SECTION 009113 - ADDENDUM ONE

PART 1 - ADDENDA

- 1.1 PROJECT INFORMATION
 - A. Project Name: 24018 Franklin County Career Technical Building & Fieldhouse Reroofing.
 - B. Owner: Owner: Franklin County School District, 41 First Street, Meadville, Mississippi.
 - 1. Owner's Representative: Mr. Chris Kent, Superintendent of Education.
 - C. Architect: Dale | Bailey, an Association; One Jackson Place, Suite 250, 188 East Capitol Street, Jackson, Mississippi, 39201.
 - D. Architect Project Number: 24018
 - E. Date of Addendum One: 14 May 2024.
- 1.2 NOTICE TO BIDDERS
 - A. This Addendum is issued to all registered plan holders pursuant to the Instructions to Bidders and Conditions of the Contract. This Addendum serves to clarify, revise, and supersede information in the Project Manual, Drawings, and previously issued Addenda. Portions of the Addendum affecting the Contract Documents will be incorporated into the Contract by enumeration of the Addendum in the Owner/Contractor Agreement.
 - B. The Bidder shall acknowledge receipt of this Addendum in the appropriate space on the Bid Form.
 - C. The date for receipt of bids is unchanged by this Addendum at same time and location.
- 1.3 GENERAL
 - A. Attached are the annotated Pre-Bid Meeting Minutes including school district calendar and Meeting Attendees dated 07 May 2024.

1.4 GENERAL RESPONSES TO REQUESTS FOR INFORMATION

A. <u>Question:</u> The specifications call for XPS insulation of 25 psi. Does this apply to the tapered insulation as well?

<u>Answer:</u> See new spec section attached.



D B 24018		Addendum One Franklin County Career Technical Building & Fieldhouse Reroofing Meadville, Mississippi	14 May 2024
В.	Question:	Is the coping, edge flashing, gravel stop, and expansion joint cover pre-manufactured?	r required to be
	Answer:	Not required.	
C.	Question:	Are gutters needed to be pre-manufactured?	
	Answer:	Not required.	
D.	Question:	Is the deck structurally slopped at the Career Center?	
	Answer:	No slope, concrete slab.	
E.	Question:	Could you please confirm the roof assembly for the Football Field I	nouse?
	Answer:	Standing Seam Metal Roof.	
F.	Question:	Is the Contractor required to install a cover board for the roof asser	mbly?
	Answer:	Yes, see new spec section.	
G.	Question:	Is the fascia metal required to be with TPO-coated metal?	
	Answer:	No.	
H.	<u>Question:</u>	The specifications call for XPS insulation of 25 psi. Does this apply insulation as well? – One of my vendors just told me XPS insulation scarce in recent months?	
	Answer:	See new spec attached.	
1.5		S TO DIVISION 00 – PROCUREMENT REQUIREMENTS AND TING REQUIREMENTS	
Α.		T 004113 – BID FORM (Revised). Delete this form in its entirety and ee attached.	l replace it
1.6	REVISIONS	S TO DIVISION 01 – GENERAL REQUIREMENTS	
A.	DOCUMENT 012300 – ALTERNATES. New. See attached.		

- 1.7 REVISION TO TECHNICAL SPECIFICATIONS
 - A. Section 075423 THERMOPLASTIC-POLYOLEFIN (TPO) ROOFING (Re-Issued). Delete this section in its entirety and replace it with attached.
 - B. Section 075424 -- THERMOPLASTIC-POLYOLEFIN (TPO) FULLY ADHERED CONCRETE DECK ROOFING SYSTEM (New). Add this section to the project manual.

1.8 REVISIONS TO DRAWINGS

- A. Sheet A-001 Career & Technical Building Roof Plan Bid "A" (Re-Issued). Delete this sheet in its entirety and replace it with attached. The re-roofing footprint has been expanded to include the entire upper roof as Base Bid "A" and the lower roof as ADD Alt #1.
- 1.9 ATTACHMENTS
 - A. Annotated Pre-Bid Meeting Minutes and Meeting Attendees dated 07 May 2024.
 - B. Specification 004113 Bid Form dated 14 May 2024.
 - C. Specification 012300 Alternates dated 14 May 2024.
 - D. Specification 07543 -- Thermoplastic-Polyolefin (TPO) Roofing dated 14 May 2024.
 - E. Specification 07544 Thermoplastic-Polyolefin (TPO) Fully Adhered Concrete Deck Roofing System dated 14 May 2024.
 - F. Sheet A-001 Career & Technical Building Roof Plan Bid "A" dated 14 May 2024.

END OF ADDENDUM ONE



Minutes

201 Park Court, Suite B			
Ridgeland, MS 39157			
P 601.790.9432			
F 888.281.0547			

07 May 2024

24018 Franklin County Career Technical Building & Fieldhouse Reroofing / Pre-Bid Meeting

- 1. General
 - a. Please silence cell phones
 - b. Sign-in sheet: Minutes will include list of meeting attendees
 - c. Plan holders list: Minutes will include list of plan holders
 - d. Description1. The project scope of work at the Franklin County Career & Technical Center and High School Football Fieldhouse located in Meadville, Mississippi is funded by the school district. This project includes removing the existing roofing system to the roof deck and replacing with new TPO system at the Career & Technical Center and installing new TPO system over existing metal roofing system.
 - e. Team
 - i. Owner Franklin County School District / Meadville, MS / Mr. Chris Kent, Superintendent.
 - ii. Facilities Manager FCSD / Meadville, MS / Mr. Brad Mullins / 601-597-7378
 - iii. Architect Dale | Bailey, an association/ Jackson, MS / Russ Blount
 - iv. Project Manager Dale | Bailey, an association/ Jackson, MS / Luigia Hodge
- 2. Procurement and Contracting Requirements
 - a. Advertisement for Bids
 - i. Advertisement dates: 04/18/24 & 04/25/24
 - ii. Bid Receipt: Bids to be opened at 2:00 PM on Tuesday, May 21, 2024
 - Bid Location: Franklin County School District, 41 First Street, Meadville, Mississippi, 39653
 - b. Bidder Qualifications
 - i. Bidders must be properly licensed under the laws governing their respective trades
 - ii. List all applicable state & local license & registration nos. on outside of bid envelope
 - c. Bonding & Insurance
 - i. Bidders must be able to obtain insurance and bonds required for the Work
 - d. Bid Security
 - i. A Bid Security in the amount of 5% of the total maximum bid amount is required
 - ii. Cash, cashier's check, certified check, US money order, or bid bond

One Jackson Place, Suite 250 188 East Capitol Street Jackson, MS 39201-2100 P 601.352.5411

