

# CITY OF PIQUA, OHIO

**Purchasing Department**  
201 W. Water St.  
Piqua, Oh 45356

Date: April 2, 2019

For further information contact:  
**Bev Yount, CPPB/Purchasing Analyst**  
**Phone: 937-778-4002**  
**Email: [byount@piquaoh.org](mailto:byount@piquaoh.org)**

Your sealed, written bid is requested for: Roof Replacement per the included bid form and specifications.

Bids must be received in Purchasing Office no later than: 2:00 P.M. Thursday, April 25, 2019

Envelopes shall be plainly marked: **IFB 1923 Roof Replacement** on left, lower corner of envelope

Envelopes should be addressed as follows: Beverly Yount, CPPB, Purchasing Analyst  
City of Piqua  
201 W. Water St.  
Piqua, OH 45356

User agency: Wastewater Department

Location of building to repair: 121 Bridge St., Piqua, Ohio 45356

Submit signed original bid and one (1) copy of the bid.

**Bidder is requested to use the City's bid form that is enclosed, as none other will be accepted.**

**LEGIBLE INFORMATION MUST BE GIVEN IN THE SPACES PROVIDED.**

A copy of the Bid Tabulation may be obtained by sending a stamped self-addressed envelope.

All federal, state, and local laws regarding competitive bidding, anti-competitive practices, and conflict of interest shall be applicable to this I.F.B.

Bids are to include all shipping costs to the point of delivery as indicated above.

The City of Piqua is exempt from payment of federal excise taxes and state retail sales taxes (Federal Excise Tax Exemption Certification No. 31-6000136).

State Manufacturer and Model No. of items you are bidding and send **DESCRIPTIVE LITERATURE** on same with your bid. Any brand names on our bid form are to establish quality levels and do not indicate preference.

The City of Piqua reserves the right to reject any or all bids, to waive any irregularities in a bid, or to accept the bid or bids which the judgment of proper officials, is to the best interest of the City.

The City of Piqua reserves the right to accept a part or parts of a bid unless otherwise restricted in the bid. If you are not in a position to quote, advise to this effect so we may keep your name on our active bid list.

**BID to the  
City of Piqua, Ohio  
Purchasing Department**

Reply To I.F.B. 1923 – Roof Replacement

No Later Than: April 25, 2019 at 2:00 p.m.

Via mail or hand deliver to Beverly Yount, CPPB, Purchasing Analyst, City of Piqua, 201 W. Water St. Piqua, OH 45356

The undersigned proposes and agrees to furnish any or all items bid at the prices stated herein.

---

**Total cost (materials and labor) for Roof Replacement on our Wastewater Administration/Lab Building:**

\$ \_\_\_\_\_

**Approximate time to complete work:** \_\_\_\_\_ **days**

There will be a non-mandatory pre-bid rooftop meeting on Thursday, April 11, 2019 at 9:00 a.m. at 121 Bridge St., Piqua, OH 45356.

Contact Chris Melvin, at 937-778-2025 or via e-mail [cmelvin@piquaoh.org](mailto:cmelvin@piquaoh.org) with any questions regarding the specifications. All questions must be received in writing by April 16, 2019 by 3:00 p.m. and will be answered directly to the person making the inquiry and also posted to the City's website. Any addendums will be distributed to all known potential bidders and posted on our web site at [www.piquaoh.org](http://www.piquaoh.org). All vendors are responsible for checking this site for any additional information.

THE UNDERSIGNED HEREBY CERTIFIES THAT ITEMS FURNISHED AS A RESULT OF THIS BID WILL BE IN FULL ACCORDANCE WITH THE CITY OF PIQUA SPECIFICATIONS APPLYING THERETO UNLESS EXCEPTIONS ARE STATED ABOVE.

All delivery costs are included in this quotation regardless of F.O.B. designation.

