 - 1. Roofing manufacturer's requirements for the specified warranty.
 - 2. Preparation of roofing substrates.
 - 3. Wood nailers for roofing attachment.
 - 4. Insulation.
 - 5. Metal roof edging and copings.
 - 6. Flashings.
 - 7. Other roofing-related items specified or indicated on the drawings or otherwise necessary to provide a complete weatherproof roofing system.
- B. Disposal of demolition debris and construction waste is the responsibility of Contractor. Perform disposal in manner complying with all applicable federal, state, and local regulations.
- C. If Asbestos-containing materials are found in the existing roofing system. Remove, handle, and dispose of asbestos-containing material in manner complying with all applicable federal, state, and local regulations.
- D. Comply with the published recommendations and instructions of the roofing membrane manufacturer.

1.03 SCHEDULE

- A. Work may be completed during school operational hours if it does not interfere with instruction as determined by the school principal.
- B. Completion: is 120 days after issue of purchase order. Purchase order is to be issued within 30 days of receipt of bids.

1.04 SUBMITTAL REQUIREMENTS

- A. Product Data:
 - 1. Provide membrane manufacturer's printed data sufficient to show that all components of roofing system, including insulation and fasteners, comply with the specified requirements and with the membrane manufacturer's requirements and recommendations for the system type specified; include data for each product used in conjunction with roofing membrane.
 - a. Technical data sheet for roof membrane.
 - b. Technical data sheets for splice tape and adhesives.
 - c. Technical data sheet for batten strips and fasteners.
 - d. Technical data sheet for each insulation type.
 - e. Technical data sheet for each type of metal edging.

SECTION 07530 –SINGLE-PLY MEMBRANE ROOF

2. Provide
 3. Installation Instructions: Provide manufacturer's instructions to installer, marked up to show exactly how all components will be installed; where instructions allow installation options, clearly indicate which option will be used.
- B. Samples: Submit samples of each product to be used.
1. Sample of roof membrane.
 2. Sample of batten strips and fasteners.
 3. Sample of walkway pads.
 4. Sample of each insulation type.
- C. Shop Drawings: Provide:
1. Design Calculations: Provide roof manufacturer's system requirements including but not limited to material fastening patterns to meet the following design criteria:
 - a. FM I-60 fastening requirements
 - b. ANSI-SPRI ES-1 requirements
 - c. Roof design pressures based on ASCE-7:

Exposure:	C
Wind Speed:	90mph
Importance Factor:	3
Building Height:	30ft
Roof slope:	¼" per ft
Safety Factor:	2

Resulting in the following per Roof Nav calculator: field = 23psf, perimeter= 39psf, corner = 59psf.
 - d. Roof edge design pressures design pressures were also calculated based on the above criteria using the ANSI/SPRI ES-1 calculator and multiplying the results by a Safety Factor of 2 with the following results: Horizontal Pressure: 52psf, Vertical Pressure: 84psf.
- D. Test data for pullout resistance of fastening systems. Pull tests shall be conducted in presence of the owner's Facilities Department representative. Provide a minimum 72-hour notice.
- E. Tapered insulation layout with board sizes, fastening patterns at field and perimeter. and adhesive beading requirements.
- F. Base securement details for all individual conditions keyed to a roof plan.
- G. ANSI-SPRI ES-1 pre-manufactured edge metal products, and installation details.
- H. One copy of the Job Foreman's Manual.
- I. Specimen Warranty: Submit prior to starting work.
- J. Installer Qualifications: Letter from manufacturer attesting that the roofing installer meets the specified qualifications.
- K. Pre-Installation Notice: Copy to show that manufacturer's required Pre Installation Notice (PIN) has been accepted and approved by the manufacturer with mfg comments.

1.05 QUALITY ASSURANCE

- A. Applicator Qualifications: Roofing installer shall have the following:
1. Current approval, license, or authorization as applicator by the manufacturer.
 2. Fully staffed office within 125 miles of the job site.

SECTION 07530 –SINGLE-PLY MEMBRANE ROOF

3. At least five years experience in installing specified system.
 4. Capability to provide payment and performance bond to building owner.
- B. Pre-Installation Conference: Before start of roofing work, Contractor shall hold a meeting to discuss the proper installation of materials and requirements to achieve the warranty.
1. Require attendance with all parties directly influencing the quality of roofing work or affected by the performance of roofing work.
 2. Notify Architect well in advance of meeting.
 3. Materials or samples on hand at time of the meeting including wood nailers, membrane, flashings, fasteners, adhesives etc.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver products in manufacturer's original containers, dry and undamaged, with seals and labels intact and legible.
- B. Store materials clear of ground and moisture with weather protective covering. Unvented polyethylene tarpaulins are not accepted. Moisture trapped underneath an unvented covering may affect membrane weldability.
- C. Keep combustible materials away from ignition sources.
- D. All adhesives shall be stored at temperatures as required for the manufacturer.
- E. All nailers shall be KDAT and shall be stickered off the roof surface and protected from the weather while stored on site. Immediately protect KDAT lumber from the weather after installation by temporary measures or by using membrane to fully lap the lumber.

