

# Flex TPO Adhered Spec

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## **PART 1      GENERAL**

### **1.01   DESCRIPTION**

- A.     The City of Decatur Fire & Police Training Center is located at 4119 Old Hwy 431 in Decatur, AL. Charles Booth is the purchasing representative and may be contacted regarding any questions or for a pre-bid job site inspection.
  
- B.     The project consists of installing Viking Products Group FlexMembrane (TPO) Adhered Roofing System as outlined below:

### **1.02   EXTENT OF WORK**

- A.     Provide all labor, material, tools, equipment, and supervision necessary to complete the installation of the FlexMembrane .060" thick white\_reinforced TPO (Thermoplastic Polyolefin) membrane Adhered Roofing System including flashings, insulation, and edge metal 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.

### **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.     A 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 membrane thickness over the reinforcing scrim (top ply membrane thickness) is nominal .015" (15 mil).
  
- 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 FlexMembrane in the original undisturbed plastic wrap in a cool, shaded area. FlexMembrane that has been exposed to the elements for approximately 7 days must be prepared with Viking Products Group Weathered Membrane Cleaner prior to hot air welding.
  - 2. Store curable materials (adhesives and sealants) between 60F and 80F in dry areas protected from water and direct sunlight. If exposed to lower temperature, restore to 60F 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. Contractor must work with the management staff of the Princess Theatre to find a time to complete the work. There could be days or weeks where work will not be allowed in order to not disrupt planned activities inside the Princess Theatre. It is the responsibility of the contractor to 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.

### **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. It is solely the responsibility of the contractor to verify all measurements and roof core samples prior to bids being submitted.

### **1.08 PRECONSTRUCTION CONFERENCE**

- A. 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.
- B. Any conditions which are not shown on the shop drawings should be indicated on a copy of the shop drawing and included with bid submittal if necessary to clarify any conditions not shown.

### **1.09 TEMPORARY FACILITIES AND CONTROLS**

- A. 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.
- B. 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.
- C. 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, by either 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 material 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. 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.

### 1.13 QUALITY ASSURANCE

- A. The FlexMembrane roofing system or approved equal must achieve a UL Class A and/or FM 1-90 rating.
- B. Unless otherwise noted in this specification, the roofing contractor must strictly comply with

the manufacturer's current specifications and details.

- C. 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.
- D. Provide adequate number of experienced workmen regularly engaged in this type of work who are skilled in the application techniques of the materials specified including operation of hot air welding equipment and power supply. Provide at least one thoroughly trained and an experienced superintendent on the job at all times roofing work is in progress.
- E. 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.
- F. Perform work in accordance with all federal, state and local codes. It is the intent of this specification to install a quality roofing system that meets or exceeds all current NRCA and SMACNA guidelines.

#### **1.14 JOB CONDITIONS, CAUTIONS AND WARNINGS**

Refer to Viking Products Group FlexMembrane Adhered 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 Viking Products Group 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 weather tight 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 WARRANTY**

- A. Provide manufacturer's 15 year Membrane System Warranty covering both labor and material. The maximum wind speed coverage shall be peak gusts of 55 mph measured at 10 meters above ground level.
- 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. Basis of Design: Materials, manufacturer's product designations, and/or manufacturer's names specified herein shall be regarded as the minimum standard or quality required for work of this Section. Comply with all manufacturer and contractor/fabricator quality and performance criteria.

### **2.02 ACCEPTABLE MANUFACTURERS**

- A. Basis of Design: Viking Products Group, which is located at 3812 E. 91st St. Cleveland, OH 44105; 800-350-2142
- B. Any item or materials submitted as a substitution to the manufacturer specified must comply in all respects as to the quality and performance of the brand name specified. The Owner shall be the sole judge as to whether or not an item submitted as a substitute is truly equal. Should the Contractor choose to submit a substitute product, he shall assume all monetary or other risk involved, should the Owner find the substitution unacceptable.

### **2.03 MEMBRANE**

Furnish FlexMembrane .060" thick white reinforced TPO (Thermoplastic Polyolefin) membrane as needed to complete the roofing system. Membrane thickness over the reinforcing scrim (top-ply thickness) shall be nominal .015" thick (15 mil).

### **2.04 INSULATION**

- A. Acceptable Cover Board:

City of Decatur  
Fire & Police Training Center  
4119 Old Hwy 31  
Decatur, AL 35603

- a. ½" DensDeck Prime
  - i. Cover Board Manufacturer: Georgia Pacific
- b. ½" High Density Wood Fiberboard
  - i. Cover Board Manufacturer: Blue Ridge

## 2.05 ADHESIVES AND CLEANERS

All products shall be furnished by Viking Products Group and specifically formulated for the intended purpose.