161 Lameuse Street, Suite 201 Biloxi, MS 39530

P 228.374.1409

F 601.352.5362

F 228.374.1414

- e. Bid Form and Attachments
 - i. Acknowledgement of Addenda
 - ii. Subcontractor identification
- f. Bid Submittal Requirements
 - i. Envelope requirements (re: Bid Submittal Checklist)
 - ii. Proper identification
- g. Notice of Award
 - i. Offered within 60 days after receipt of bids
 - ii. Award will be made as soon as possible & successful bidder should be ready to secure bonds & insurance immediately
- 3. Communication during Bidding Period
 - a. Obtaining documents
 - i. Plan holders are required to register and order bid documents at www.dalebaileyplans.com
 - b. Bidder's Requests for Information
 - i. Binding answers to questions must be included in an official written addendum and the Contractor or Subcontractor is encouraged to provide written communications to the Architect for proper response
 - ii. Address e-mailed written correspondence to biddinginfo@dalepartners.com
 - iii. No questions will be accepted after 12 Noon on Wednesday, May 15, 2024 in order to allow the Architect adequate time to prepare any necessary addenda
 - c. Addenda
 - i. Addendum no 1.....≤ 2:00 PM, 05.16.24
- 4. Contracting Requirements
 - a. The Supplementary Conditions
 - i. Refer to this section for specific comments & directives
 - 1. Change order markups
 - 2. Weather delays
 - 3. Retainage
 - 4. Stored material
 - 5. Liquidated damages
 - 6. Insurance
 - b. Other Owner requirements: verify user occupancy during construction
- 5. Construction Documents
 - a. Use of Site
 - i. Complete use of site TBD
 - ii. Parking

- iii. Lay-down area
- b. Work Restrictions
 - i. Work days
 - ii. Work times
- c. Unit prices, alternates, & allowances
 - i. Unit prices:
 - 1. Unit Price No. 1. Wood Blocking Replacement in Base Bid "A".
 - 2. Unit Price No. 2. Wood Blocking Replacement in Base Bid "B".
 - 3. Unit Price No. 3. Wood Blocking Replacement in Base Bid "C".
 - ii. Alternates: Currently none in this project
 - iii. Allowances:
 - No. 1: Include the Sum of Twenty Thousand Dollars (\$20,000.00) total in Base Bid "A". Ten Thousand Dollars for Construction Contingency and Ten Thousand Dollars for Brick Repair Allowance.
 - 2. No. 2: Include the Sum of Ten Thousand Dollars (\$10,000.00) total in Base Bid "B" for Construction Contingency Allowance.
 - 3. No. 3: Include the Sum of Thirty Thousand Dollars (\$30,000.00) total in Base Bid "C" for Construction Contingency Allowance.
- d. Substitutions following award
 - i. Substitutions will be considered within 30 days of the contract award
 - ii. Burden of proof of "equal" will be on the Contractor or Vendor

6. Schedule

- a. Project Schedule
 - i. Section 013200 in Project Manual
 - ii. GC to provide CPM type schedule, regularly updated
- b. Contract Time
 - i. Contract time currently defined as Substantial Completion date of Thursday, August 01, 2024
- c. Liquidated Damages
 - i. \$500 each calendar day of the delay after Contract Time
- d. Other Bidder Questions
- 7. Post-Meeting Addendum
 - a. May be issued, as necessary to document the meeting questions & provide proper responses
- 8. Other Bidder Questions
 - a. Architect will record and distribute meeting minutes to attendees and others known by the Architect's office to have received a complete set of Procurement and Contracting Documents

- b. Minutes of meeting are issued as Available Information and do not constitute a modification to the Procurement and Contracting Documents
- c. Modifications to the Procurement and Contracting Documents are issued by written Addendum only
- 9. Site/facility visit or walkthrough as needed.

End

Dale BAILEY

ASSOCIATION

ΑN

PRE-BID MEETING ATTENDEES

201 Park Court, Suite B Ridgeland, MS 39157 P 601.790.9432 F 888.281.0547

24018 Franklin County Career Technical Building & Fieldhouse Reroofing project regarding Pre-Bid Meeting 07 May 2024, 10:00 AM mtg. date

location

Franklin County School District, 41 First Street, Meadville, Mississippi, 39653

ne Jackson Place, Suite 250
188 East Capitol Street
Jackson, MS 39201-2100
P 601.352.5411
F 601.352.5362

161 Lameuse Street, Suite 201 Biloxi, MS 39530 P 228.374.1409 F 228.374.1414

Initial	Name	Business	Phone	Email
	Mr. Chris Kent	FCSD	(601) 384-0694	ckent@fcsd.k12.ms.us
	Gary Bailey	Dale Bailey	(601) 951-1820	gbailey@baileyarch.com
	Russ Blount	Dale Bailey	(601) 352-5411	russblount@daleparnters.com
	Luigia Hodge	Dale Bailey	(601) 352-5411	luigiahodge@dalepartners.com

Blake Yarbreigh By E(-503-4564 Bloke @ ec malone.com 601 Malonp Mitch Reifers leo1-922-4301 mitchercoting, ms In ependent Kasting Randy Rowell 601-736-9494 rrowell Rowell R provelle 564 908 7856 Danny Construct V.P. 985-888-9885 ard 14.2 469-309-1480 acharld havi COM 104 Salvador 601. 317.5197 estimating @ ro . com 6012762351 tomssheetmet 723 33 Sastruc Olemanrao com 601 1501 378 KIZ MS.US

dalebaileyarch.com Architects Who Know Education

DOCUMENT 004113 - BID FORM - STIPULATED SUM (SINGLE-PRIME CONTRACT)

1.1 BID INFORMATION

- A. Bidder:
- B. Project Name: Franklin County Career Technical Building & Fieldhouse Reroofing.
- C. Project Location: 129 Vo-Tech Lane, Meadville, Mississippi.
- D. Owner: Franklin County School District, 41 First Street, Meadville, Mississippi.
 - 1. Owner's Representative: Mr. Chris Kent, Superintendent of Education
- E. Architect: Dale | Bailey, an Association; One Jackson Place, Suite 250, 188 East Capitol Street, Jackson, Mississippi, 39201.
- F. Architect Project Number: 24018

1.2 CERTIFICATIONS AND BASE BID

A. Base Bid, Single-Prime (All Trades) Contract: The undersigned Bidder must bid both Bid "A", Bid "B" and Bid "C", if not will result in disqualification, having carefully examined the Procurement and Contracting Requirements, Conditions of the Contract, Drawings, Specifications, and all subsequent Addenda, as prepared by Dale | Bailey, an Association and Architect's consultants, having visited the site, and being familiar with all conditions and requirements of the Work, hereby agrees to furnish all material, labor, equipment and services, including all scheduled allowances, necessary to complete the construction of the above-named project, according to the requirements of the Procurement and Contracting Documents, for the stipulated sum of:

BID "A" – Franklin County Career and Technical Center

- 1. _____ Dollars _____).
- 2. The above amount may be modified by amounts indicated by the Bidder on the attached Document 004322 "Unit Prices Form" and Document 012100 "Allowances Form."

BID "B" – High School Football Fieldhouse

- 1. _____ Dollars (\$).
- 2. The above amount may be modified by amounts indicated by the Bidder on the attached Document 004322 "Unit Prices Form" and Document 012100 "Allowances Form."

BID "C" – Both Franklin County Career and Technical Center & High School Football Fieldhouse

- 1. _____ Dollars ______).
- 2. The above amount may be modified by amounts indicated by the Bidder on the attached Document 004322 "Unit Prices Form" and Document 012100 "Allowances Form."
- 1.2 ALLOWANCES. Include the allowances below in the base bid. Refer to section 012100-ALLOWANCES.
 - A. Allowance No. 01: Lump Sum Contingency Allowance of Twenty Thousand Dollars (\$20,000.00) to be included in Base Bid "A".
 - B. Allowance No. 02: Lump Sum Contingency Allowance of Ten Thousand Dollars (\$10,000.00) to be included in Base Bid "B".
 - C. Allowance No. 03: Lump Sum Contingency Allowance of Thirty Thousand Dollars (\$30,000.00) to be included in Base Bid "C".
- 1.3 UNIT PRICES: Refer to Section 012200 Unit Prices for additional information and requirements.