1.07 PROJECT CONDITIONS

- A. Roofing shall not be applied during precipitation and shall not be started in the event there is a probability of precipitation during application.
- B. Complete waterstops and tie offs shall be installed at the end of each day's work and shall be removed before proceeding with the next day's work.
- C. The existing building interior is to be protected against risks of inclement weather during construction. Should moisture occur, the applicator shall provide the necessary equipment to dry the surface prior to application. Contractor will be held responsible for consequential damages due to moisture intrusion into the building.
- D. Cold weather application of adhesives and sealants: Roofing adhesives, solvents, caulks and sealants must be stored at service temperatures ranging from 60 degrees F to 80 degrees F prior to use. If a room temperature storage environment is not available, products must be restored to serviceable temperatures before application by alternate means, such as hot boxes or pail warmers, and rotated as required to maintain a serviceable installation temperature throughout the application process.
- E. Prior to and during application, all dirt, debris, moisture and dust shall be removed from surfaces, by vacuuming, sweeping, blowing with compressed air and / or similar methods. All surfaces to receive new insulation, membranes and flashings to be dry. Should moisture occur, the applicator shall provide the necessary equipment to dry the surface

SECTION 07530 –SINGLE-PLY MEMBRANE ROOF

prior to application.

- F. If any usual or concealed condition is discovered, the contractor shall stop work and notify Owner of the condition immediately.
- G. Work that involves Unit Prices / Allowances to be approved and verified by Owner prior to commencement. Photo documentation of the full extent and location of materials installed under the Allowance shall be provided to the owner prior to payment for the work.

1.08 WARRANTIES

- A. Comply with all warranty procedures required by manufacturer, including notifications, scheduling, and inspections.
- B. Warranty: 20 year full system warrantee covering membrane, roof insulation, edge metal, and membrane accessories. Exception: Pre-manufactured edge metal if ANSI/SPRI ES-1 and UL Classified and separate warrantee to match full system warrantee is provided as a pass thru warranty linking performance of the edge metal to securement of the membrane and system.
 - 1. Limit of Liability: No dollar limitation.
 - 2. Scope of Coverage: Repair leaks in the roofing system caused by:
 - a. Ordinary wear and tear of the elements.
 - b. Manufacturing defect in materials.
 - c. Defective workmanship used to install these materials.
 - d. Damage due to winds up to 72 mph.
 - e. Puncture resistance
 - f. Hail damage is not warranted.
 - 3. Warranty period is **20 years** after date of completion and acceptance by Owner and Manufacturer (whichever is later). The warranty shall recognize a minimum 90 wind speed design which shall be calculated based upon the formula and variables of Chapter 16 of the N.C. Building Code latest edition. The warranty may recognize a maximum wind speed which relates to the uplift force as demonstrated by the submitted design calculations required in other specification sections, but in no case shall be less than 72 MPH. Warranty shall be non-prorated for water-tightness and extended coverage. This warranty shall be fully paid for by the roofing contractor.
 - 4. This warranty shall cover both labor and materials necessary to effect water-tightness, including standing water on the roof membrane. Warranty shall cover entire installation including rigid roof insulation, cover boards, flashing, etc. Flashing material must be compatible with the respective system.
 - 5. Warrantee must allow disputes to be settled in the courts of Buncombe County, NC.
 - 6. Warranties shall not require a roof access log or maintenance log by owner.
- C. Membrane Warrantee: The membrane manufacturer shall further warrant that the membrane will not prematurely deteriorate to the point of failure because of weathering, **whether or not leaks are apparent**, for a period of twenty (20) years from the date of acceptance by the Owner or the membrane manufacturer's representative (whichever is later). This warrantee is to include labor and materials to replace the defective membrane. Coating repairs shall not be an acceptable remediation.

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- D. **Special Project Warranty:** The Contractor shall guarantee the materials and workmanship associated with the roofing, flashing, and sheet metal work incidental to the roofing, against defects due to faulty material, workmanship and/or negligence by contractors for a period of twenty-four (24) months following final acceptance of the work. The substitution of an equal or longer-term manufacturer's warranty in lieu of this requirement will not be acceptable.