- A. Bonding Adhesive: FlexMembrane Bonding Adhesive
- B. Edge Sealant: Cut Edge Sealant
- C. Sealer: Water Cut-Off Mastic and PT 304 Sealant
- D. Pocket Sealant: TPO Molded Pocket Sealant
- E. Cleaner: Viking Products Group Weathered Membrane Cleaner

## 2.06 METAL EDGING AND MEMBRANE TERMINATIONS

- A. Install new 24 ga. kyar coated gutters, downspouts, coping, counterflashing, and trim metal. Colors must be pre-approved by the City of Decatur to ensure that the color matches the existing color on the building.
- B. **FlexMembrane Coated Metal:** 4'x 10' coated metal sheets made from .040 kynar coated aluminum with a minimum .035" thick non-reinforced white FlexMembrane laminate. FlexMembrane can be welded directly to the FlexMembrane Coated Metal in accordance with the manufacturer's detail.
- C. **Anchor Rite Termination Bar:** A 1 inch wide and .098 inch thick extruded aluminum bar pre-punched 6 inches on center; incorporates a sealant ledge to support Lap Sealant and provide increased stability for membrane terminations.

## 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, job site 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

#### ROOF OVERLAY:

- A. Tear off all existing EPDM membrane including all existing curb and wall flashings and dispose of materials properly.
- B. Cut out the wet insulation and buckled insulation as determined by the roof scan and properly dispose of materials. For bidding purposes include 1,000 SF of wet and buckled insulation in base bid to be removed.
- C. Mechanically fasten to the metal deck an approved ½" recovery roof board over top of the existing roof insulation according to the wind uplift requirements.

### 3.03 MEMBRANE PLACEMENT AND ATTACHMENT

- A. Position FlexMembrane over the acceptable substrate. Fold membrane sheet back **lengthwise** (onto itself) so half the underside of the membrane is exposed.
- B. Apply FlexMembrane Bonding Adhesive in accordance with the manufacturer's published instructions, to the exposed underside of the membrane and the corresponding substrate area. Do not apply Bonding Adhesive along the splice edge of the membrane to be hot air welded over the adjoining sheet. Allow the adhesive to dry until it is tacky but will not string or stick to a dry finger touch.
  - 1. Roll the coated membrane into the coated substrate while avoiding wrinkles. Brush down the bonded section of the membrane sheet immediately after rolling the membrane into the adhesive with a soft bristle push broom to achieve maximum contact.
  - 2. Fold back the unbonded half of the sheet lengthwise and repeat the bonding procedures.
- C. Position adjoining sheets to allow a minimum overlap of 2 inches.
- D. Hot air weld the FlexMembrane sheets using the Automatic Hot Air Welding Machine or Hot Air Hand Welder in accordance with the manufacturer's hot air welding procedures.
- E. Pull the membrane back along the welded splice so the entire underside of the membrane is exposed once the Hot Air Weld has been completed.
- F. Apply FlexMembrane Bonding Adhesive to the exposed underside of the membrane sheet and the substrate.
- G. Allow adhesive to dry until tacky and roll the membrane into the substrate and brush down the bonded section with a bristle broom following the procedure noted above.
- H. Continue to install adjoining membrane sheets in the same manner, overlapping edges a minimum of 2 inches and complete the bonding procedures as stated previously.

### 3.04 MEMBRANE SPLICING/HOT AIR WELDING PROCEDURES



- A. Hot air weld the FlexMembrane 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 to ensure a continuous hot air welded seam. (Note: When using .060" thick membrane, all splice intersections shall be overlaid with FlexMembrane non-reinforced flashing)
- 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 FlexMembrane reinforced membrane. FlexMembrane non-reinforced membrane can be used for flashing pipe penetrations, Sealant Pockets, and scuppers, as well as inside and outside corners, when the use of pre-molded 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.

### **3.07 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**

# ROOF PREMIUM REPORT



Report Type

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**City of Decatur Fire & Police Training Center**

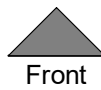
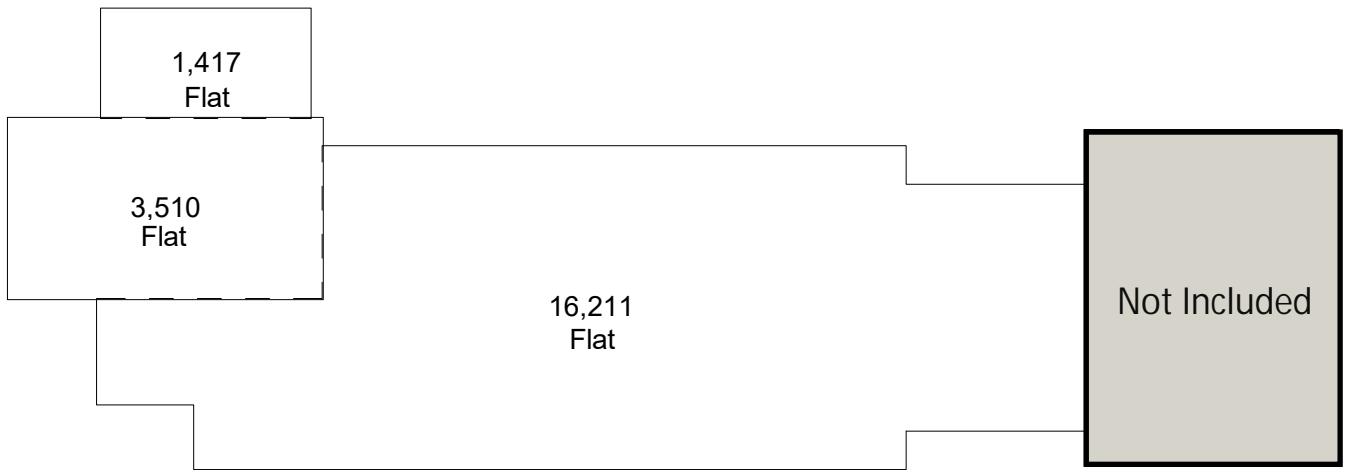
4119 Old Hwy 31, Decatur, AL 35603