THE ABOVE LUMP SUM PRICE IN BID "A" INCLUDES THE FOLLOWING UNIT PRICE

Item No. Description Qty Unit Unit Price Total Price:

No.	1	Wood blocking replacement	25	Lin. Ft.	\$ \$

Additions of the above items may be added or deducted by the unit price as needed. Unused amounts will be credited to the owner at closing.

THE ABOVE LUMP SUM PRICE IN BID "B" INCLUDES THE FOLLOWING UNIT PRICES

No. 2 Wood blocking replacement 25 Lin. Ft. \$_____ \$_____

Additions of the above items may be added or deducted by the unit price as needed. Unused amounts will be credited to the owner at closing.

THE ABOVE LUMP SUM PRICE IN BID "C" INCLUDES THE FOLLOWING UNIT PRICES

No. 3	Wood blocking replacement	50	Lin. Ft.	\$	\$	
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Additions of the above items may be added or deducted by the unit price as needed. Unused amounts will be credited to the owner at closing.

D B 24	018	Addendum One Franklin County Career Te Building & Fieldhouse Re Meadville, Mississip	roofing	14 May 2024
1.4	ALTERNATES. Refe	r to Section 012300 - ALTERNAT	ES for description of Alte	ernates.
		nate No. 01: Lower Roof at Caree ting roof system as indicated on d		All work related to
				Dollars
	(\$).		
1.5	BID GUARANTEE			
A.	furnish surety as spe after receipt of bids, check, certified chec	Ider agrees to execute a contract cified within 10 days after a writter and on failure to do so agrees to fo k, U.S. money order, or bid bond, constituting five percent (5%) of t	n Notice of Award, if offer orfeit to Owner the attach , as liquidated damages	red within 60 days ed cash, cashier's for such failure, in
	1			Dollars
	(\$).		
В.		loes not offer Notice of Award with igned the cash, cashier's check,		
1.6	TIME OF COMPLET	ION		
Α.		dder proposes and agrees hereb e specified in a written Notice to P		

1.7 ACKNOWLEDGMENT OF ADDENDA

fully complete the Work by August 1, 2024.

- A. The undersigned Bidder acknowledges receipt of and use of the following Addenda in the preparation of this Bid:
 - 1. Addendum No. 1, dated _____.
 - 2. Addendum No. 2, dated _____.
 - 3. Addendum No. 3, dated _____.
 - 4. Addendum No. 4, dated _____.

1.8 BID SUPPLEMENTS

- A. The following supplements are a part of this Bid Form and are attached hereto.
 - 1. Bid Form Supplement Bid Bond Form (AIA Document A310-2010).

1.9 CONTRACTOR'S LICENSE

A. The undersigned further states that it is a duly licensed contractor for the type of work proposed in Mississippi, and that all fees, permits, etc., pursuant to submitting this proposal have been paid in full.

1.10 SUBMISSION OF BID

Α.	Respectfully submitted this	day of	, 2024.
В.	Submitted By:	(Name of bidding firm or o	corporation).
C.	Authorized Signature:	(Handwriti	ten signature).
D.	Signed By:	(Туре ог	print name).
E.	Title:	(Owner/Partner/President/Vi	ce President).
F.	Witnessed By:	(Handwr	itten signature).
G.	Attest:	(Handwritte	n signature).
Н.	Ву:	(Type or	print name).
I.	Title:	(Corporate Secretary or Assist	ant Secretary).
J.	Street Address:		
K.	City, State, Zip:		······································
L.	Phone:		·
M.	Email Address:		·
N.			
О.		(Affix Corporate	

SECTION 012300 - ALTERNATES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for alternates.

1.2 DEFINITIONS

- 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 the 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 alternates into the Work. No other adjustments are made to the Contract Sum.

1.3 PROCEDURES

- A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Execute accepted alternates under the same conditions as other work of the Contract.
- C. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. Additive Alternate No. 01 : Lower Roof at Career & Technical Center.

1. Alternate Description: All work related to replacing existing roof system as indicated on drawings.

END OF SECTION 012300

SECTION 075423 - THERMOPLASTIC-POLYOLEFIN (TPO) ROOFING

PART 1 – GENERAL

1.01 DESCRIPTION

A. The project consists of installing Carlisle Syntec's Sure-Weld (TPO) Mechanically-Fastened Roofing System or approved equal as outlined below:

Apply the Sure-Weld Mechanically Fastened Retro-Fit Roofing System or approved equal in conjunction with PolyISO over the existing Metal roof.

1.02 EXTENT OF WORK

- A. Provide all labor, material, tools, equipment, and supervision necessary to complete the installation of the Sure-Weld reinforced TPO (Thermoplastic Polyolefin) Mechanically-Fastened Roofing System or approved equal including flashings and insulation as specified herein and as indicated on the drawings in accordance with the manufacturer's most current specifications and details.
- B. The roofing contractor shall be fully knowledgeable of all requirements of the contract documents and shall make themselves aware of all job site conditions that will affect their work.
- C. The roofing contractor shall confirm all given information and advise the building owner, prior to bid, of any conflicts that will affect their cost proposal.
- D. Any contractor who intends to submit a bid using a roofing system other than the approved manufacturer must submit for pre-qualification in writing fourteen (14) days prior to the bid date. Any contractor who fails to submit all information as requested will be subject to rejection. Bids stating "as per plans and specs" will be unacceptable.

1.03 SUBMITTALS

- A. Prior to starting work, the roofing contractor must submit the following:
 - 1. Shop drawings showing layout, details of construction and identification of materials.
 - 2. Sample of the manufacturer's Membrane System Warranty.
 - 3. Submit a letter of certification from the manufacturer which certifies the roofing contractor is authorized to install the manufacturer's roofing system and lists foremen who have received training from the manufacturer along with the dates training was received.
 - 4. Certification from the membrane manufacturer indicating the fasteners are capable of providing a static backout resistance of 10 inch pounds minimum is required.
 - 5. Certification from the membrane manufacturer indicating the membrane thickness over the reinforcing scrim (top ply membrane thickness) is nominal .15-mil or thicker.
 - 6. Certification of the manufacturer's warranty reserve.

100% Construction Documents THERMOPLASTIC-POLYOLEFIN (TPO) RETROFIT ROOFING SYSTEM

B. Upon completion of the installed work, submit copies of the manufacturer's final inspection to the specifier prior to the issuance of the manufacturer's warranty.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to the job site in the manufacturer's original, unopened containers or wrappings with the manufacturer's name, brand name and installation instructions intact and legible. Deliver in sufficient quantity to permit work to continue without interruption.
- B. Comply with the manufacturer's written instructions for proper material storage.
 - 1. Store Sure-Weld membrane in the original undisturbed plastic wrap in a cool, shaded area and cover with light-colored, breathable, waterproof tarpaulins. Sure-Weld membrane that has been exposed to the elements for approximately 7 days must be prepared with Carlisle Weathered Membrane Cleaner prior to hot air welding.
 - 2. Store curable materials (adhesives and sealants) between 60°F and 80°F in dry areas protected from water and direct sunlight. If exposed to lower temperature, restore to 60°F minimum temperature before using.
 - 3. Store materials containing solvents in dry, well ventilated spaces with proper fire and safety precautions. Keep lids on tight. Use before expiration of their shelf life.
- C. Insulation must be on pallets, off the ground and tightly covered with waterproof materials.
- D. Any materials which are found to be damaged shall be removed and replaced at the applicator's expense.