PART 2 - PRODUCTS

2.01 GENERAL

- A. **Performance:** Provide roofing materials recognized to be of generic type indicated and tested to show compliance with indicated performances, or provide other similar materials certified in writing by manufacturer to be equal to, or better than, materials specified in every significant respect, and acceptable to Consultant.
- B. **Compatibility:** Provide products that are recommended by manufacturers to be fully compatible with indicated substrates, or provide separation materials as required to eliminate contact between incompatible materials.
- C. **THERMOPLASTIC MEMBRANE (Owner's Standard for new and recovery roofs)**

1. **General:** Reinforced Thermoplastic Olefin (TPO) formed into uniform, flexible sheets, complying with ASTM D 6878. Widest sheets available or manufactured to minimize field seams.

- a. Class SR, Scrim or fabric internal reinforced.
- b. Thickness: 80 mils, nominal – unless noted otherwise.
- c. Exposed Face Color: White – unless noted otherwise. Gray shall be used where the roof surface is visible or may result in glare to adjacent buildings or neighbors. Verify with Owner.
- d. Fully Adhered TPO Membrane: Manufacturer's standard installation. Peel and stick product is acceptable. Membrane fully adhered to cover board using mfg's recommended bonding adhesive.
- e. Manufacturers: Subject to compliance with requirements, provide products of one of the following:

1. Carlisle Syntec Systems, "Sure Weld" or equal by:
2. Firestone Building Products
3. Versico

2.02 AUXILIARY MATERIALS

- A. **Bonding Adhesive:** Nitrile rubber based fluid, formulated for compatibility with the membrane backing and insulation surfaces, specific existing roof surfaces, and other substrates including wood, metal, and masonry.
- B. **T-joint Patch:** Shall be membrane manufacturer's circular patch welded over T-joints formed by overlapping thick membranes.

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- C. Corner Flashing: Shall be membrane manufacturer's pre-formed inside and outside flashing corners that are heat welded to membrane or polymer clad metal base flashings.
- D. Curb and Parapet Flashing: Same material as membrane, with encapsulated edge which eliminates need for seam sealing the flashing-to-roof splice; precut to 18 inches (457 mm) wide.
- E. Molded Flashing Accessories: Unreinforced TPO membrane pre-molded to suit a variety of flashing details, including pipe boots, inside corners, outside corners, etc.
- F. Formable Flashing: Non-reinforced, flexible, heat weldable sheet, composed of thermoplastic polyolefin polymer and ethylene propylene rubber.
 - 1. Thickness: 0.060 inch (1.52 mm) plus/minus 10 percent.
 - 2. Tensile Strength: 1550 psi (10.7 MPa), minimum, when tested in accordance with ASTM D 638 after heat aging.
 - 3. Elongation at Break: 650 percent, minimum, when tested in accordance with ASTM D 638 after heat aging.
 - 4. Tearing Strength: 12 lbf (53 N), minimum, when tested in accordance with ASTM D 1004 after heat aging.
 - 5. Color: White.
- G. Primary membrane cleaner: High quality solvent cleaner provided by membrane manufacturer.
- H. Pre-weld Cleaner: High quality solvent based seam cleaner with moderate evaporation rate provided by membrane manufacturer.
- I. Pourable Sealer: Two-part polyurethane, two-color for reliable mixing.
- J. Water Block Seal: Butyl rubber sealant for use between two surfaces, not exposed.
- K. Coated Metal Flashing and Edgings: Galvanized steel with roofing manufacturer's bonded TPO coating.
- L. Polyisocyanurate Board Insulation: Closed cell polyisocyanurate foam with fiber glass reinforced mat laminated to faces, complying with ASpTM C1289, Type II, Class 1 requirements. Provide submittal of manufacturer's specifications.
 - 1. Thickness: 2 layers of 2" and 3" thickness with staggered joints
 - 2. Size: 4'-0" x 4'-0" taper system pieces, 4'-0" x 8'-0" flat stock
 - 3. 25 psi minimum density when adhered to roof membrane (not allowed in this project).
 - 4. 20 psi infill layers of insulation or under cover board.
 - 5. 100 psi minimum high density polyiso board complying with ASTM Test C518 with a high performance fiberglass facer. 1/2" thickness.
- M. Tapered Edge Strips: Types recommended by membrane manufacturer, including adhesive tapes, flashing cements, and sealants. Provide 0-1/2" x 6" and 0-1/2" x 12" tapered edge strip at 1/2" side of tapered cricket insulation.
- N. Wood Nailers: All wood to be KDAT pressure treated:
 - 1. Wood pressure treatment: Copper Azole Type B pressure-treatment conforming to