Measurements by **Skyview Estimator**

# AREA BY SECTION

4119 Old Hwy 31, Decatur, AL 35603

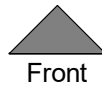
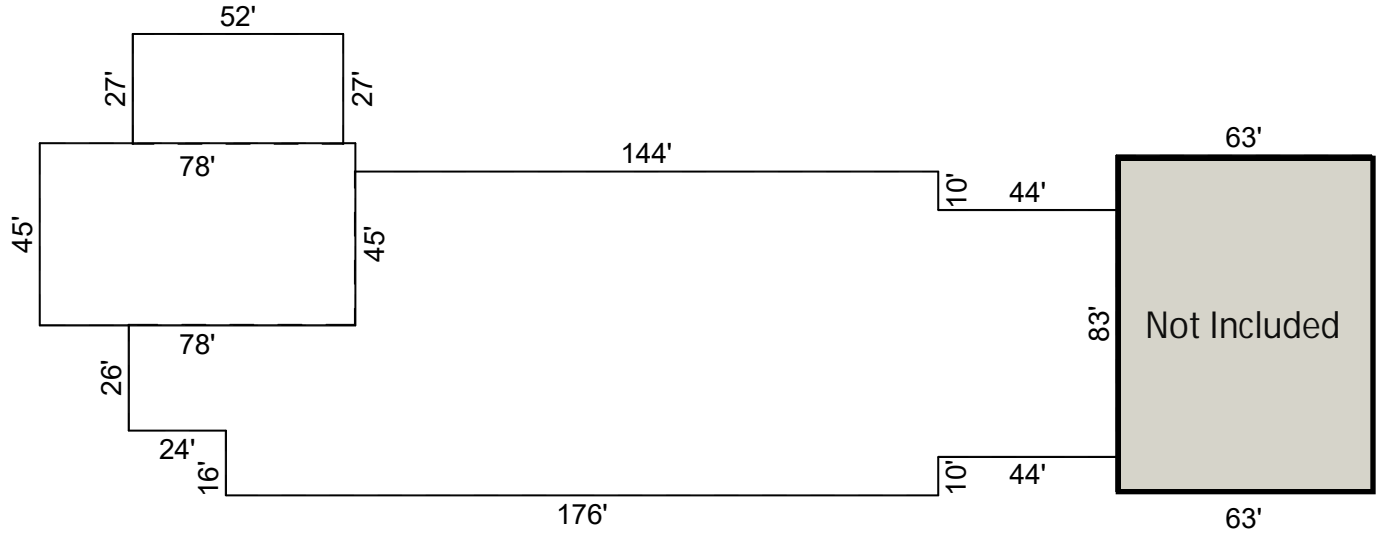
Roof Report



# ACCESSORIES


4119 Old Hwy 31, Decatur, AL 35603

## Roof Report



### Roof Accessories

\* LENGTHS IN LINEAL FEET

 Eaves	0 LF	 Ridges	0 LF	 Hips	0 LF
 Valleys	0 LF	 Rakes	0 LF	 Flat Edges	1,138 LF
 Transitions	0 LF	 Parapet Walls	0 LF		