Bidding Company: \_\_\_\_\_

Cash Discount Allowed: \_\_\_\_\_ % 10<sup>th</sup> Proximo.  
Leave blank if your terms are Net 30 days.

Address: \_\_\_\_\_

Delivery will be made within \_\_\_\_\_ calendar days after receipt of order.

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

By: \_\_\_\_\_  
(please print or type) Name and Title

Prices quoted will remain firm for acceptance within 90 calendar days after bid opening unless otherwise stated.

Signature: \_\_\_\_\_

Phone No.: \_\_\_\_\_ /Fax No.: \_\_\_\_\_

Email Address: \_\_\_\_\_

Fed. I.D. No.: \_\_\_\_\_

## INSTRUCTIONS TO BIDDERS

It will be assumed that all bids are based upon the specifications unless the bidder stipulates to the contrary on the proposal form; in which case, the bidder shall point out in detail any and all deviations from the specifications.

All bidders shall clearly stipulate the guaranteed number of days to complete the work bid; successful bidders failing to meet the days specified incur the risk of a daily fee of \$100 and/or cancellation of their contract, the days being an important factor in award of the contract.

### MINIMUM SPECIFICATIONS FOR ROOF REPLACEMENT

This specification shall describe a roof replacement for our administration/lab building located at 121 Bridge St, Piqua, OH 45356. Our specifications are for an SPF Roofing System with 10 year silicone. Bidders must submit with their bid, complete specifications and warranty information on the items they propose to furnish. It is required that the roof be completely assembled and made ready for use.

Any exceptions to, or deviations from the specifications shall be clearly noted and explained in detail on a separate sheet entitled BID EXCEPTION SHEET.

No performance bond is required. No permit fees are required. **A minimum of three references for a prior installation job of like size must be submitted with your bid. Also state whether there is a certified licensed applicator on staff with your company.** Upon completion of the roof, the successful bidder shall furnish manuals, maintenance manuals, and written warranties covering the labor, material and items used. The successful bidder will do a final walk through with Chris Melvin to ensure everything is completed to the City's expectations.

It is required that the roof, as specified herein, shall be completely installed, and the roof made ready for continuous operation. The bidder shall represent by his bid that all equipment to be furnished under this bid is new and unused. There shall be no company advertising signs posted prior, during or after work is completed.

### SCOPE OF WORK

- Roof replacement - See Attached "Exhibit A."