1.05 WORK SEQUENCE

- A. Schedule and execute work to prevent leaks and excessive traffic on completed roof sections. Care should be exercised to provide protection for the interior of the building and to ensure water does not flow beneath any completed sections of the membrane system.
- B. Do not disrupt activities in occupied spaces.

1.06 USE OF THE PREMISES

- A. Before beginning work, the roofing contractor must secure approval from the building owner's representative for the following:
 - 1. Areas permitted for personnel parking.
 - 2. Access to the site.
 - 3. Areas permitted for storage of materials and debris.
 - 4. Areas permitted for the location of cranes, hoists and chutes for loading and unloading materials to and from the roof.

100% Construction Documents

THERMOPLASTIC-POLYOLEFIN (TPO) RETROFIT ROOFING SYSTEM 075423 Page 2 of 8

B. Interior stairs or elevators may not be used for removing debris or delivering materials, except as authorized by the building superintendent.

1.07 EXISTING CONDITIONS

If discrepancies are discovered between the existing conditions and those noted on the drawings, immediately notify the owner's representative by phone and solicit the manufacturer's approval prior to commencing with the work. Necessary steps shall be taken to make the building watertight until the discrepancies are resolved.

1.08 WORKMANSHIP

- A. Applicators installing new roof, flashing and related work shall be factory trained and approved by the manufacturer they are representing.
- B. All work shall be of highest quality and in strict accordance with the manufacturer's published specifications and to the building owner's satisfaction.
- C. There shall be a supervisor on the job site at all times while work is in progress.

1.09 QUALITY ASSURANCE

A. The Sure-Weld Roofing System must achieve a UL Class A, B or C.

The specified roofing assembly must be rated by Factory Mutual Global (FMG) to meet or exceed the factored uplift pressures outlined in FMG Property Loss Prevention Data Sheet 1-28, and complies with FMG Property Loss Prevention Data Sheet 1-29 for enhancements at the perimeter and corners.

- B. The membrane must be manufactured by the material supplier. Manufacturer's supplying membrane made by others are not acceptable.
- C. Unless otherwise noted in this specification, the roofing contractor must strictly comply with the manufacturer's current specifications and details.
- D. The roofing system must be installed by an applicator authorized and trained by the manufacturer in compliance with shop drawings as approved by the manufacturer. The roofing applicator shall be thoroughly experienced and upon request be able to provide evidence of having at least five (5) years successful experience installing single-ply TPO roofing systems and having installed at least one (1) roofing application or several similar systems of equal or greater size within one year.
- E. Provide adequate number of experienced workmen regularly engaged in this type of work who are skilled in the application techniques of the materials specified. Provide at least one thoroughly trained and experienced superintendent on the job at all times roofing work is in progress.
- F. There shall be no deviations made from this specification or the approved shop drawings without the prior written approval of the specifier. Any deviation from the manufacturer's installation procedures must be supported by a written certification on the manufacturer's letterhead and presented for the specifier's consideration.
- G. The Sure-Weld TPO White membrane meets CRRC (Cool Roof Rating Council) for reflectance and emittance. When tested in accordance with ASTM C1549, the Sure-Weld White material has an initial solar reflectance of 0.79 and a 3-year aged reflectance of 0.70. The material has also been tested for emittance in accordance with ASTM C1371; an initial emittance of 0.90 and a 3-

year aged emittance of 0.86 were achieved.

- H. The Sure-Weld White TPO membrane meets the emittance requirements set forth by the USGBC (U. S. Green Building Council) for their LEED (Leadership in Energy and Environmental Design) Program. The Sure-Weld White TPO material has an emittance of 0.90 (when tested in accordance with ASTM E408) and an SRI (solar reflectance index) of 99 (calculated using ASTM E 1980).
- I. Upon completion of the installation, the applicator shall arrange for an inspection to be made by a non-sales technical representative of the membrane manufacturer in order to determine whether or not corrective work will be required before the warranty will be issued. Notify the building owner seventy-two (72) hours prior to the manufacturer's final inspection.

1.10 JOB CONDITIONS, CAUTIONS AND WARNINGS

Refer to Carlisle's Sure-Weld Roofing System specification for General Job Site Considerations.

- A. Safety Data Sheets (SDS) must be on location at all times during the transportation, storage and application of materials.
- B. When positioning membrane sheets, exercise care to locate all field splices away from low spots and out of drain sumps. All field splices should be shingled to prevent bucking of water.
- C. When loading materials onto the roof, the Carlisle Authorized Roofing Applicator must comply with the requirements of the building owner to prevent overloading and possible disturbance to the building structure.
- D. Proceed with roofing work only when weather conditions are in compliance with the manufacturer's recommended limitations, and when conditions will permit the work to proceed in accordance with the manufacturer's requirements and recommendations.
- E. Proceed with work so new roofing materials are not subject to construction traffic. When necessary, new roof sections shall be protected and inspected upon completion for possible damage.
- F. Provide protection, such as 3/4 inch thick plywood, for all roof areas exposed to traffic during construction. Plywood must be smooth and free of fasteners and splinters.
- G. The surface on which the insulation or roofing membrane is to be applied shall be clean, smooth, dry, and free of projections or contaminants that would prevent proper application of or be incompatible with the new installation, such as fins, sharp edges, foreign materials, oil and grease.
- H. New roofing shall be complete and weathertight at the end of the work day.
- I. Contaminants such as grease, fats and oils shall not be allowed to come in direct contact with the roofing membrane.

1.11 WARRANTY

A. Provide manufacturer's 20 year Total System Warranty covering both labor and material with no dollar limitation. The maximum wind speed coverage shall be peak gusts of 55 mph measured at

100% Construction Documents THERMOPLASTIC-POLYOLEFIN

075423 Page 4 of 8

(TPO) RETROFIT ROOFING

SYSTEM

10 meters above ground level. Certification is required with bid submittal indicating the manufacturer has reviewed and agreed to such wind coverage.

- B. Pro-rated System Warranties shall not be accepted.
- C. Evidence of the manufacturer's warranty reserve shall be included as part of the project submittals for the specifier's approval.

PART 2 – PRODUCTS

2.01 GENERAL

- A. All components of the specified roofing system shall be products of Carlisle SynTec or approved equal.
- B. All products (including insulation, fasteners, fastening plates, prefabricated accessories and edgings) must be **manufactured and/or supplied** by the roofing system manufacturer and covered by the warranty.