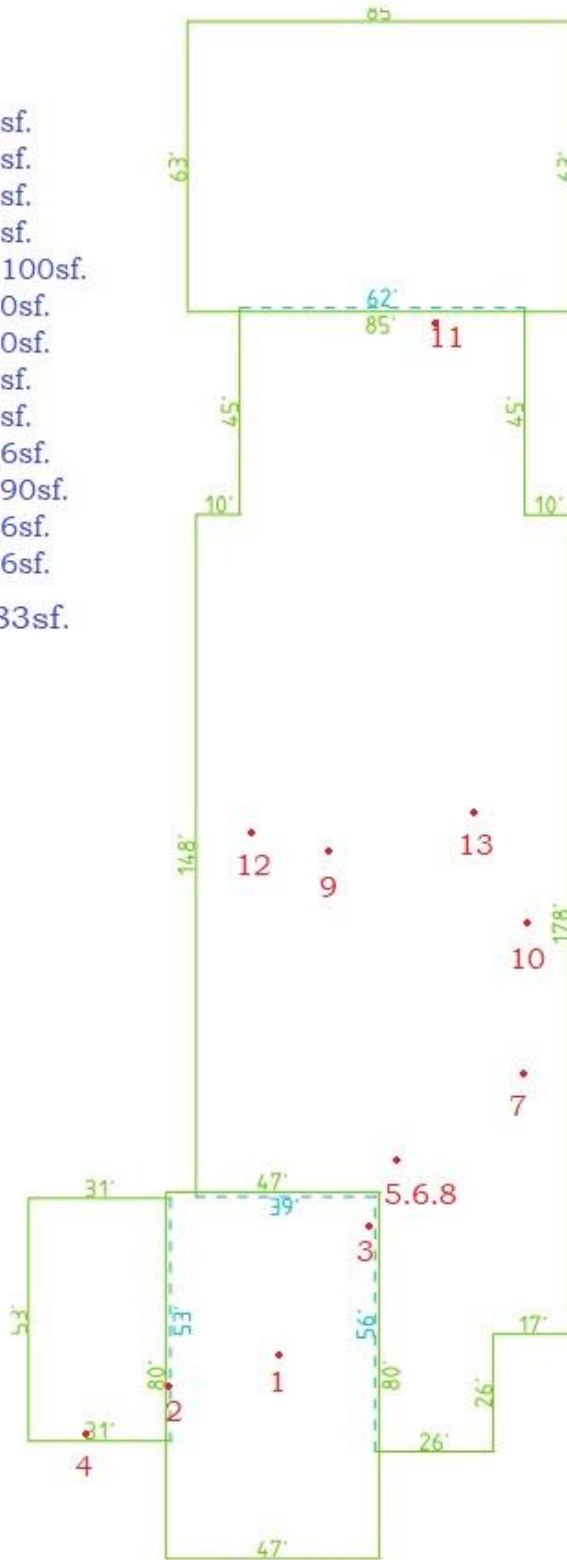
FOR ESTIMATION ONLY: VERIFY ALL DIMENSIONS PRIOR TO PURCHASE OF MATERIALS. NO GUARANTEES CAN BE MADE AS TO INSTALLATION AND LOCAL CODE REQUIREMENTS.

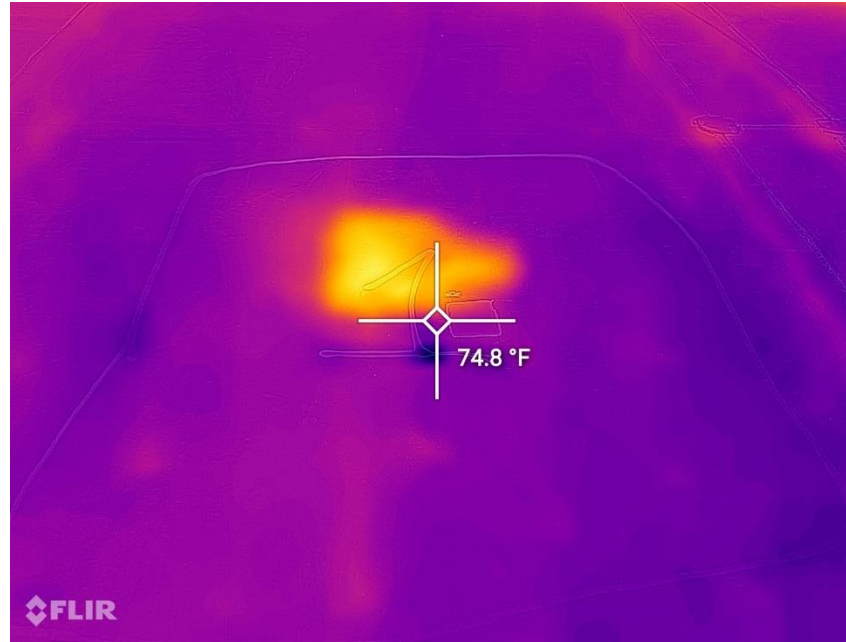
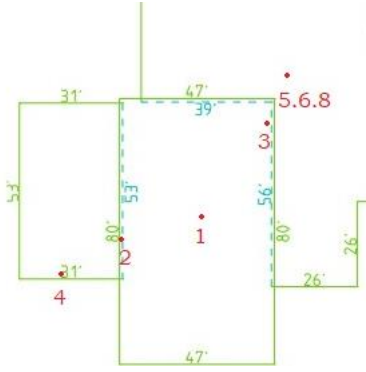
Infrared Roof Inspection Report  
 City of Decatur  
 Fire & Police Training Center

Size:

- 1: 5x5 25sf.
- 2: 3x5 15sf.
- 3: 3x7 21sf.
- 4: 4x4 16sf.
- 5: 10x10 100sf.
- 6: 8x10 80sf.
- 7: 6x10 60sf.
- 8: 4x4 16sf.
- 9: 2x6 12sf.
- 10: 4x4 16sf.
- 11: 6x15 90sf.
- 12: 4x4 16sf.
- 13: 4x4 16sf.

Total: 483sf.