## Standard Terms and Conditions

1. **BILLING:** All goods or services must be billed to the City of Piqua and at prices not exceeding those stated on the purchase order. If prices or terms do not agree with your quotation, you must notify the Purchasing Department within three business days or your disagreement is waived.
2. **INVOICE:** Prepayment or progress payments are not permitted unless prior permission is obtained from the Finance Department. All invoices are to be in duplicate and are to be mailed to the Finance Department and shall reference the City's purchase order number. Failure to include the purchase order number may prevent timely payment. Each purchase order must be invoiced separately. Unless specified otherwise, the invoice will only be paid upon completion of the order. The City of Piqua may issue payments to vendors electronically upon mutual agreement of both parties.
3. **CASH DISCOUNTS:** All cash discount terms will be effective from date of actual receipt and acceptance of the items purchased, or receipt of correct and acceptable invoice, whichever is later.
4. **FREIGHT: NO COLLECTION FREIGHT SHIPMENTS WILL BE ACCEPTED.** All quotations are solicited on a "delivered price" basis. When, in rare instances, the City accepts a quotation not including all shipping charges, your claim for reimbursement, must be itemized on the invoice and supported with a copy of the original freight bill.
5. **TAXES:** The City of Piqua is exempt from payment of Federal excise taxes and State retail sales taxes. Our Federal Excise Tax Exemption Certificate Number is 31-6000136. You are responsible for all Social Security taxes and Workers' Compensation contributions for yourself or any of your employees.
6. **DELIVERIES:** All deliveries on this order must be in full accordance with specifications, properly identified with the purchase order number and must not exceed the quantities specified.
7. **CANCELLATION:** The City of Piqua reserves the right to cancel this order by written notice if you do not fulfill your contractual obligations with respect to timeliness, quality and/or any other reason.
8. **DEFAULT PROVISIONS:** In case of your default, the City of Piqua may procure the items from other sources and hold you responsible for any excess costs occasioned thereby and any other damages permitted by law, if you have been notified in writing by the City of Piqua you are in default and you have failed to cure the default within the time specified.
9. **NO VERBAL AGREEMENTS:** The City of Piqua will be bound only by the terms and conditions of this order, and will not be responsible for verbal agreements made by any officer or employee of the City of Piqua. In order to be binding on the parties, any changes made to these Terms and Conditions shall be in writing and signed by both parties.
10. **PATENT AND COPYRIGHT INFRINGEMENT:** It is hereby understood (and by acceptance of this order) you agree to defend, indemnify and save harmless the City of Piqua, Ohio, its officers, agents and employees from any and all loss, costs or expense on account of any claim, suit or judgment as a result of, caused by, or incident to any patent, copyright or trademark infringement and/or royalty, actual or claimed, because of the use or disposition by said City of any article enumerated on this order and sold to said City pursuant to this order.
11. **INSPECTION:** The City of Piqua may inspect the items ordered hereunder during their manufacture, construction and/or preparation at reasonable times and shall have the right to inspect such items at the time of their delivery and/or completion. Items furnished hereunder may at any time be rejected for defects revealed by inspection, analysis, or by manufacturing operations or use after delivery even though such items may have previously been inspected and accepted. Such rejected items may be returned to you for full refund to City of Piqua including shipping and transportation charges.
12. **WARRANTY:** You warrant that the items and their production or completion shall not violate any federal, state or local laws, regulations or orders. You warrant all items delivered hereunder to be free from defects of material or workmanship, to be good quality, and to conform strictly to any specifications, drawings or samples which may have been specified or furnished by the City of Piqua, and you further warrant that you have good title to the items free and clear of all liens and encumbrances and will transfer such title to the City of Piqua. Said warranties shall not negate nor limit any implied warranties of merchantability or fitness. This warranty shall survive any inspection, delivery, acceptance or payment by the City of Piqua.
13. **RISK OF LOSS:** Title and risk of loss to and with respect to the items shall remain with you until the items in a complete state have been delivered to and accepted by the City of Piqua or to an agent or consignee duly designated by the City of Piqua at the location specified on the face hereof, items which are to be shipped shall be shipped F.O.B. destination unless otherwise specified by the City of Piqua. A packing slip must accompany each such shipment and if a shipment is to a consignee or an agent of the City of Piqua, a copy of the packing slip shall be forwarded concurrently to the City of Piqua. If no such packing slip is sent, the count or weight by the City of Piqua or its agent or consignee is agreed to be final and binding on you with respect to such shipment.
14. **SAVE HARMLESS:** You shall indemnify and hold the City of Piqua, its officers, elected officials, agents, consignees, employees, volunteers, and representatives harmless from and against all expenses, damages, claims, suits, or liabilities (including attorney's fees of the City of Piqua) of every kind whatsoever by reason of, arising out of, or in any way connected with, accidents, occurrences, injuries or losses to or any person or property which may occur before or after acceptance of the completed items by the City of Piqua upon or about in any way due to resulting from, in whole or in part, the preparation, manufacture, construction, completion, and/or delivery of the items, including such as are caused by your subcontractors and excluding only such as are caused by the sole negligence of the City of Piqua other than where the City of Piqua's negligence consists of its failure to discover a condition caused or permitted to exist by you or any subcontractor of yours.
15. **INSURANCE:** If requested by the City of Piqua, you shall maintain policies of liability insurance such types and such amounts and with such companies as may be designated by the City of Piqua, which policies shall be written so as to protect the City of Piqua and you from the risks enumerated in Section 14. Such policies of insurance shall not be cancelable except upon thirty (30) days written notice to the City of Piqua and proof of such insurance shall be furnished by you to the City of Piqua. In addition, such policies shall protect all your subcontractors. You agree to make prompt written report to the insurance company involved of all accidents, occurrences, injuries or losses which may occur and of any and all claims made against the persons insured under said policies of insurance and to send copies of such reports to the City of Piqua within twenty-four (24) hours of the time that you obtained knowledge of the occurrence thereof.
16. **SPECIFICATIONS CONFIDENTIAL:** Any document marked confidential or proprietary, received from The City of Piqua, shall not be released by the Company prior to the City's consent that the information to be released is disclosable and/or a public record. The City shall receive immediate notice of any other document disclosed by the Company.
17. **EXAMINATION OF PREMISES:** If work is to be performed hereunder on the premises of the City of Piqua, you represent that you have examined the premises and any specifications or other documents furnished in connection with the items and that you have satisfied yourself as to the condition of the premises and site and agrees that no allowance shall be made in respect of any error as to such on your part.