2.02 MEMBRANE

Furnish Sure-Weld 60-mil thick white reinforced TPO (Thermoplastic Polyolefin) as needed to complete the roofing system. Membrane thickness over the reinforcing scrim (top-ply thickness) shall be nominal .015-mil or thicker. Membrane sheets in rolls 12', 10' or 8' wide by 100' long

2.03 INSULATION/UNDERLAYMENT

- A. When applicable, insulation shall be installed in multiple layers. The first and second layer of insulation shall be mechanically fastened to the substrate in accordance with the manufacturer's published specifications.
- B. Insulation shall be Insulbase as supplied by Carlisle SynTec or approved equal.
 - Carlisle Insulbase Polyisocyanurate A foam core insulation board covered on both sides with a medium weight fiber-reinforced felt facer meeting ASTM C 1289-06, Type II, Class 1, Grade 2 (20 psi. - 1.5" 4'x8'
 - 2. **InsulFoam I (EPS: Expanded Polystyrene) –** A closed-cell lightweight expanded polystyrene (EPS) that meets ASTM C578, Type I. Nominal density of 1.0 lbs/cubic ft (pcf) available in 4' x 4' or 4' x 8' sizes with thickness from ¼" to 40". Custom lengths, widths and tapered boards are available. May be specified beneath Sure-Seal HP Recovery Board, Dens-Deck Prime or Securock.
 - 3. **Securock Cover Board –** A uniform composition of fiber-reinforced with no facer for use as a cover board or a thermal barrier. ¹/₂" USG Securock

2.04 ADHESIVES AND CLEANERS

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All products shall be furnished by Carlisle or approved equal and specifically formulated for the intended purpose.

- A. **Sure-Weld Bonding Adhesive:** A high-strength, synthetic rubber adhesive used for bonding Sure-Weld membrane to various surfaces. The adhesive is applied to both the membrane and the substrate at a coverage rate of approximately 60 square feet per gallon per finished surface (includes coverage on both surfaces).
- B. **Cut-Edge Sealant:** A white or clear colored sealant used to seal cut edges of reinforced Sure-Weld membrane. A coverage rate of approximately 225 - 275 linear feet per squeeze bottle can be achieved when a 1/8" diameter bead is applied.
- C. **Water Cut-Off Mastic:** Used as a mastic to prevent moisture migration at drains, compression terminations and beneath conventional metal edging (at a coverage rate of approximately 10' per tube or 100' per gallon).
- D. **Universal Single-Ply Sealant:** A 100% solids, solvent free, voc free, one part polyether sealant that provides a weather tight seal to a variety of building materials. It is white in color and is used for general caulking such as above termination bars and metal counter flashings and at scuppers.
- E. **Thermoplastic One-Part Pourable Sealer:** A one-part, moisture curing, elastomeric polyether sealant used to fill TPO Molded Pourable Sealant Pockets. Packaged in 4, 2-liter foil pouches inside a reusable plastic bucket. 1 pouch will fill 2 TPO Molded Pourable Sealant Pockets.
- F. **Weathered Membrane Cleaner:** Used to prepare membrane for heat welding that has been exposed to the elements or to remove general construction dirt at an approximate coverage rate of 400 square feet per gallon (one surface).
- G. **TPO Primer:** A solvent-based primer used to prepare the surface of Sure-Weld Membrane prior to application of Pressure-Sensitive Coverstrip and TPO Pressure-Sensitive RUSS.

2.05 FASTENERS AND PLATES

To be used for mechanical attachment of insulation and to provide additional membrane securement

- A. **HP-X Fasteners**: A heavy duty #15 threaded fastener with a #3 phillips drive used for membranre or insulation securement into steel, wood plank or minimum 15/32 inch thick plywood when increased pullout resistance is desired.
- B. **InsulFast Fasteners:** A threaded #12 fastener with #3 phillips drive used for insulation attachment into steel or wood decks.
- C. **HP Purlin Fasteners:** Specifically designed for use with Carlisle's Metal Retrofit Roofing System to secure membrane to structural steel purlins. The self drilling point can penetrate 12-18 gauge steel with superior pullout resistance.
- D. **Piranha Plates**: A 2-3/8" diameter metal barbed fastening plate used with Carlisle HP-X or HP-14-10 Fasteners for membrane securement. This plate can be used for insulation securement.

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E. **Insulation Fastening Plates**: a nominal 3 inch diameter plastic or metal plate used for insulation attachment.

2.06 METAL EDGING AND MEMBRANE TERMINATIONS

- A. Drip Edge: a metal fascia/edge system with a 22 or 24 gauge continuous anchor cleat and .032
 B. inch thick aluminum or 24 gauge steel fascia. Metal fascia color shall be as designated by the Owner's Representative.
- C. **Termination Bar**: a 1" wide and .098" thick extruded aluminum bar pre-punched 6" on center; incorporates a sealant ledge to support Lap Sealant and provide increased stability for membrane terminations.

2.07 WALKWAYS

Protective surfacing for roof traffic shall be Sure-Weld TPO Walkway Rolls installed per manufacturer's requirements or concrete pavers loose laid over an approved slip sheet (pavers not recommended for slopes greater than 2" in 12").

PART 3 EXECUTION

3.01 GENERAL

- A. Comply with the manufacturer's published instructions for the installation of the membrane roofing system including proper substrate preparation, jobsite considerations and weather restrictions.
- B. Position sheets to accommodate contours of the roof deck and shingle splices to avoid bucking water.

3.02 INSULATION PLACEMENT AND ATTACHMENT

- A. Install insulation or membrane underlayment over the substrate with boards butted tightly together with no joints or gaps greater than 1/4 inch. Stagger joints both horizontally and vertically if multiple layers are provided.
- B. Secure insulation to the substrate with the required Carlisle fasteners and plates in accordance with manufacturers specifications.

3.03 MEMBRANE PLACEMENT AND ATTACHMENT

- A. Unroll and position membrane. Provide and secure both perimeter and field membrane sheets in accordance with the manufacturer's most current specifications and details.
- B. Secure the membrane with the required Carlisle Fasteners and Plates spaced a maximum of 12 inches on center depending or project conditions (centered over the pre-printed marks approximately 1-1/2 inches from the edge of the membrane sheet).
- C. Install adjoining membrane sheets in the same manner in accordance with the manufacturer's specifications.

3.04 MEMBRANE HOT AIR WELDING PROCEDURES

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A. Hot air weld the Sure-Weld membrane using an Automatic Hot Air Welding Machine or Hot Air Hand Welder in accordance with the manufacturer's specifications. At all splice intersections, roll the seam with a silicone roller immediately after welder crossed the membrane step-off to ensure a continuous hot air welded seam.

Note: When using .060-mil thick or thicker membrane, all splice intersections shall be overlaid with Sure-Weld non-reinforced flashing or TPO T-Joint covers or approved equal.

- B. Probe all seams once the hot air welds have thoroughly cooled (approximately 30 minutes).
- C. Repair all seam deficiencies the same day they are discovered.
- D. Apply Cut Edge Sealant on all cut edges of reinforced membrane (where the scrim reinforcement is exposed) after seam probing is complete. Cut edge sealant is not required on vertical splices.

3.05 FLASHING

- A. Flashing of parapets, curbs, expansion joints and other parts of the roof must be performed using Sure-Weld reinforced membrane. Sure-Weld non-reinforced membrane can be used for flashing pipe penetrations, Sealant Pockets, scuppers, as well as inside and outside corners when the use of pre-fabricated accessories is not feasible.
- B. Follow manufacturer's typical flashing procedures for all wall, curb, and penetration flashing including metal edging/coping and roof drain applications.

3.06 WALKWAYS

A. Install walkways at all traffic concentration points (such as roof hatches, access doors, rooftop ladders, etc.) and all locations as identified on the specifier's drawing.

3.07 DAILY SEAL

- A. On phased roofing, when the completion of flashings and terminations is not achieved by the end of the work day, a daily seal must be performed to temporarily close the membrane to prevent water infiltration.
- B. Complete an acceptable membrane seal in accordance with the manufacturer's requirements.

3.08 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.