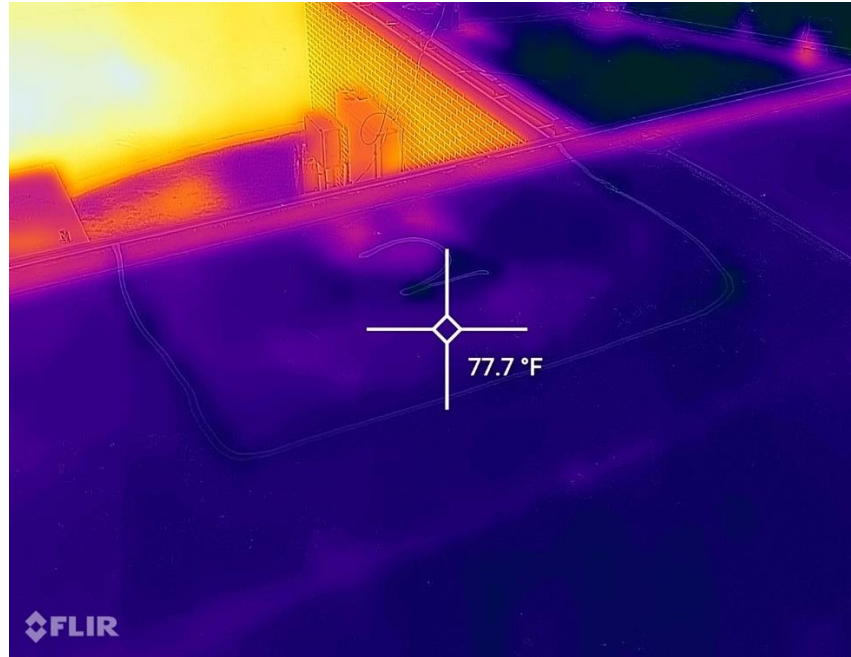
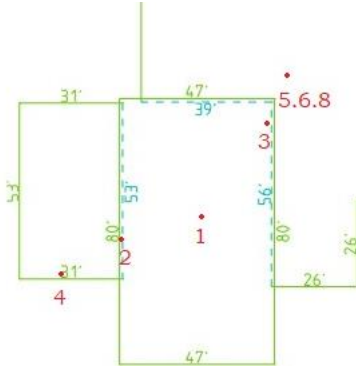




Spot 1:

<p>Located 11' from east edge 35' from south edge.</p>	<p>Located with IR</p>	<p>Area is 5x5 or 25sf.</p>
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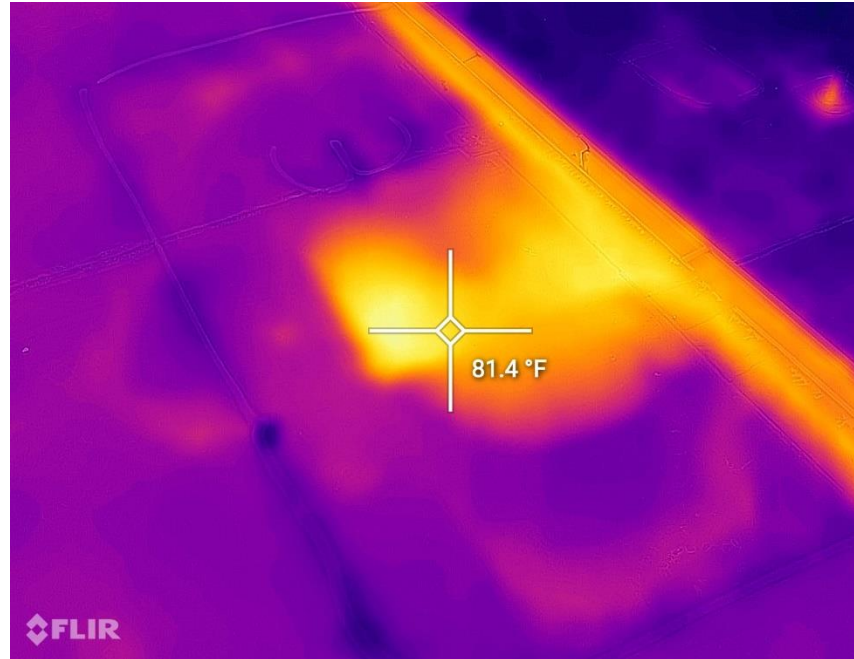
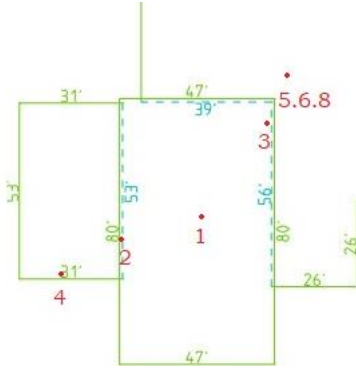




Spot 2:

