

EXHIBIT "A"

12-270

Reinforced EPDM Mechanically Attached Specifications

June 2012

PART 1 GENERAL

1.01 DESCRIPTION

- A. The Summit County Department of Environmental Service's Storage Building is located at 150 East South St. in Akron, Ohio 44311. Jon Holland, Project Manager/Coordinator, is the Owner's Representative and may be contacted regarding any questions or for a pre-bid job site inspection, contact (330)926-2492.
- B. The project consists of installing Versico's VersiGard or equivalent reinforced (black) Mechanically Attached Roofing System as outlined below:

Apply the Mechanically Attached EPDM Roofing System in conjunction with existing insulation over the existing roof, fully adhered Roofing system over existing coping and termination bar at facing of building edge. Properly flash all roof penetrations.

1.02 EXTENT OF WORK

- A. Provide all labor, material, tools, equipment, and supervision necessary to complete the installation of a VersiGard™ or equivalent 45 mil thick reinforced EPDM membrane Mechanically Attached Roofing System including flashings as specified herein and as indicated on the drawings in accordance with the manufacturer's most current specifications and details. The scope of work includes the replacement of 300 square feet of metal roof decking with replacement insulation.
- 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. Alternate to include square foot pricing for replacement of damaged metal roof decking and insulation.

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. 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.
 - 3. Certification from the membrane manufacturer indicating the fasteners are capable of providing a static backout resistance of 10 inch pounds minimum is required.

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 materials 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.
 - 2. 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. Any materials which are found to be damaged shall be removed and replaced at the Contractor'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.

1.07 EXISTING CONDITIONS

If discrepancies are discovered between the existing conditions and those noted in these specifications, immediately notify the owner's representative by phone and solicit the owner'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 PRE-CONSTRUCTION CONFERENCE

- A. A pre-bid meeting will be held at the job site.
- B. Prior to bid submittal, the roofing contractor should schedule a job site inspection to observe actual conditions and verify all dimensions on the roof. The job site inspection may occur on the day of the pre-bid meeting or prior to such a meeting. Should access to the roof be necessary before or after the pre-bid meeting, the contractor must contact the owner's representative to coordinate an appropriate time.

1.09 TEMPORARY FACILITIES AND CONTROLS

- A. Temporary Utilities:
 - 1. Water, power for construction purposes and lighting are available at the site and will be made available to the roofing contractor.
 - 2. Provide all hoses, valves and connections for water from source designated by the owner when made available.
 - 3. When available, electrical power should be extended as required from the source. Provide all trailers, connections and fused disconnects.
- B. Temporary Sanitary Facilities

Sanitary facilities will not be available at the job site. The roofing contractor shall be responsible for the provision and maintenance of portable toilets or their equal.
- C. Building Site:
 - 1. The roofing contractor shall use reasonable care and responsibility to protect the building and site against damages. The contractor shall be responsible for the correction of any damage incurred as a result of the performance of the contract.
 - 2. The roofing contractor shall remove all debris from the job site in a timely and legally acceptable manner so as to not detract from the aesthetics or the functions of the building.
- D. Security:

Obey the owner's requirements for personnel identification, inspection and other security measures.

1.10 JOB SITE PROTECTION

- A. The roofing contractor shall adequately protect building, paved areas, service drives, lawn, shrubs, trees, etc. from damage while performing the required work. Provide canvas, boards and sheet metal (properly secured) as necessary for protection and remove protection material at completion. The contractor shall repair or be responsible for costs to repair all property damaged during the roofing application.

- B. During the roofing contractor's performance of the work, the building owner will continue to occupy the existing building. The contractor shall take precautions to prevent the spread of dust and debris, particularly where such material may sift into the building. The roofing contractor shall provide labor and materials to construct, maintain and remove necessary temporary enclosures to prevent dust or debris in the construction area(s) from entering the remainder of the building.
- C. Do not overload any portion of the building, either by use of or placement of equipment, storage of debris, or storage of materials.
- D. Protect against fire and flame spread. Maintain proper and adequate fire extinguishers.
- E. Take precautions to prevent drains from clogging during the roofing application. Remove debris at the completion of each day's work and clean drains, if required. At completion, test drains to ensure the system is free running and drains are watertight. Remove strainers and plug drains in areas **where work is in progress**. Install flags or other telltales on plugs. Remove plugs each night and screen drain.
- F. Store moisture susceptible materials above ground and protect with waterproof coverings.
- G. Remove all traces of piled bulk materials and return the job site to its original condition upon completion of the work.