END OF SPECIFICATION

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PART 1GENERAL

1.01 DESCRIPTION

A. The project consists of installing Carlisle Syntec's Sure-Weld (TPO) Mechanically-Fastened Roofing System or approved equal as outlined below:

Apply the Sure-Weld Mechanically Fastened Retro-Fit Roofing System or approved equal in conjunction with PolyISO over the existing Metal roof.

1.02 EXTENT OF WORK

- A. Provide all labor, material, tools, equipment, and supervision necessary to complete the installation of the Sure-Weld reinforced TPO (Thermoplastic Polyolefin) Mechanically-Fastened Roofing System or approved equal including flashings and insulation as specified herein and as indicated on the drawings in accordance with the manufacturer's most current specifications and details.
- B. The roofing contractor shall be fully knowledgeable of all requirements of the contract documents and shall make themselves aware of all job site conditions that will affect their work.
- C. The roofing contractor shall confirm all given information and advise the building owner, prior to bid, of any conflicts that will affect their cost proposal.
- D. Any contractor who intends to submit a bid using a roofing system other than the approved manufacturer must submit for pre-qualification in writing fourteen (14) days prior to the bid date. Any contractor who fails to submit all information as requested will be subject to rejection. Bids stating "as per plans and specs" will be unacceptable.

1.03 SUBMITTALS

- A. Prior to starting work, the roofing contractor must submit the following:
 - 1. Shop drawings showing layout, details of construction and identification of materials.
 - 2. Sample of the manufacturer's Membrane System Warranty.
 - 3. Submit a letter of certification from the manufacturer which certifies the roofing contractor is authorized to install the manufacturer's roofing system and lists foremen who have received training from the manufacturer along with the dates training was received.
 - 4. Certification from the membrane manufacturer indicating the fasteners are capable of providing a static backout resistance of 10 inch pounds minimum is required.
 - 5. Certification from the membrane manufacturer indicating the membrane thickness over the reinforcing scrim (top ply membrane thickness) is nominal .15-mil or thicker.
 - 6. Certification of the manufacturer's warranty reserve.
- B. Upon completion of the installed work, submit copies of the manufacturer's final inspection to the specifier prior to the issuance of the manufacturer's warranty.

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THERMOPLASTIC-POLYOLEFIN (TPO) RETROFIT ROOFING SYSTEM

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1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to the job site in the manufacturer's original, unopened containers or wrappings with the manufacturer's name, brand name and installation instructions intact and legible. Deliver in sufficient quantity to permit work to continue without interruption.
- B. Comply with the manufacturer's written instructions for proper material storage.
 - 1. Store Sure-Weld membrane in the original undisturbed plastic wrap in a cool, shaded area and cover with light-colored, breathable, waterproof tarpaulins. Sure-Weld membrane that has been exposed to the elements for approximately 7 days must be prepared with Carlisle Weathered Membrane Cleaner prior to hot air welding.
 - 2. Store curable materials (adhesives and sealants) between 60°F and 80°F in dry areas protected from water and direct sunlight. If exposed to lower temperature, restore to 60°F minimum temperature before using.
 - 3. Store materials containing solvents in dry, well ventilated spaces with proper fire and safety precautions. Keep lids on tight. Use before expiration of their shelf life.
- C. Insulation must be on pallets, off the ground and tightly covered with waterproof materials.
- D. Any materials which are found to be damaged shall be removed and replaced at the applicator's expense.

1.05 WORK SEQUENCE

- A. Schedule and execute work to prevent leaks and excessive traffic on completed roof sections. Care should be exercised to provide protection for the interior of the building and to ensure water does not flow beneath any completed sections of the membrane system.
- B. Do not disrupt activities in occupied spaces.

1.06 USE OF THE PREMISES

- A. Before beginning work, the roofing contractor must secure approval from the building owner's representative for the following:
 - 1. Areas permitted for personnel parking.
 - 2. Access to the site.
 - 3. Areas permitted for storage of materials and debris.
 - 4. Areas permitted for the location of cranes, hoists and chutes for loading and unloading materials to and from the roof.
- B. Interior stairs or elevators may not be used for removing debris or delivering materials, except as authorized by the building superintendent.

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1.07 EXISTING CONDITIONS

If discrepancies are discovered between the existing conditions and those noted on the drawings, immediately notify the owner's representative by phone and solicit the manufacturer's approval prior to commencing with the work. Necessary steps shall be taken to make the building watertight until the discrepancies are resolved.

1.08 WORKMANSHIP

- A. Applicators installing new roof, flashing and related work shall be factory trained and approved by the manufacturer they are representing.
- B. All work shall be of highest quality and in strict accordance with the manufacturer's published specifications and to the building owner's satisfaction.
- C. There shall be a supervisor on the job site at all times while work is in progress.

1.09 QUALITY ASSURANCE

A. The Sure-Weld Roofing System must achieve a UL Class A, B or C.

The specified roofing assembly must be rated by Factory Mutual Global (FMG) to meet or exceed the factored uplift pressures outlined in FMG Property Loss Prevention Data Sheet 1-28, and complies with FMG Property Loss Prevention Data Sheet 1-29 for enhancements at the perimeter and corners.

- B. The membrane must be manufactured by the material supplier. Manufacturer's supplying membrane made by others are not acceptable.
- C. Unless otherwise noted in this specification, the roofing contractor must strictly comply with the manufacturer's current specifications and details.
- D. The roofing system must be installed by an applicator authorized and trained by the manufacturer in compliance with shop drawings as approved by the manufacturer. The roofing applicator shall be thoroughly experienced and upon request be able to provide evidence of having at least five (5) years successful experience installing single-ply TPO roofing systems and having installed at least one (1) roofing application or several similar systems of equal or greater size within one year.
- E. Provide adequate number of experienced workmen regularly engaged in this type of work who are skilled in the application techniques of the materials specified. Provide at least one thoroughly trained and experienced superintendent on the job at all times roofing work is in progress.
- F. There shall be no deviations made from this specification or the approved shop drawings without the prior written approval of the specifier. Any deviation from the manufacturer's installation procedures must be supported by a written certification on the manufacturer's letterhead and presented for the specifier's consideration.
- G. The Sure-Weld TPO White membrane meets CRRC (Cool Roof Rating Council) for reflectance and emittance. When tested in accordance with ASTM C1549, the Sure-Weld White material has an initial solar reflectance of 0.79 and a 3-year aged reflectance of 0.70. The material has also

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been tested for emittance in accordance with ASTM C1371; an initial emittance of 0.90 and a 3-year aged emittance of 0.86 were achieved.

- H. The Sure-Weld White TPO membrane meets the emittance requirements set forth by the USGBC (U. S. Green Building Council) for their LEED (Leadership in Energy and Environmental Design) Program. The Sure-Weld White TPO material has an emittance of 0.90 (when tested in accordance with ASTM E408) and an SRI (solar reflectance index) of 99 (calculated using ASTM E 1980).
- I. Upon completion of the installation, the applicator shall arrange for an inspection to be made by a non-sales technical representative of the membrane manufacturer in order to determine whether or not corrective work will be required before the warranty will be issued. Notify the building owner seventy-two (72) hours prior to the manufacturer's final inspection.

1.10 JOB CONDITIONS, CAUTIONS AND WARNINGS

Refer to Carlisle's Sure-Weld Roofing System specification for General Job Site Considerations.