18. CLEANING OF PREMISES: If work is to be performed hereunder on the premises of the City of Piqua, you shall at all times keep the premises free from accumulation of waste material or rubbish. At the completion of the items you shall leave the premises and the items broom-clean.
19. EQUAL EMPLOYMENT OPPORTUNITY:
  - (a) You agree that you will not discriminate against any employee or applicant for employment because of race, color, religion, sex, ancestry, national origin, place of birth, age, marital status, or handicap with respect to employment, upgrading promotion, or transfer, recruitment or recruitment advertising, lay-off determination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.
  - (b) It is expressly agreed and understood by you that Section 19 (a) constitutes a material condition of this contract as fully as specifically rewritten herein, also that failure to comply therewith shall constitute a breach thereof entitling the City to terminate the contract at its option.
20. AGREEMENT TO BE EXCLUSIVE: This purchase order contains the entire agreement between the parties and supersedes all other oral agreements only when there is no executed contract between the parties. The parties acknowledge and agree that neither of them has made any representation with respect to the subject matter of this purchase order or any representation inducing the execution and delivery of this purchase order, except such representations as are specifically set forth here, and each party acknowledges that it has relied on these representations in connection with its dealings with the other.
21. GOVERNING LAW: This purchase order, the performance under it, and all suits and special proceedings under it, shall be construed in accordance with the laws of the State of Ohio. In any action, special proceeding or other proceeding that may be brought arising out of, in connection with, or by reason of this agreement, the laws of the State of Ohio shall be applicable and shall govern to the exclusion of the laws of any other forum, without regard to the jurisdiction in which the action or special proceeding may be instituted.
22. ADDITIONAL RIGHTS: Any rights or remedies granted to the City of Piqua in any part of this purchase order shall not be exclusive of, but shall be in addition to, any other rights or remedies granted in another part of this purchase order and any other rights or remedies that the City of Piqua may have at law or in equity in any such instance. Any litigation arising from disputes herein shall be instituted only in Miami County, Ohio.
23. GOVERNING DOCUMENT: Should there be any conflict between the terms of the executed contract and this purchase order, the terms of the contract govern.
24. INDEPENDENT CONTRACTOR: The contractor, his assigns, heirs, successors, employees and any and all subcontractors are independent contractors and are not agents and/or employees of the City of Piqua.
25. ASSIGNMENT: This purchase order is not assignable to any other entity or contractor. Assignment of the purchase order shall void the purchase order.