1.11 SAFETY

The roofing contractor shall be responsible for all means and methods as they relate to safety and shall comply with all applicable local, state and federal requirements that are safety related. **Safety shall be the responsibility of the roofing contractor.** All related personnel shall be instructed daily to be mindful of the full time requirement to maintain a safe environment for the facility's occupants including staff, visitors, customers and the occurrence of the general public on or near the site.

1.12 WORKMANSHIP

- A. Contractors 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.

1.13 QUALITY ASSURANCE

- A. The EPDM membrane roofing system must achieve a UL Class and must have been successfully tested to meet or exceed the calculated uplift pressure required by the International Building Code (ASCE-7) or ANSI/SPRI WD-1.
- B. The manufacturer must have a minimum of 20 years experience in the manufacturing of vulcanized thermal set sheeting.
- 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 Contractor authorized and trained by the manufacturer in compliance with shop drawings as approved by the manufacturer. The roofing Contractor shall be thoroughly experienced and upon request be able to provide evidence of having at least five (5) years successful experience installing single-ply EPDM roofing systems and having installed at least three (3)

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. Upon completion of the installation, the Contractor 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.

1.14 JOB CONDITIONS, CAUTIONS AND WARNINGS

Refer to Versico's or equivalent Mechanically Attached Roofing System specification, Part II - Application, for General Job Site Considerations.

- A. Material Safety Data Sheets (MSDS) 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 Authorized Roofing Contractor 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 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.

1.15 ROOFING CONTRACT WARRANTY

A. WHEREAS < Insert name > of < Insert address > herein called the "Roofing Installer" , has performed roofing and associated work ("work") on the following project:

- 1. Owner: < Insert name of Owner > .
- 2. Address: < Insert address > .

3. Building Name/Type: <Insert information > .
4. Address: <Insert address > .
5. Area of Work: <Insert information > .
6. Acceptance Date: <Insert date > .
7. Warranty Period: <Insert time > .
8. Expiration Date: <Insert date > .

B. AND WHEREAS Roofing Installer has contracted (either directly with Owner or indirectly as a subcontractor) to warrant said work against leaks and faulty or defective materials and workmanship for designated warranty period.

C. NOW THEREFORE Roofing Installer hereby warrants, subject to terms and conditions herein set forth, that during Warranty Period he will, at his own cost and expense, make or cause to be made such repairs to or replacements of said work as are necessary to correct faulty and defective work and as are necessary to maintain said work in a watertight condition.

D. This Warranty is made subject to the following terms and conditions:

1. Specifically excluded from this Warranty are damages to work and other parts of the building, and to building contents, caused by;
 - a. Lightning;
 - b. Peak gust wind speed exceeding _____ mph;
 - c. Fire;
 - d. Failure of roofing system substrate, including cracking, settlement, excessive deflection, deterioration, and decomposition;
 - e. Faulty construction of parapet walls, copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work;
 - f. Vapor condensation on bottom of roofing; and
 - g. Activity on roofing by others, including construction contractors, maintenance personnel, other persons, and animals, whether authorized or unauthorized by Owner.
2. When work has been damaged by any of foregoing causes, Warranty shall be null and void until such damage has been repaired by Roofing Installer and until cost and expense thereof have been paid by Owner or by another responsible party so designated.
3. Roofing Installer is responsible for damage to work covered by this Warranty but is not liable for consequential damages to building or building contents resulting from leaks or faults or defects of work.
4. During Warranty period, if Owner allows alteration of work by anyone other than Roofing installer, including cutting, patching, and maintenance in connections with penetrations, attachment of other work, and positioning of anything on roof, this Warranty shall become null and void on date of said alterations, but only to the extent said alterations affect work covered by this Warranty. If Owner engages Roofing Installer to perform said alterations, Warranty shall not become null and void unless Roofing Installer, before starting said work, shall have notified Owner in writing, showing reasonable cause for claim, that said alterations would likely damage or deteriorate work, thereby reasonably justifying a limitation or termination of this Warranty.
5. During Warranty Period, if original use of roof is changed and it becomes used for, but was not originally specified for, a promenade, work deck, spray-cooled surface, flooded basin, or other use or service more severe than originally specified, this Warranty shall become null and void on date of said change, but only to the extent said change affects work covered by this Warranty.
6. Owner shall promptly notify Roofing Installer of observed, known, or suspected leaks, defects, or deterioration and shall afford reasonable opportunity for Roofing Installer to inspect work and to examine evidence of such leaks, defects, or deterioration.
9. This Warranty is recognized to be the only warranty of Roofing Installer on said work and shall not operate to restrict or cut off Owner from other remedies

and resources lawfully available to Owner in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Installer of responsibility for performance of original work according to requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.