- A. Safety Data Sheets (SDS) must be on location at all times during the transportation, storage and application of materials.
- B. When positioning membrane sheets, exercise care to locate all field splices away from low spots and out of drain sumps. All field splices should be shingled to prevent bucking of water.
- C. When loading materials onto the roof, the Carlisle Authorized Roofing Applicator must comply with the requirements of the building owner to prevent overloading and possible disturbance to the building structure.
- D. Proceed with roofing work only when weather conditions are in compliance with the manufacturer's recommended limitations, and when conditions will permit the work to proceed in accordance with the manufacturer's requirements and recommendations.
- E. Proceed with work so new roofing materials are not subject to construction traffic. When necessary, new roof sections shall be protected and inspected upon completion for possible damage.
- F. Provide protection, such as 3/4 inch thick plywood, for all roof areas exposed to traffic during construction. Plywood must be smooth and free of fasteners and splinters.
- G. The surface on which the insulation or roofing membrane is to be applied shall be clean, smooth, dry, and free of projections or contaminants that would prevent proper application of or be incompatible with the new installation, such as fins, sharp edges, foreign materials, oil and grease.
- H. New roofing shall be complete and weathertight at the end of the work day.
- I. Contaminants such as grease, fats and oils shall not be allowed to come in direct contact with the roofing membrane.

1.11 WARRANTY

A. Provide manufacturer's 20 year Total System Warranty covering both labor and material with no dollar limitation. The maximum wind speed coverage shall be peak gusts of 55 mph measured at

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10 meters above ground level. Certification is required with bid submittal indicating the manufacturer has reviewed and agreed to such wind coverage.

- B. Pro-rated System Warranties shall not be accepted.
- C. Evidence of the manufacturer's warranty reserve shall be included as part of the project submittals for the specifier's approval.

PART 2PRODUCTS

2.01 GENERAL

- A. All components of the specified roofing system shall be products of Carlisle SynTec or approved equal.
- B. All products (including insulation, fasteners, fastening plates, prefabricated accessories and edgings) must be **manufactured and/or supplied** by the roofing system manufacturer and covered by the warranty.

2.02 MEMBRANE

Furnish Sure-Weld 60-mil thick white reinforced TPO (Thermoplastic Polyolefin) as needed to complete the roofing system. Membrane thickness over the reinforcing scrim (top-ply thickness) shall be nominal .015-mil or thicker. Membrane sheets in rolls 12', 10' or 8' wide by 100' long

2.03 INSULATION/UNDERLAYMENT

- A. When applicable, insulation shall be installed in multiple layers. The first and second layer of insulation shall be mechanically fastened to the substrate in accordance with the manufacturer's published specifications.
- B. Insulation shall be Insulbase as supplied by Carlisle SynTec or approved equal.
 - Carlisle Insulbase Polyisocyanurate A foam core insulation board covered on both sides with a medium weight fiber-reinforced felt facer meeting ASTM C 1289-06, Type II, Class 1, Grade 2 (20 psi. - 1.5" 4'x8'
 - 2. **InsulFoam I (EPS: Expanded Polystyrene) –** A closed-cell lightweight expanded polystyrene (EPS) that meets ASTM C578, Type I. Nominal density of 1.0 lbs/cubic ft (pcf) available in 4' x 4' or 4' x 8' sizes with thickness from ¼" to 40". Custom lengths, widths and tapered boards are available. May be specified beneath Sure-Seal HP Recovery Board, Dens-Deck Prime or Securock.
 - 3. **Securock Cover Board –** A uniform composition of fiber-reinforced with no facer for use as a cover board or a thermal barrier. ¹/₂" USG Securock

2.04 ADHESIVES AND CLEANERS

All products shall be furnished by Carlisle or approved equal and specifically formulated for the intended

100% Construction Documents	THERMOPLASTIC-POLYOLEFIN	075423 Page 5 of 8
	(TPO) RETROFIT ROOFING	-
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purpose.

- A. **Sure-Weld Bonding Adhesive:** A high-strength, synthetic rubber adhesive used for bonding Sure-Weld membrane to various surfaces. The adhesive is applied to both the membrane and the substrate at a coverage rate of approximately 60 square feet per gallon per finished surface (includes coverage on both surfaces).
- B. Cut-Edge Sealant: A white or clear colored sealant used to seal cut edges of reinforced Sure-Weld membrane. A coverage rate of approximately 225 - 275 linear feet per squeeze bottle can be achieved when a 1/8" diameter bead is applied.
- C. **Water Cut-Off Mastic:** Used as a mastic to prevent moisture migration at drains, compression terminations and beneath conventional metal edging (at a coverage rate of approximately 10' per tube or 100' per gallon).
- D. Universal Single-Ply Sealant: A 100% solids, solvent free, voc free, one part polyether sealant that provides a weather tight seal to a variety of building materials. It is white in color and is used for general caulking such as above termination bars and metal counter flashings and at scuppers.
- E. **Thermoplastic One-Part Pourable Sealer:** A one-part, moisture curing, elastomeric polyether sealant used to fill TPO Molded Pourable Sealant Pockets. Packaged in 4, 2-liter foil pouches inside a reusable plastic bucket. 1 pouch will fill 2 TPO Molded Pourable Sealant Pockets.
- F. **Weathered Membrane Cleaner:** Used to prepare membrane for heat welding that has been exposed to the elements or to remove general construction dirt at an approximate coverage rate of 400 square feet per gallon (one surface).
- G. **TPO Primer:** A solvent-based primer used to prepare the surface of Sure-Weld Membrane prior to application of Pressure-Sensitive Coverstrip and TPO Pressure-Sensitive RUSS.

2.05 FASTENERS AND PLATES

To be used for mechanical attachment of insulation and to provide additional membrane securement

- A. **HP-X Fasteners**: A heavy duty #15 threaded fastener with a #3 phillips drive used for membranre or insulation securement into steel, wood plank or minimum 15/32 inch thick plywood when increased pullout resistance is desired.
- B. **InsulFast Fasteners:** A threaded #12 fastener with #3 phillips drive used for insulation attachment into steel or wood decks.
- C. **HP Purlin Fasteners:** Specifically designed for use with Carlisle's Metal Retrofit Roofing System to secure membrane to structural steel purlins. The self drilling point can penetrate 12-18 gauge steel with superior pullout resistance.
- D. **Piranha Plates**: A 2-3/8" diameter metal barbed fastening plate used with Carlisle HP-X or HP-14-10 Fasteners for membrane securement. This plate can be used for insulation securement.
- E. **Insulation Fastening Plates**: a nominal 3 inch diameter plastic or metal plate used for insulation

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attachment.

2.06 METAL EDGING AND MEMBRANE TERMINATIONS

- A. **Drip Edge**: a metal fascia/edge system with a 22 or 24 gauge continuous anchor cleat and .032 inch thick aluminum or 24 gauge steel fascia. Metal fascia color shall be as designated by the Owner's Representative.
- B. **Termination Bar**: a 1" wide and .098" thick extruded aluminum bar pre-punched 6" on center; incorporates a sealant ledge to support Lap Sealant and provide increased stability for membrane terminations.

2.07 WALKWAYS

Protective surfacing for roof traffic shall be Sure-Weld TPO Walkway Rolls installed per manufacturer's requirements or concrete pavers loose laid over an approved slip sheet (pavers not recommended for slopes greater than 2" in 12").