<p>Located 13' from south edge on the western drip edge</p>	<p>Located with IR</p>	<p>Area is 3x5 or 15sf.</p>
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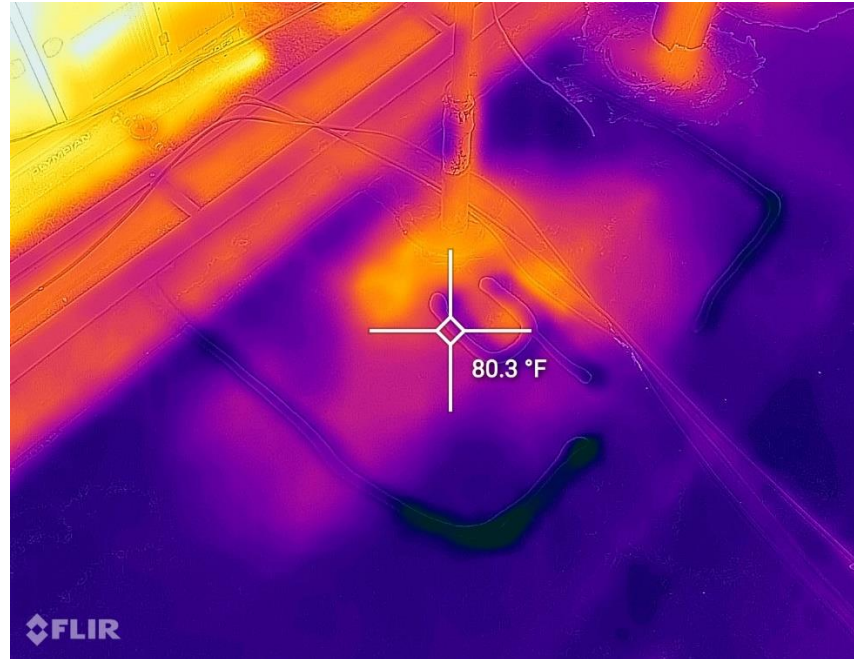
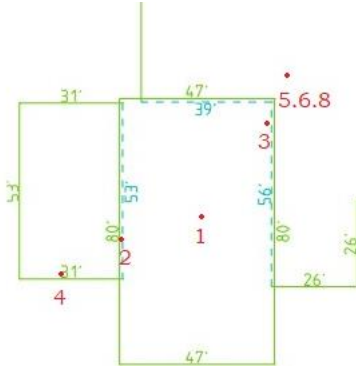


Spot 3:

<p>Located 6' from north edge on the eastern drip edge</p>	<p>Located with IR</p>	<p>Area is 3x7 or 21sf.</p>
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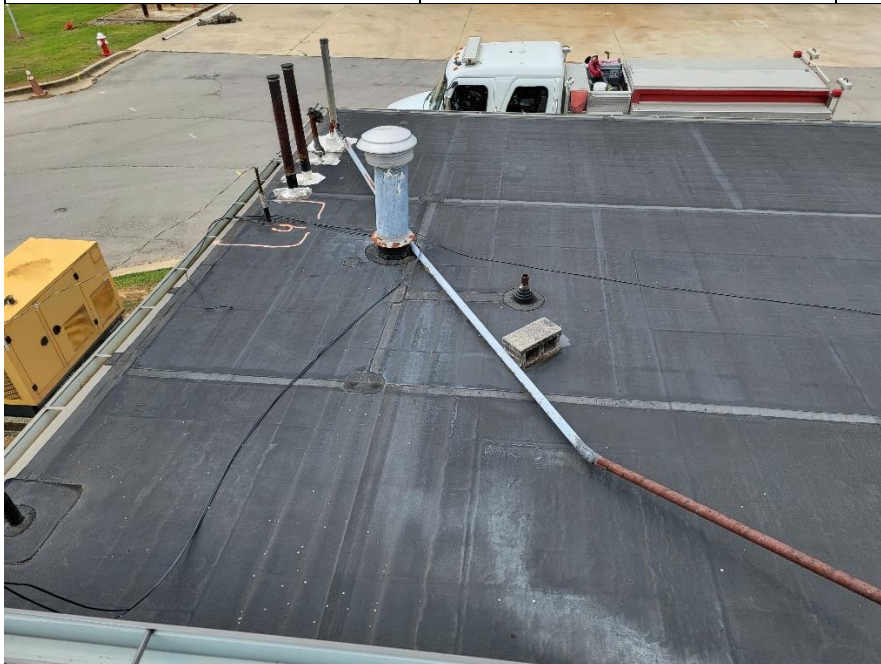


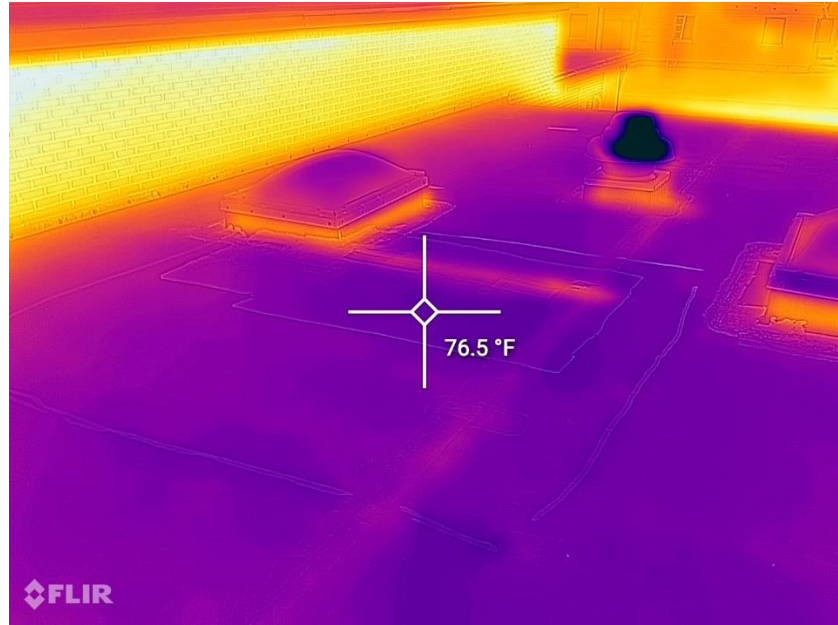
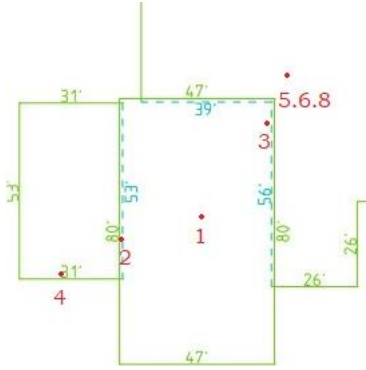