Bidders' List IFB #1923:

1. Mr. David Grise, II  
Hubbard Roofing, Inc.  
800 S. Downing St.  
Piqua, OH 45356
2. Mr. Gary Spain  
Ohio and Indiana Roofing Co.  
1429 Cranberry Rd.  
St. Henry, OH 45883
3. Ms. Molly S.  
Nations Roof  
275 S. Pioneer Blvd.  
Springboro, OH 45066
4. Insulated Roofing Systems Inc.  
4190 Lisa Dr.  
Tipp City, OH 45371  
937-669-4419
5. WRI Applications LLC  
3230 E. US Rt. 36  
Piqua, OH 45356  
937-773-8235
6. Mr. Bill Shearer  
Volatile Free Inc.  
19500 Janacek Ct.  
Brookfield, WI 53045  
937-672-3710

**SILICONE COATED SPRAY FOAM ROOF SYSTEM****Part 1. General Conditions****1.01 Description****A. Scope of Work**

Provide all materials, labor and equipment required for the installation of the Silicone Coated Spray Foam Roof including all ancillary products.

**B. Related Work**

1. Perform Moisture Survey
2. Replace Wet Insulation
3. Repair/Replace All Sheet Metal
4. Surface Preparation
5. Install Spray Foam
6. Install Silicone Membrane
7. Install Walkway Systems

**1.02 Performance Requirements**

- A. Conform to applicable code for fire resistance ratings of roof system.
- B. Underwriters Laboratories, Inc. - UL 790: Class A Fire Hazard Classification.
- C. Factory Mutual (FM) – FM Standard 4470 approval
- D. All silicone products must be domestically produced. Products produced outside of the US will not be accepted.
- E. Coating manufacturer must produce its own product. Private labeled silicone coating products will not be accepted.

**1.03 Submittals**

- A. Product Data: Product data on silicone coating, physical and chemical properties, preparation of substrate required, product limitations, and cautionary requirements.
- B. Safety Data Sheets (SDS)
- C. Shop Drawings: Roof plan and details showing extent of roofing, intersections with adjacent surfaces, and details of expansion joints, counterflashing, and other items for a complete roofing system.
- D. Manufacturer's Installation Instructions: Indicate installation requirements and procedures.
- E. Certificates:
  1. Product certificates signed by the manufacturer certifying material is in compliance with the specified performance characteristics and criteria, and physical requirements.
- F. Sample copy of PM warranty
- G. Maintenance Data: For SPF System to include in maintenance manuals.
- H. Final Inspection Report: Copy of roofing system manufacturer's inspection report of completed roofing installation.

## **1.04 Quality Assurance**

### **A. Manufacturer:**

1. Company specializing in the manufacturing of the system specified in this Section.
2. A minimum of 10,000,000 square feet of a similar system installed.

### **B. Installer:**

1. Installer must be a Certified Licensed Applicator (CLA) by the Manufacturer providing the warranty, and is capable of receiving the specified warranty.
2. CLA to ensure all personnel are properly trained and have a full understanding of all OSHA safety requirements.

### **C. Manufacturer Field Representative: Provide a qualified representative of the Manufacturer providing the warranty to monitor and periodically inspect the installation.**

## **1.05 Delivery, Storage, and Handling**

### **A. Deliver and store liquid materials and other products in their original unopened containers or packaging until ready for installation.**

### **B. Materials shall be clearly labeled with the manufacturer's name, product identification, safety information, and lot numbers.**

### **C. Store materials indoors whenever possible.**

### **D. Protect stored products from freezing.**

### **E. Comply with the manufacturer's instructions for handling and safety procedures.**

### **F. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.**

## **1.06 Environmental Requirements**

### **A. Maintain logs of environmental conditions (temperature, humidity, and wind speed) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside of manufacturer's limits.**

### **B. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.**

### **C. Do not install silicone coating under the following conditions:**

1. When ambient temperature is below 35° F.
2. At temperatures less than 5° F above dew point.

## **1.07 Warranty**

### **A. Provide Manufacturer's (5, 10, 15 or 20 year) labor & material warranty covering leaks due to silicone material failure.**