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- AWPA Standard UC-2, Interior, subject to dampness.
2. PS 1, APA Exterior Grade plywood; pressure preservative treated.
 3. Width: 5-1/2" (90mm), nominal minimum, or as wide as the nailing flange of the roof accessory to be attached to it.
 4. Thickness: Same as thickness of roof insulation to provide a flush condition.
 5. **18-8 stainless steel fasteners only in pressure treated wood.**
- O. Fasteners: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
1. Where carpentry is exposed to weather, pressure-preservative treated, fire-retardant treated, or in area of high relative humidity, provide fasteners of Type 304 stainless steel.
- P. Piping supports and condensate drains: At all re-roof areas, the contractor shall provide and install new MIFAB C10 pipe supports @ 4' oc max to replace existing wood supports.
- Q. PVC condensate drains shall be replaced as necessary with new piping that maintains slope to drain and terminates directly over a roof drain.
- R. THERMOSET MEMBRANE (for repairs @ existing membrane only)
1. Unreinforced EPDM membrane formed into uniform, flexible sheets, complying with ASTM D 5538, ASTM D 883, ASTM D5665, and ASTM 5726. Widest sheets available or manufactured to minimize field seams. 40 mils for repairs and 60 mils for new work.
 2. EPDM membrane shall be used only on projects where it is necessary to match materials to existing conditions, make repairs and/or it is impractical to isolate membranes or for new ballasted systems. All seams shall be adhered with seam tape, no exceptions. All cut edges shall be covered with 9" self adhesive cover strips. All "T" joints shall be covered with a min 6x6 self adhesive cover strip. Preformed flashing components shall be utilized in all cases where the manufacturer has product available for the application.
- S. PVC MEMBRANE: Shall not be used unless the system is submitted and approved by the owner prior to bid.
- T. Protective Mats & Slip Sheet: Provide roll type mats by membrane manufacturer for protecting membrane from incompatible substrates if shown or not in these documents.
- U. Walkway Protection: Where indicated on the drawings or where required for access to roof mounted units, provide walkway to and around roof top equipment.
1. Walkway material shall be 30" min. width and can be in sheet rolls or 4' +/- strips. Provide 1" +/- gap between sheets.
 2. Provide product by system manufacturer, compatible with membrane system used and covered by the manufacturer's warranty. Adhere or weld as recommended.
 3. Provide at all roof scuttles, access points and HVAC equipment containing filters or other regularly serviced components whether indicated on the drawings or not. Additional walkway requirements may be specified in the Allowance, Summary of Work or on the drawings.

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2.05 METAL ACCESSORIES

- A. **Metal Roof Edging and Fascia:** Continuous metal edge member serving as termination of roof membrane and retainer for metal fascia; watertight with no exposed fasteners; mounted to roof edge nailer.
1. **Wind Performance:**
 - a. **Membrane Pull-Off Resistance & Fascia Pull-Off Resistance:** Test in accordance with ANSI/SPRI ES-1 Test Method RE-2, current edition to withstand the following design pressures:
Horizontal Pressure: 76psf
Vertical Pressure: 124psf.
 2. **Fascia Face Height:** 6 3/4 inches (127 mm) minimum.
 3. **Edge Member Height Above Nailers:** 1-1/4 inches (31 mm).
 4. **Length:** 144 inches (3650 mm).
 5. **Functional Characteristics:** Fascia retainer supports while allowing for free thermal cycling of fascia.
 6. **Aluminum Bar:** Continuous 6063-T6 alloy aluminum extrusion with pre-punched slotted holes; miters welded; injection molded EPDM splices to allow thermal expansion.
 7. **Anchor Bar Cleat:** 20 gage, 0.036 inch (0.9 mm) G90 coated commercial type galvanized steel with pre-punched holes.
 8. **Curved Applications:** Factory modified.
 9. **Fasteners:** Factory-provided **stainless steel** fasteners, with drivers; no exposed fasteners permitted.
 10. **Special Shaped Components:** Provide factory-fabricated pieces necessary for complete installation, including miters, scuppers, and end caps; minimum 14 inch (355 mm) long legs on corner pieces. Corners to be welded.
 11. **Scuppers:** Welded watertight.
 12. **Accessories:** Provide matching brick wall cap, downspout, extenders, and other special fabrications as shown on the drawings.
- B. **Mechanical Fasteners:** Metal Plates, caps, battens, accessory components, fastening devices, and adhesives to suit substrate and deck type and complying with current building code, fire and insurance uplift rating requirements. Place all fasteners in a fastening pattern as recommended by the roofing system manufacturer to withstand minimum uplift force according to design pressures for this project and per FM I-60 table. Provide calculations demonstrating values and formulas used in the uplift design.
1. Provide fasteners suitable for substrates to which fasteners are to be secured and fasteners acceptable to the insulation and roof membrane system manufacturer to meet minimum specified warranty requirements. As necessary, provide withdrawal resistance testing for the proposed fastener(s) to ensure minimum fastener withdrawal resistance as required by the manufacturer to meet the specified uplift and warranty requirements. Invite the owner's representative to witness testing with a minimum 72-hour notice.
 2. Spacing and pattern of fasteners shall be in accordance with manufacturer's recommendations for uplift specified.
 3. Membrane manufacturer's standard fasteners may be used where certification can be provided that demonstrates to owner's representatives satisfaction that the proposed fasteners/pattern will satisfy the specified uplift and warranty requirements.