Spot 4:

<p>Located 13' from east edge on the southern drip edge.</p>	<p>Located with IR</p>	<p>Area is 4x4 or 16sf.</p>
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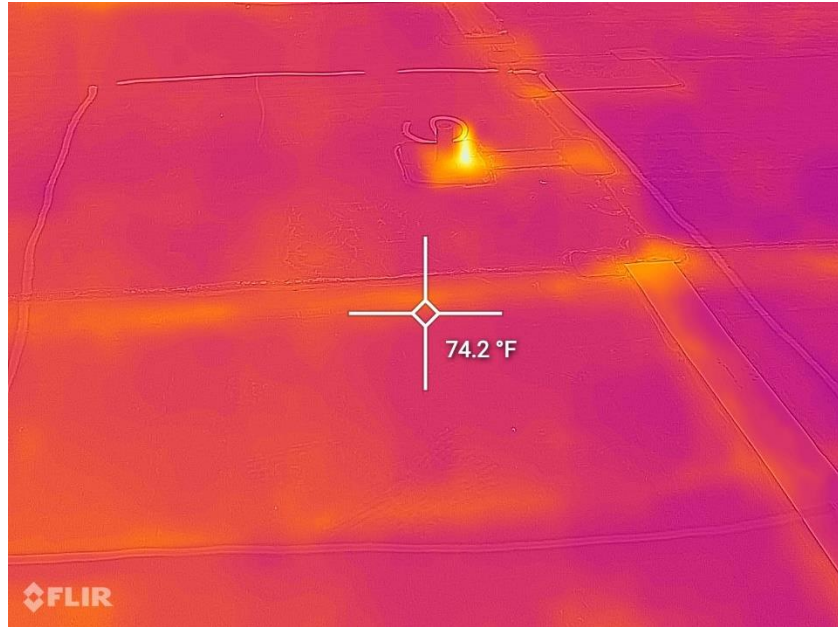
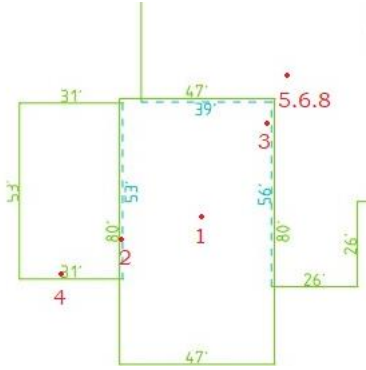




Spot 5:

<p>Spot 5 is located 5' north of higher roof systems north east corner</p>	<p>Located with IR</p>	<p>Area is 10x10 or 100sf.</p>
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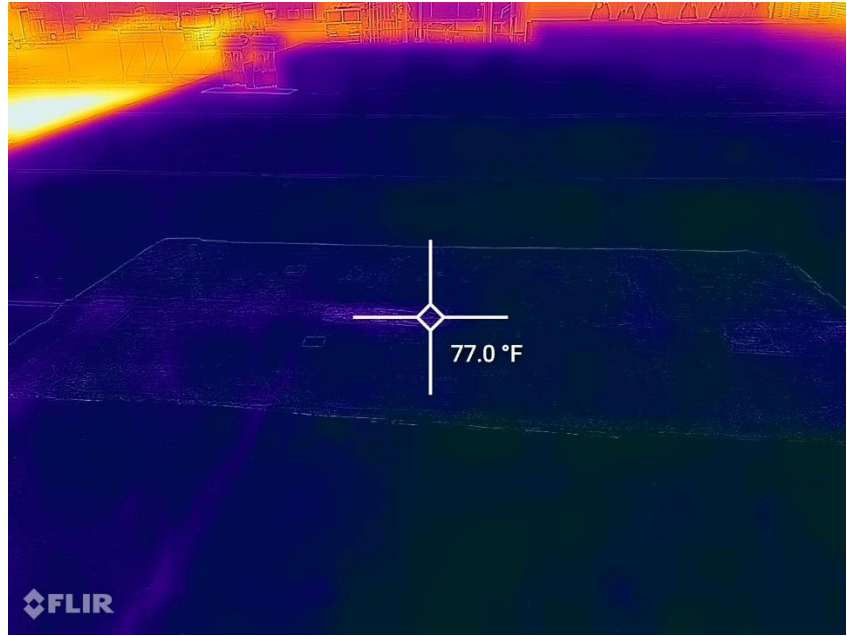
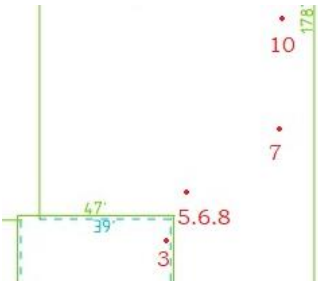