## **Part 2. Products**

### **2.01 Acceptable Products**

#### **A. Spray Foam Insulation**

1. Progressive Materials: SF 4000 Series Spray Foam

#### **B. Insulation Board**

1. Poly Iso: Atlas AC III

#### **C. Butyl Fleece Tape**

1. Progressive Materials: FT 500 Butyl Fleece Tape

#### **D. Cleaners and Primers**

1. Progressive Materials: P-100 General Purpose Primer

#### **E. Silicone Caulk Sealant**

1. Progressive Materials: SS 300 Series Silicone Sealant

#### **F. Flashing Grade Sealant**

1. Progressive Materials: FG 400 Silicone Flashing Grade Sealant

#### **G. Reinforcing Fabric**

1. Progressive Materials: PF 200 Polyester Fabric
  - a. PF 206 – 6"
  - b. PF 212 – 12"

#### **H. Walkway System**

1. Progressive Materials: Pro-Grip Walkway System
  - a. PG 700 Pro-Grip Yellow Walkway Coating
  - b. PG 750 Pro-Grip Yellow Walkway Granules

#### **I. Skylight Sealer**

1. Progressive Materials: HS 3220 Clear Silicone Skylight Coating

#### **J. Silicone Coating**

1. Progressive Materials: Pro-PolySil LS 2200 Series

### **2.02 Silicone Coating Materials**

#### **A. Silicone base and top coat to be Pro-PolySil LS 2200 Series Silicone Coating by Progressive Materials, LLC and complying with the following minimum properties:**

1. Tensile Strength: ASTM D412, 551
2. Elongation: ASTM D412, 186 percent minimum at break at 75° F.
3. Water Vapor Permeance: ASTM E-96, 7.9 at 20 mils.
4. Fire resistance: ASTM E108, UL 790 Class A.
5. Color: Owner to select standard topcoat color.
6. Solids Content by Weight: ASTM D-1644, 82% ±2%
7. VOC Content: < 250 grams/liter
8. Initial Solar Reflectivity: .87
9. Initial Thermal Emissivity: .90
10. SRI Value: 110

## 2.03 Polyurethane Foam Insulation

A. Physical property requirements are as follows for acceptable insulation products with Zero-Ozone Depleting Potential, such as Progressive Materials SF 4000 Series and complying with the following properties:

1. Density: sprayed-in-place, pcf, min. 2.7-3.2, ASTM D-1622
2. Compressive Strength: 50 psi, ASTM D-1621
3. Closed-Cell Content: percent, min. >90, ASTM D-2856
4. K-factor: 0.158, ASTM C-518
5. Dimensional Stability: 28 days, 0.69%, ASTM D-2126
6. Flame Spread: max. <75, ASTM E-84

## Part 3. Execution

### 3.01 Examination

- A. Verify roof slope prior to beginning installation. There is to be no single area of standing water on the roof 24 hours after a rain, greater than 100 sq. ft. and more than ½" deep.
- B. Inspect all roof drains to ensure proper performance.
- C. Verify that all roof penetrations and flashings are properly installed and secured.

### 3.02 Preparation

#### A. General Roof Preparation

1. Clean surfaces thoroughly prior to installation.
2. Prepare surfaces using methods recommended by manufacturer for achieving the best result for the substrate under project conditions indicated.
3. Roof Board Insulation: Prevent materials from getting wet.
4. Schedule work after penetrations through roof are complete and perimeter conditions are ready to receive roof system.
5. Comply with SPFA applicable guidelines.
6. Prevent materials from entering and clogging roof drains and from migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecasted.

#### B. Concrete Deck (if applicable)

1. Fill surface honeycombs and variations with latex filler.
2. Remove materials or substances that will interfere with total adhesion of foam insulation to substrate.
3. Mask off adjacent surfaces that are not scheduled to receive foam.