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- a. Termination bar: 1/8" by 1" mill finish extruded aluminum bar with pre-punched slotted holes.
 - b. Seam Plates: Steel with barbs and Galvalume coating; corrosion-resistance complying with FM 4470.
 - c. Counter Flashing Bar: Prefabricated extruded aluminum metal counter flashing and termination bar. 0.10"-0.12" thick bar with 2 1/4" profile, pre-drilled holes 8" o.c. and sealant kickout at top edge.
- C. Coated Metal Flashing and Edgings: Galvanized steel with roofing manufacturer's bonded TPO coating.
- D. Miscellaneous Fasteners:
Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
- 1. Where carpentry is exposed to weather, pressure-preservative treated, fire-retardant treated, or in area of high relative humidity, provide fasteners of Type 304 stainless steel.

PART 3 – EXECUTION

3.01 GENERAL

- A. Start installation only in presence of manufacturer's technical representative, on projects where wind pressures exceed 90 psf, or it is necessary or recommended by the owner or manufacturer.
- B. Install roofing, insulation, flashings, and accessories in accordance with roofing manufacturer's published instructions and recommendations for the specified roofing system. Where manufacturer provides no instructions or recommendations, follow good roofing practices and industry standards. Comply with federal, state, and local regulations.
- C. Obtain all relevant instructions and maintain copies at project site for duration of installation period.
- D. Do not start work until a Pre-installation conference is held and a Pre-Installation Notice has been submitted to and approved by the roof manufacturer as notification that this project requires a manufacturer's warranty.
- E. Perform work using competent and properly equipped personnel.
- F. Temporary closures, which ensure that moisture does not damage any completed section of the new roofing system, are the responsibility of the applicator. Completion of flashings, terminations, and temporary closures shall be completed as required to provide a watertight condition.
- G. Install roofing membrane only when surfaces are clean, dry, smooth and free of snow or ice; do not apply roofing membrane during inclement weather or when ambient conditions will not allow proper application; consult manufacturer for recommended procedures during cold weather. Do not work with sealants and adhesives when material temperature is outside the range of 60 to 80 degrees F (15 to 25 degrees C).
- H. Protect adjacent construction, property, vehicles, and persons from damage related to

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roofing work; repair or restore damage caused by roofing work.

1. Protect from spills and overspray from bitumen, adhesives, sealants and coatings.
2. Particularly protect metal, glass, plastic, and painted surfaces from bitumen, adhesives, and sealants within the range of wind-borne overspray.
3. Protect finished areas of the roofing system from roofing related work traffic and traffic by other trades.

- I. Until ready for use, keep materials in their original containers as labeled by the manufacturer.
- J. Consult membrane manufacturer's instructions, container labels, and Material Safety Data Sheets (MSDS) for specific safety instructions. Keep all adhesives, sealants, primers and cleaning materials away from all sources of ignition.

3.02 EXAMINATION

- A. Examine roof deck to determine that it is sufficiently rigid to support installers and their mechanical equipment and that deflection will not strain or rupture roof components or deform deck.
- B. Fastener Pull-Out Testing: Perform according to SPRI FX-1, and submit test report to Architect and roof membrane manufacturer before installing new base sheet and roofing system. Obtain roof membrane manufacturer's approval to proceed with specified fastening pattern. Roof membrane manufacturer may furnish a revised fastening pattern according to the pull-out test results. Verify that surfaces and site conditions are ready to receive work. Correct defects in the substrate before commencing with roofing work.
- C. Examine roof substrate to verify that it is properly sloped to drains.
- D. Verify that the specifications and drawing details are workable and not in conflict with the roofing manufacturer's recommendations and instructions; start of work constitutes acceptable of project conditions and requirements.

3.03 PREPARATION

- A. Remove all of the existing roof system including all existing composition base flashings. Dispose of all materials properly. If any asbestos containing materials are found, alert owner and perform asbestos removal in accordance with federal, state and local regulations and dispose of waste in legal manner. Note that the Owner performed asbestos testing on a sampling of locations at the Phase 1 roof areas, identical to the K & K1 re-roof areas and no asbestos containing materials were found.
 1. At penetrations, remove all existing flashings, including lead, asphalt, mastic, etc.
 2. At walls, curbs, and other vertical and sloped surfaces, remove loose and unsecured flashings; remove mineral surfaced and coated flashings; remove excessive asphalt to provide a smooth, sound surface for new flashings.
- B. Inspect the deck in all roof areas. Remove the gyp board underlayment and inspect the deck. Notify owner of damaged areas to be repaired or replaced according to the following criteria prior to completing remediation procedures also noted in these specifications. Record areas with photos and square footages of repair and replace areas:
 1. Repair by cleaning and applying rusty metal primer if any of the following conditions are observed:
 - a. Red rust is evident at top flange area (0-75%).