PART 2 PRODUCTS

2.01 GENERAL

- A. All components of the specified roofing system shall be products of the approved manufacturer as compatible.
- B. Unless otherwise approved by the specifier and accepted by the membrane manufacturer, all products (including insulation, fasteners, fastening plates and edgings) must be **manufactured and supplied** by the roofing system manufacturer.

2.02 MEMBRANE

Furnish VersiGard or equivalent 45-mil thick reinforced EPDM (Ethylene, Propylene, Diene Terpolymer) conforming to the minimum physical properties of ASTM D4637. The membrane shall be manufactured in a single panel with no factory splices to reduce splice intersections.

2.03 ADHESIVES, CLEANERS AND SEALANTS

All products shall be furnished by manufacturer and specifically formulated for the intended purpose.

- A. Bonding Adhesive:
- B. Splicing Cement:
- C. Splice Tape and Primer:
- D. Cleaning Solvent: Weathered Membrane Cleaner
- E. Internal Seam Sealant:
- F. External Seam Sealant: Black Lap Sealant
- G. Pocket Sealant: Pourable Sealer

2.04 FASTENERS AND PLATES

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

- A. **HPV Fastener:** a threaded, black epoxy electro-deposition coated (E-Coat) fastener used for **membrane and insulation securement** into steel, wood plank, minimum 15/32" thick plywood or minimum 7/16" thick oriented strand board.
- B. **InsulTite Fastener:** a threaded, #12 Phillips head fastener used with 3" diameter Versico Insulation Fastening Plates. Used for **insulation attachment only** into steel or wood decks.
- C. **Pre-Assembled ASAP Fastener:** Versico's InsulTite Fastener and pre-assembled 3" diameter Plastic Insulation Plate used for **insulation attachment only** into steel or wood decks. Installed using Olympic

Fastening Tools.

- D. **Sure-Tite Fastener:** a nominal .033" diameter fastener incorporating an oversized #3 Phillips head used for membrane securement, in conjunction with Sure-Tite (ST) Fastening Bars, into steel or wood decks.

- E. **Term Bar Nail-In:** a 1-1/4" long expansion anchor with drive pin used for fastening Versico Termination Bar or Seam Fastening Plates to concrete, brick, or block walls. The fastener is set by hammering the drive pin into place.

- F. **Seam Fastening Plate:** a 2" diameter metal fastening plate used in conjunction with RUSS or EPDM membrane for membrane securement into wood or structural concrete decks. May also be used for insulation attachment.

- G. **Polymer Seam Plate:** a 2" diameter plastic fastening plate incorporating barbs on the underside of the plate. This plate is required for membrane and RUSS attachment installed in conjunction with steel roof decks. May also be used for insulation attachment.

- H. **Sure-Tite Fastening Bar:** a 1" x .040" x 10' long galvalume-coated steel fastening bar used with Sure-Tite Fasteners for membrane securement into steel or wood decks.

- I. **Quick-Applied Reinforced Termination Strip (RTS):** a 6" or 9" wide, nominal 45-mil thick clean, cured black reinforced EPDM membrane with 3" wide Quick-Applied Tape laminated along one edge for the 6" wide RTS and along both edges for the 9" wide RTS.
 - 1. **6" wide Quick-Applied RTS** is used horizontally or vertically at the base of walls, curbs, etc., in conjunction with 2" diameter Fastening Plates below the EPDM deck membrane for additional membrane securement (Polymer Seam Plates are required for steel decks).
 - 2. **9" wide Quick-Applied RTS** is for perimeter membrane securement.

2.05 METAL EDGING AND MEMBRANE TERMINATIONS

- A. **VersiTrim 200:** a snap-on edge system consisting of a 24 gauge galvanized metal water dam and 40, 50 or 63-mil thick aluminum Kynar 500, clear and colored anodized finish or 22 or 24 gauge steel, Kynar 500 finish. The fascia is available in a variety of colors and heights varying from 5" to 12-1/2". Metal fascia color shall be as designated by the Owner's Representative.