**C. Recovery Board (if applicable)**

1. Install cover board with fasteners recommended by roofing system manufacturer to achieve wind uplift requirements specified for roofing system.
2. Butt boards firmly together along all edges without gaps or openings.
3. Protect cover board from getting wet after installation and prior to being protected by foam. Cover board that has been exposed to moisture must be replaced.
4. Remove loose dirt and debris by using compressed air, vacuum or light brooming.
5. Protect installed cover board from spills of contaminants such as oil, grease, solvents, etc. Replace cover board that has been exposed to such contaminants.
6. Remove materials or substances that will interfere with total adhesion of foam insulation to substrate.
7. Mask off adjacent surfaces that are not scheduled to receive foam.

**D. Built-up Roof (if applicable)**

1. Remove any existing wet material in the roof system.
2. Hydro-vac all loose gravel from roof surface.
3. Mechanically attach existing built-up roof to meet wind uplift requirements.
4. Mask off adjacent surfaces that are not scheduled to receive foam.

**3.03 Polyurethane Foam Application****A. Inspection**

1. Prior to polyurethane foam application, inspect the substrate surface to ensure preparations required in Section 3.02 have been met.

**B. Application**

1. All objects that require protection from overspray shall be protected; all movable objects shall be moved to an acceptable area. All intake air vents shall be turned off and covered.
2. Apply the polyurethane foam in strict accordance with the polyurethane foam manufacturer's specifications and application instructions, using spray equipment recommended by the polyurethane foam manufacturer. The field of the roof shall be applied, as practical, by a digitally controlled robotic SPF application device. The robotic method shall improve consistency, slope-to-drain, and visual appearance.
3. Polyurethane foam shall be applied in a minimum of ½-inch thick passes. The total thickness of the new polyurethane foam shall be a minimum of 1.0 inches, except where tapering is required to facilitate drainage or areas removed are brought to the existing roof level.
4. Apply the full thickness of polyurethane foam in any area on the same day.
5. Polyurethane foam shall be applied to ensure proper drainage, resulting in no ponding water. Ponding water is defined as "an area of 100 square feet or more which holds in excess of ½ inch of water as measured 24 hours after rainfall."

6. The polyurethane foam shall be terminated neatly a minimum of 4 inches above the finished roof surface at roof penetrations. Foamed-in-place cants shall be applied to allow a smooth transition from the horizontal to vertical surface.
7. The finished polyurethane foam surface texture shall be "smooth to orange-peel", free of voids, pinholes and depressions. "Verge of popcorn" texture is acceptable if it can be thoroughly and completely coated. Popcorn and tree bark textures are not acceptable. Unacceptable foam textures shall be removed and re-foamed prior to coating application.

### **3.04 Silicone Roof Coating Application**

#### **A. Inspection**

1. Prior to the application of silicone coating, inspect the polyurethane foam surface to ensure the conditions of Section 3.03 have been met.
2. The polyurethane foam surface shall be free of moisture, dust, dirt, debris and other contaminants that would impair the adhesion of the silicone coating.
3. If more than 24 hours elapse between the polyurethane foam application and the start of the silicone coating application, thoroughly inspect the polyurethane foam surface for UV degradation and oxidation. Call PM Technical Department for procedures to proceed if UV damage has affected the foam.

#### **B. Application**

1. LS 2204 Silicone Roof Coating, dark gray should be used as the basecoat on new polyurethane foam.
2. The silicone basecoat shall be applied on the same day as the polyurethane foam application, after the polyurethane foam has been allowed to cure a minimum of one hour.
3. Apply the basecoat in a uniform application to achieve a finished dry film thickness of approximately  $\frac{1}{2}$  the total millage required for the roof.
4. The basecoat shall not be subjected to foot traffic or otherwise disturbed until it is tack-free.
5. After it has cured, inspect the coating for pinholes, cracks, thin areas or other defects. All defects observed shall be caulked with sealant and/or roller coated with additional basecoat prior to applying subsequent coats of silicone.
6. The basecoat must be cured, clean and free of all moisture prior to application of topcoat.
7. Apply the topcoat in a contrasting color to the basecoat. The topcoat application shall be made at right angles to the basecoat application. Surface texture and conditions may require additional quantities of silicone to insure proper millage. It is the contractor's responsibility to properly coat the insulation regardless of the quantity of silicone coating required.
8. The Silicone Roof Coating shall be applied a minimum of 2 inches beyond all the terminated edges of the polyurethane foam. These terminations should be masked to provide a straight edge, neat, finished appearance.
9. Allow the topcoat to cure and inspect the finished coating surface for pinholes, cracks, thin areas, or other defects. Repair any defects observed with silicone sealant and/or additional silicone coating material.
10. It is the applicator's responsibility to ensure the minimum total dry film thickness specified is achieved throughout the entire roof area regardless of the quantity of liquid silicone required.