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- b. Surface looks and feels grainy, rough, or is dark brown and scaling (up to 50%).
 - c. Red rust is evident at insulation joints and welds.
 - d. Deck flutes are discolored with red rust (0-100%).
 - e. When dark brown scaling is removed with a wire brush, deck surface shows minor pitting.
2. Replace or repair /overlay after conferring with the owner if the following conditions are observed:
- a. Dark brown rust scaling on greater than 50% of flange and scraping off scaling reveals small pinholes or larger holes in the deck.
 - b. Insulation is stuck to the deck and welds are difficult to locate.
 - c. Entire deck sections have been or can be readily removed during examination, or where areas of decking are missing.

C. Steel Deck Remediation:

- 1. Take precautions to prevent debris from entering building space and coordinate operations with owner.
- 2. Provide temporary protection of building interior and contents.
- 3. Surface Rust Repair:
 - a. Remove all loose dirt, rust, moisture, grease or other contaminants from the surface with a power wire brush.
 - b. Vacuum the roof deck surface clean.
 - c. Mix deck repair coating according to manufacturer's recommendations.
 - i. Self-priming epoxy coating for use on steel structures such as Bar-Rust 231 by Devoe or M45 Epoxy Mastic Coating by Benjamin Moore.
 - ii. Allow coating to dry a minimum of 30 minutes. Coating shall be dry to touch before roof insulation is installed.
- 4. Steel Deck Replacement:

Examine underside of steel deck for any conduit located directly below the deck surface, anything suspended or fastened to the deck surface, etc. If necessary, detach all objects from the bottom side of the deck to be removed.

 - a. Any deck meeting the Replace conditions noted above to be removed in its entirety and replaced with deck:
 - i. FM Approved or UL listed 22 gauge minimum, factory primed steel decking conforming to ASTM A611 with minimum yield strength of 33 ksi and profile as required to conform with existing deck profile at end and side laps.
 - ii. Roof Deck Fasteners: Deck to structural steel and Deck-to-deck side lap fasteners: FM Approved, self-drilling deck fasteners of length and type as required by fastener manufacturer.

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- c. Overlap all deck and laps no less than 6" and as required to secure through both panels and into the structural steel. Lap ends only over structural framing. Deck fasteners shall penetrate deck panels no less than 2" from the edge of the panel.
 - i. Field of Roof: Fasten deck to joists 12" o.c., one fastener in every other deck rib.
 - ii. Perimeter of roof: Fasten deck to joists 6" o.c., one fastener in every deck rib.
 - d. Overlap all deck side laps to nest flush into neighboring deck panel. Install two (2) deck panel side-lap fasteners between joists. Equally space the fasteners no greater than 30" apart.
 - e. Follow deck Manufacturer's instructions and latest edition of the Steel Deck Institute (SDI) Specifications and Commentary.
- D. Take appropriate measures to ensure that fumes from adhesive solvents are not drawn into the building through air intakes.**
- E. Prior to proceeding, prepare roof surface so that it is clean, dry, and smooth, and free of sharp edges, fins, roughened surfaces, loose or foreign materials, oil, grease and other materials that may damage the membrane.
- F. Wood Nailers: Provide wood nailers at all perimeters and other locations where indicated on the drawings, of total height matching the total thickness of insulation being used.
- 1. Install with 1/8 inch gap between each length and at each change of direction.
 - 2. Mechanically fasten to substrate per FM 1-49 with 18-8 stainless steel fasteners. Provide additional fastening to existing nailers as required to meet FM 1-49.

3.04 INSULATION INSTALLATION

- A. Install insulation in configuration and with attachment method(s) specified in PART 2, under Roofing System.
- B. Install only as much insulation as can be covered with the completed roofing system before the end of the day's work or before the onset of inclement weather.
- C. Lay roof insulation in courses parallel to roof edges.
- D. Neatly and tightly fit insulation to all penetrations, projections, and nailers, with gaps not greater than 1/4 inch (6 mm). Fill gaps greater than 1/4 inch (6 mm) with acceptable insulation. Do not leave the roofing membrane unsupported over a space greater than 1/4 inch (6 mm).
 - 1. Joints to be staggered 12" in each direction from layer below and with underlayment and coverboard.
 - 2. Provide tapered edge strip at 1/2" side of tapered insulation.
 - 3. Install cants, crickets and enhanced taper where structural slope is insufficient to provide positive drainage at all location throughout roof areas.
- E. Mechanical Fastening: Using specified fasteners and insulation plates engage fasteners through insulation into deck to depth and in pattern required by Factory Mutual for FM Class specified in PART 2 and membrane manufacturer, whichever is more stringent.
 - 1. Provide fastening pattern per wind uplift requirements.