- B. **VersiTrim 300:** a snap-on edge system consisting of a 24 gauge galvanized metal springclip water dam and 32-, 40- or 50-mil thick aluminum Kynar 500, colored anodized finish or 24 gauge steel, Kynar 500 finish. The fascia is available in a variety of colors and heights varying from 5" to 10". Metal fascia color shall be as designated by the Owner's Representative.

- C. **VersiTrim 1000:** a metal anchor bar fascia system consisting of a formed quarter hard 0.050" aluminum retainer bar, corrosion resistant fasteners and a 0.040" aluminum or 24 gauge steel snap-on fascia cover. Metal fascia color shall be as designated by the Owner's Representative.

- D. **VersiTrim 2000:** An anchor bar roof edge fascia system consisting of a heavy .100" thick extruded

aluminum bar, corrosion resistant fasteners and snap-on fascia cover. Metal fascia color shall be as designated by the Owner's Representative.

- E. **VersiTrim 3000:** A metal anchor bar fascia system consisting of a 20 gauge steel retainer bar, corrosion resistant fasteners and an aluminum or 24 gauge steel snap-on fascia cover. Metal fascia color shall be as designated by the Owner's Representative.
- F. **Versico Drip Edge:** a metal fascia/edge system with a 22 or 24 gauge continuous anchor cleat and .032" thick aluminum or 24 gauge steel fascia. Metal fascia color shall be as designated by the Owner's Representative.
- G. **Versico Coping:** incorporates a 20 gauge anchor cleat with 4 pre-slotted holes, a concealed joint cover and 10 foot continuous sections of coping cap; can accommodate minimum 6" wide parapet walls. Metal coping cap color shall be as designated by the Owner's Representative.
- H. **Versico Termination Bar:** a 1" wide and .098" thick extruded aluminum bar pre-punched 6" on center; incorporates a sealant ledge to support Lap Sealant or Universal Sealant and provide increased stability for membrane terminations.

2.06 OTHER MATERIALS

(Metal Flashing, if required, and miscellaneous items needed to fulfill the project requirements)

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 MEMBRANE PLACEMENT AND ATTACHMENT

- A. Unroll and position membrane without stretching. Allow the membrane to relax for approximately 1/2 hour prior to attachment. Provide and secure both perimeter and field membrane sheets in accordance with the manufacturer's most current specifications and details.
- B. Secure the membrane (along the pre-printed blue line approximately 3" from the edge of the membrane sheet) with the required Versico Fastener and 2" Polymer Seam Plate (required for steel decks) or Seam Fastening Plate spaced a maximum of 12" on center. The minimum distance between the edge of the fastening plate and the edge of the membrane must be 2 inches.

As an alternate to the use of fastening plates, Versico Fastening Bars may be used for membrane securement.

- C. Install adjoining membrane sheets in the same manner in accordance with the manufacturer's specifications.

3.03 MEMBRANE SPLICING WITH QUICK-APPLIED SEAM TAPE

- A. Tape splices where fastening plates are located (along the length of the membrane) must utilize 6" wide QA Seam Tape. Tape splices at end roll sections (along the width of the membrane without fastening plates) shall utilize 3" wide QA Seam Tape.
- B. Overlap adjacent sheets and mark a line approximately 1/4" to 1/2" from the top sheet edge.

- C. Apply EPDM Primer to the splice area.
- D. When VersiGard QAT is not used, apply QA Seam Tape in accordance with the manufacturer's specifications and roll the top sheet onto the mating surface.
- E. Immediately roll the splice using positive pressure when using a 2" wide steel roller. Roll across the splice edge, not parallel to it. When using VersiGard QAT, Versico's Stand-Up Seam Roller can be used to roll parallel to the splice edge.
- F. At all field splice intersections, apply Lap Sealant along the edge of the membrane splice to cover the exposed QA Seam Tape 2" in each direction from the splice intersection. Install Versico's Quick-Applied "T" Joint Covers or a 6" wide section (with rounded corners) of VersiGard Quick-Applied Flashing over the field splice intersection.

3.04 FLASHING

- A. Wall and curb flashing shall be cured EPDM membrane. Continue the deck membrane as wall flashing where practicable.
- B. Follow manufacturer's typical flashing procedures for all wall, curb, and penetration flashing including metal edging/coping and roof drain applications.

3.05 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.

3.06 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 Contractor 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