**11. Minimum required coating thicknesses are as follows:**

- a. 5 Year Warranty - 12 mils
- b. 10 Year Warranty - 15 mils
- c. 15 Year Warranty - 20 mils
- d. 20 Year Warranty - 25 mils

**3.05 Granule/Aggregate Application**

**A. Application**

- 1. Apply roofing granules in a finish coat of silicone coating. A minimum of 10 dry mils of silicone coating is required to hold the granules.
- 2. Apply the roofing granules, using suitable compressed air equipment, uniformly at a rate of approximately 30-40 pounds per 100 square feet of roof area.
- 3. Apply the roofing granules immediately after the topcoat application to obtain maximum wet-out and embedment.
- 4. Bare spots in the granulated surface shall be filled in by applying additional coating and granules in these areas.

**3.06 Walkway System**

**A. Install the Pro-Grip Walkway System at heavy traffic areas and at high impact areas as directed by the owner.**

**1. Walkway Areas**

- a. Walkways should be a minimum of 30" wide.
- b. Mask off area to receive walkway system to ensure clean straight edges.
- c. Install PG 700 Pro-Grip Yellow Walkway Coating at a thickness of 25 mils.
- d. Immediately after the application of the PG 700, broadcast PG 750 Pro-Grip Walkway Granules into the coating at a rate of 40 lbs. per 100 square feet. The granules will settle into the coating. Apply the granules generously, inspect the surface within a few minutes and reapply as needed to obtain a continuous film of granules.

**2. High Impact Areas (around mechanical equipment, etc)**

- a. Mask off area to receive walkway system to ensure clean straight edges. Area should be 30" wide around all identified equipment.
- b. Install PG 700 Pro-Grip Yellow Walkway Coating at a thickness of 40 mils.
- c. Immediately after the application of the PG 700, broadcast PG 750 Pro-Grip Walkway Granules into the coating at a rate of 60 lbs. per 100 square feet. The granules will settle into the coating. Apply the granules generously, inspect the surface within a few minutes and reapply as needed to obtain a continuous film of granules.

**B. After the coating has completely cured, remove all loose granules with a small hand blower and a soft bristle broom.**

**3.07 Field Quality Control**

- A. Final Roof Inspection:** Arrange for roofing system manufacturer's technical personnel to inspect roofing installation upon completion and submit report to Owner/Architect. There shall be no items on the roof that could inhibit the inspection process, such as, solar panels, decking systems, etc.

1. Notify Owner 48 hours in advance of date and time of inspection.
  - a. Repair or remove and replace components of roofing system where inspection results indicate that they do not comply with specified requirements.

### **3.08 Cleaning**

- A. Remove overspray from adjacent surfaces using cleaning agents and procedures recommended by manufacturer of affected construction.
- B. In areas where finished surfaces are soiled by work of this section, consult manufacturer of surfaces for cleaning advice and conform to their instructions.
- C. Repair or replace defaced or disfigured finishes caused by work of this section.

### **3.09 Protection of Finished Work**

- A. Ensure roof surface is free of traffic for minimum of 12 hours after silicone coating application or until coating is completely cured.
- B. Ensure any subsequent work does not cause damage to finished roof system. If necessary, install protection over finished roof area.

**END OF SECTION**