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2. In no case shall fasteners be installed within 6" of board edge.
3. Fasteners shall not penetrate bottom of deck flutes more than 3/4" to avoid damage to deck mounted conduit and other interior equipment.

3.05 SINGLE-PLY MEMBRANE INSTALLATION

- A. Beginning at low point of roof, place membrane without stretching over substrate and allow to relax at least 30 minutes before attachment or splicing; in colder weather allow for longer relax time.
- B. Lay out the membrane pieces so that field and flashing splices are installed to shed water.
- C. Install membrane without wrinkles and without gaps or fishmouths in seams; bond and test seams and laps in accordance with membrane manufacturer's instructions and details.
- D. Install membrane adhered to the substrate, with edge securement as specified.
- E. Adhered Membrane: Bond membrane sheet to substrate using membrane manufacturer's recommended bonding material, application rate, and procedures.
- F. Edge Securement: Secure membrane at all locations where membrane terminates or goes through an angle change greater than 2 in 12 inches (1:6) using mechanically fastened reinforced perimeter fastening strips, plates, or metal edging as indicated or as recommended by roofing manufacturer.
 1. Exceptions: Round pipe penetrations less than 18 inches (460 mm) in diameter and square penetrations less than 4 inches (200 mm) square.
 2. Metal edging is not merely decorative; ensure anchorage of membrane as intended by roofing manufacturer.
 3. Provide mfg approved base securement for roof to wall, parapet conditions, or offsets greater than 1/2" unless specifically approved by mfg.
- G. **Special project requirements for membrane cut edges:** TPO membrane seams shall be sealed by heat welding per manufacturer's requirements. In addition, this project will require the following:
 1. **Cut edges of scrim reinforced TPO membrane: Shall be covered with 4" wide WELDED unreinforced .060 TPO flashing.**
 2. All "T" joints shall be covered with a min 6"x 6"square or 6" diameter self adhesive cover strip.

3.06 FLASHING AND ACCESSORIES INSTALLATION

- A. Install flashings, including laps, splices, joints, bonding, adhesion, and attachment, as required by membrane manufacturer's recommendations and details.
 1. **Use preformed flashing in all cases, unless not available from the manufacturer and approved by the owner.**
- B. Metal Accessories: Install metal edgings, gravel stops, and copings in locations indicated on the drawings, with horizontal leg of edge member over membrane and flashing over metal onto membrane.
 1. Follow roofing manufacturer's instructions.
 2. Remove protective plastic surface film immediately before installation.
 3. Install water block sealant under the membrane anchorage leg.

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4. Flash with manufacturer's recommended flashing sheet unless otherwise indicated.
 5. Where single application of flashing will not completely cover the metal flange, install additional piece of flashing to cover the metal edge.
 6. If the roof edge includes a gravel stop and sealant is not applied between the laps in the metal edging, install an additional piece of self-adhesive flashing membrane over the metal lap to the top of the gravel stop; apply seam edge treatment at the intersections of the two flashing sections.
 7. When the roof slope is greater than 1:12, apply seam edge treatment along the back edge of the flashing.
- C. Flashing at Walls, Curbs, and Other Vertical and Sloped Surfaces: Install weathertight flashing at all walls, curbs, parapets, curbs, skylights, and other vertical and sloped surfaces that the roofing membrane abuts to; extend flashing at least 8 inches (200 mm) high above membrane surface.
1. Use the longest practical flashing pieces.
 2. Evaluate the substrate and overlay and adjust installation procedure in accordance with membrane manufacturer's recommendations.
 3. Complete the splice between flashing and the main roof sheet with specified splice adhesive before adhering flashing to the vertical surface.
 4. Provide termination directly to the vertical substrate as shown on roof drawings.
 5. Aluminum counterflashings may be reused if carefully removed, stored and reinstalled. Existing aluminum flashings with excessive corrosion or with tears, bends and dents shall be replaced in kind. Provide new rivets, screws and caulking fully compatible with the existing flashings.
- D. Flashing at Penetrations: Flash all penetrations passing through the membrane; make flashing seals directly to the penetration.
1. Pipes, Round Supports, and Similar Items: Flash with specified pre-molded pipe flashings wherever practical; otherwise use specified self-curing elastomeric flashing.
 2. Pipe Clusters and Unusual Shaped Penetrations: Provide penetration pocket at least 2 inches (50 mm) deep, with at least 1 inch (25 mm) clearance from penetration, sloped to shed water.
 3. Structural Steel Tubing: If corner radii are greater than 1/4 inch (6 mm) and longest side of tube does not exceed 12 inches (305 mm), flash as for pipes; otherwise, provide a standard curb with flashing.
 4. Flexible and Moving Penetrations: Provide weathertight gooseneck set in sealant and secured to deck, flashed as recommended by manufacturer.
 5. High Temperature Surfaces: Where the in-service temperature is, or is expected to be, in excess of 180 degrees F (82 degrees C), protect the elastomeric components from direct contact with the hot surfaces using an intermediate insulated sleeve as flashing substrate as recommended by membrane manufacturer.