PART 3 EXECUTION

3.01 GENERAL

- A. Comply with the manufacturer's published instructions for the installation of the membrane roofing system including proper substrate preparation, jobsite considerations and weather restrictions.
- B. Position sheets to accommodate contours of the roof deck and shingle splices to avoid bucking water.

3.02 INSULATION PLACEMENT AND ATTACHMENT

- A. Install insulation or membrane underlayment over the substrate with boards butted tightly together with no joints or gaps greater than 1/4 inch. Stagger joints both horizontally and vertically if multiple layers are provided.
- B. Secure insulation to the substrate with the required Carlisle fasteners and plates in accordance with manufacturers specifications.

3.03 MEMBRANE PLACEMENT AND ATTACHMENT

- A. Unroll and position membrane. Provide and secure both perimeter and field membrane sheets in accordance with the manufacturer's most current specifications and details.
- B. Secure the membrane with the required Carlisle Fasteners and Plates spaced a maximum of 12 inches on center depending or project conditions (centered over the pre-printed marks approximately 1-1/2 inches from the edge of the membrane sheet).
- C. Install adjoining membrane sheets in the same manner in accordance with the manufacturer's

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THERMOPLASTIC-POLYOLEFIN (TPO) RETROFIT ROOFING SYSTEM 075423 Page 7 of 8

specifications.

3.04 MEMBRANE HOT AIR WELDING PROCEDURES

A. Hot air weld the Sure-Weld membrane using an Automatic Hot Air Welding Machine or Hot Air Hand Welder in accordance with the manufacturer's specifications. At all splice intersections, roll the seam with a silicone roller immediately after welder crossed the membrane step-off to ensure a continuous hot air welded seam.

Note: When using .060-mil thick or thicker membrane, all splice intersections shall be overlaid with Sure-Weld non-reinforced flashing or TPO T-Joint covers or approved equal.

- B. Probe all seams once the hot air welds have thoroughly cooled (approximately 30 minutes).
- C. Repair all seam deficiencies the same day they are discovered.
- D. Apply Cut Edge Sealant on all cut edges of reinforced membrane (where the scrim reinforcement is exposed) after seam probing is complete. Cut edge sealant is not required on vertical splices.

3.05 FLASHING

- A. Flashing of parapets, curbs, expansion joints and other parts of the roof must be performed using Sure-Weld reinforced membrane. Sure-Weld non-reinforced membrane can be used for flashing pipe penetrations, Sealant Pockets, scuppers, as well as inside and outside corners when the use of prefabricated accessories is not feasible.
- B. Follow manufacturer's typical flashing procedures for all wall, curb, and penetration flashing including metal edging/coping and roof drain applications.

3.06 WALKWAYS

A. Install walkways at all traffic concentration points (such as roof hatches, access doors, rooftop ladders, etc.) and all locations as identified on the specifier's drawing.

3.07 DAILY SEAL

- A. On phased roofing, when the completion of flashings and terminations is not achieved by the end of the work day, a daily seal must be performed to temporarily close the membrane to prevent water infiltration.
- B. Complete an acceptable membrane seal in accordance with the manufacturer's requirements.

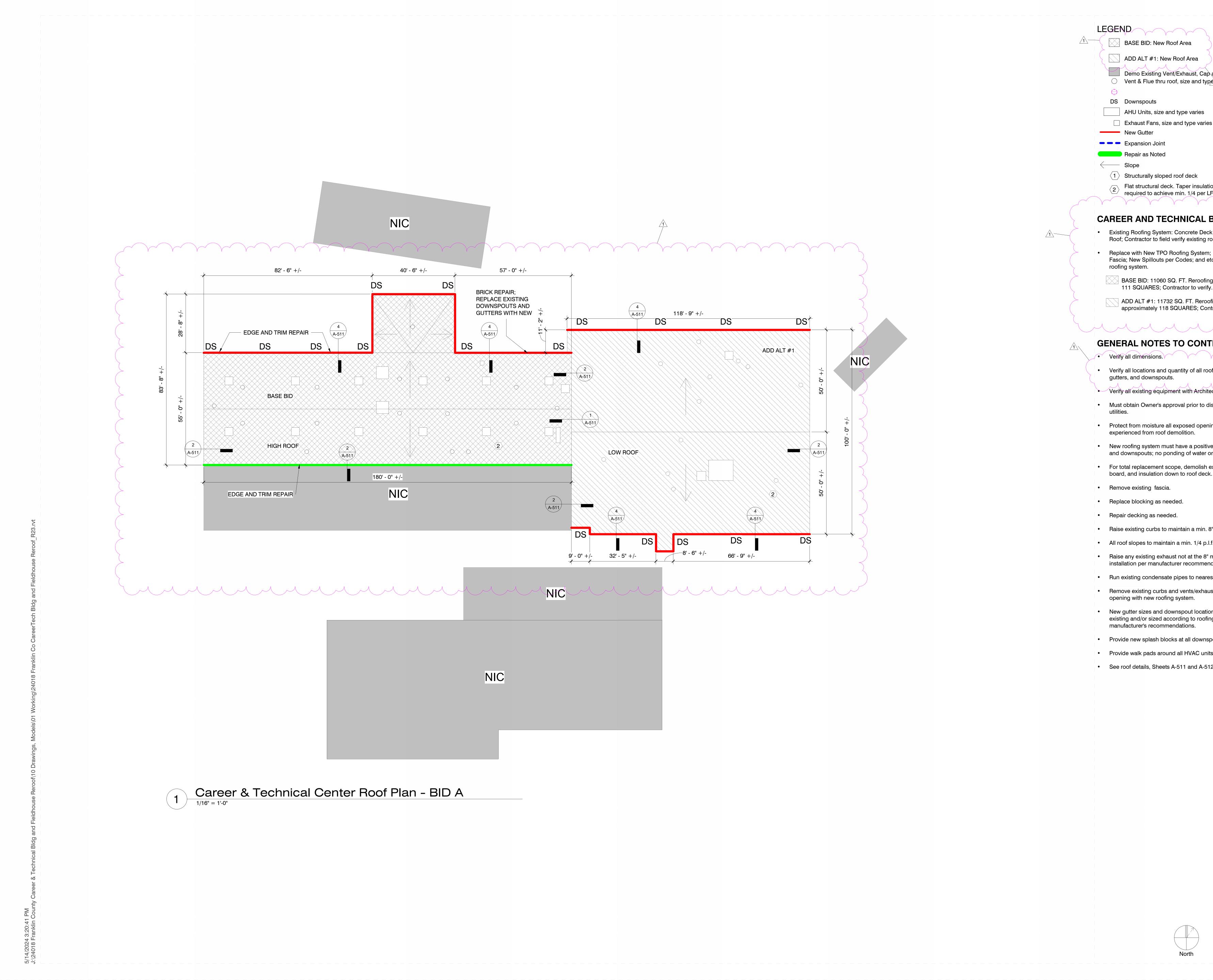
3.08 CLEAN UP

- 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.

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END OF SPECIFICATION

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n and Seal Penetration	DALE BAILEY AN ASSOCIATION
p and Seal Penetration pe varies	Architects
es	One Jackson Place 250 188 East Capitol Street Jackson, MS 39201 p 601.352.5411
	201 Park Court Suite B Ridgeland, MS 39157 p 601.790.9432
	161 Lameuse St. Suite 201 Biloxi, MS 39530 p 228.374.1409
tion LF slope.	dalebaileyplans.com
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