3.07 FINISHING AND WALKWAY INSTALLATION

- A. Install membrane type walkways at access points to the roof, around rooftop equipment that may require maintenance, and where indicated on the drawings.
- B. Walkway Pads: May be provided in lieu of membrane type walkway protection. Adhere to the roofing membrane, spacing each pad at minimum of 1.0 inch (25 mm) and maximum of 3.0 inches (75 mm) from each other to allow for drainage.
1. If installation of walkway pads over field fabricated splices or within 6 inches (150

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- mm) of a splice edge cannot be avoided, adhere another layer of flashing over the splice and extending beyond the walkway pad a minimum of 6 inches (150 mm) on either side.
2. Prime the membrane, remove the release paper on the pad, press in place, and walk on pad to ensure proper adhesion.

3.10 FIELD QUALITY CONTROL

- A. Inspection by Manufacturer: Provide Interim inspection of the roofing system by a Technical Representative, or qualified manufacturer representative of roofing system manufacturer, specifically to inspect installation for warranty purposes. Final Inspection also to be conducted by manufacturer. Inform owner 72 hrs prior to inspection.
- B. Perform all corrections necessary for issuance of warranty.
- C. Destructive tests performed daily and at the beginning and every time there is an interruption in the welding process (i.e. power failure, welder shut down, job site conditions change and after lunch). There should be periodic checks (including at the start of each day) to verify good peel strength. Samples of daily welds to be submitted to owner.

3.08 CLEANING AND PROTECTION

- A. Clean all contaminants generated by roofing work from building and surrounding areas, including bitumen, adhesives, sealants, and coatings.
- B. Repair or replace building components and finished surfaces damaged or defaced due to the work of this section; comply with recommendations of manufacturers of components and surfaces.
- C. Remove leftover materials, trash, debris, equipment from project site and surrounding areas. Do not use owners dumpsters or trash containers.

3.08 TEMPORARY CUT-OFF

- A. All flashings shall be installed concurrently with the membrane in to maintain a watertight condition as the work progresses.
- B. When a break in the day's work occurs in the central area of the project install a temporary watertight seal. An 8" strip of flashing membrane shall be welded 4" to the new flashing membrane. The remaining 4" of flashing membrane shall be sealed to the deck and/or the substrate so that water will not be allowed to travel under the new or existing membrane. The edge of the membrane shall be sealed in a continuous heavy application of pourable sealer of 6 inch width. When work resumes, the contaminated membrane shall be removed and disposed of. None of these materials shall be reused in the new work.
- C. If inclement weather occurs while a temporary water stop is in place, the Contractor shall provide the labor necessary to monitor the situation to maintain a watertight condition.

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- D. If any water is allowed to enter under the newly-completed system, the affected area shall be removed and replaced at the Contractor's expense.
- E. The roof contractor is responsible for consequential damage that occurs to the interior, exterior of the building or equipment during re-roofing.

3.09 CLEAN UP

- A. Perform daily clean-up to collect all wrappings, empty containers, paper, and other debris from the project site. Upon completion, all debris must be disposed of in a legally acceptable manner.
- B. Prior to the manufacturer's inspection for warranty, the applicator must perform a pre-inspection to review all work and to verify all flashing has been completed as well as the application of all caulking.

3.10 PROJECT COMPLETION

- A. At end of construction period, or at a time when remaining construction will in no way affect or endanger roofing, make a final inspection of roofing and prepare a written report to Owner, describing nature and extent of deterioration or damage found.
 - 1. Repair or replace (as required) deteriorated or defective work found at time of final inspection to a condition free of damage and deterioration at time of Substantial Completion and in accordance with requirements of specified warranty.
- B. Provide 72 hours notice to Owner of manufacturer's warrantee inspection.
- C. Provide all warranties to Owner.
- D. REPAIR MATERIALS: Provide the owner with a repair kit and new canvas bag or equal portable packaging suitable for transport and use on the roof by the owner's maintenance personnel. The repair kit shall consist of:
 - 1. One tube M-1
 - 2. One quart cleaner/primer
 - 3. 2 Scrub pads
 - 4. 6 clean rags
 - 5. 20'-0" x 6" roll of peel and stick semi cured adhesive-applied membrane
 - 6. One roll 10'x6" pressure sensitive TPO cover strip
 - 7. Two tubes of lap sealant
 - 8. One tube of color matched, compatible polyurethane and/or butyl caulk
 - 9. 6 peel and stick target patches

END OF SECTION 07530