Spot 6:

<p>Spot 6 is located 12' north of higher roof systems northeast corner</p>	<p>Located with IR</p>	<p>Area is 8x10 or 80sf.</p>
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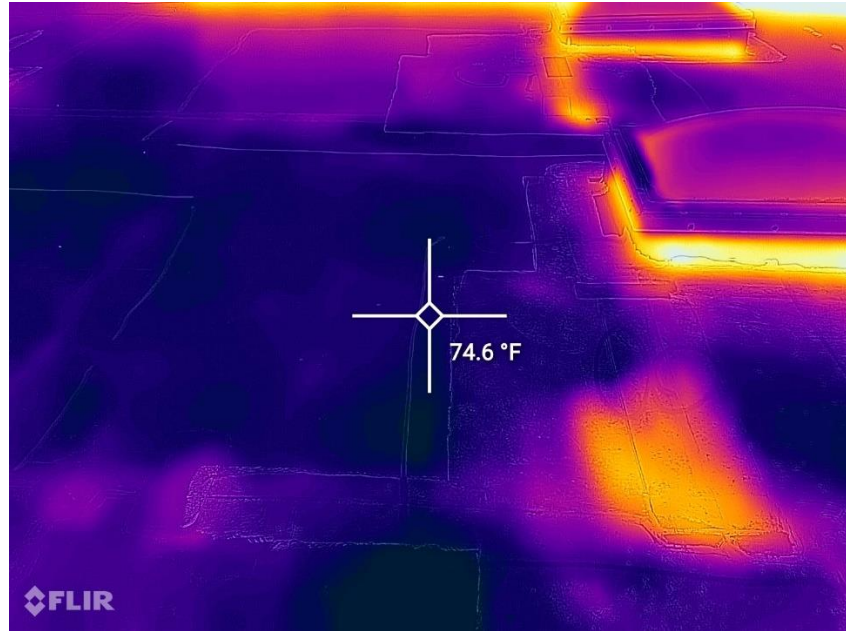
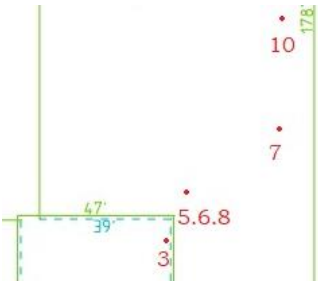




Spot 7:

<p>Spot 7 is located 10' from east wall and 47' from expansion joint.</p>	<p>Located by visual inspection, roof has been coated.</p>	<p>Area is 6x10 or 60sf.</p>
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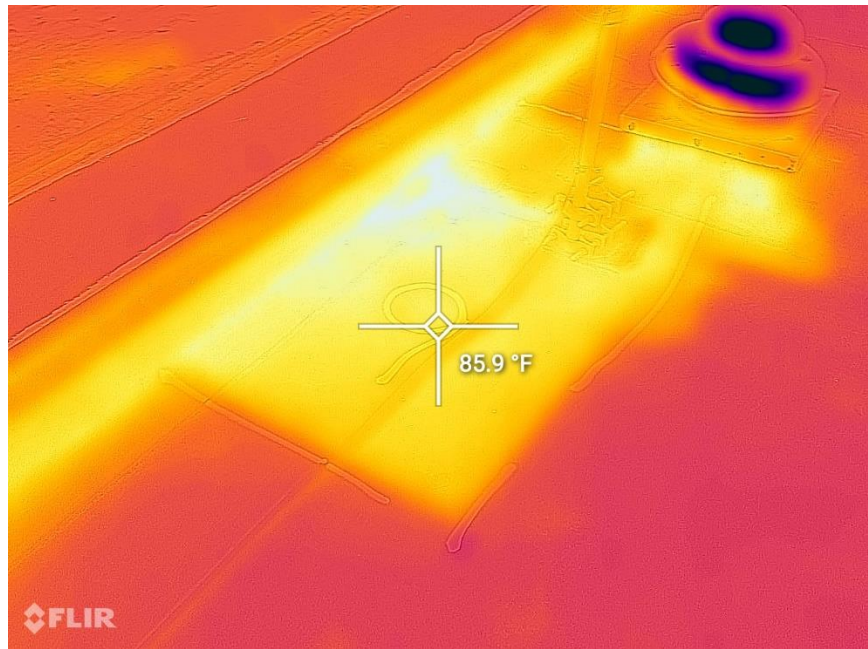
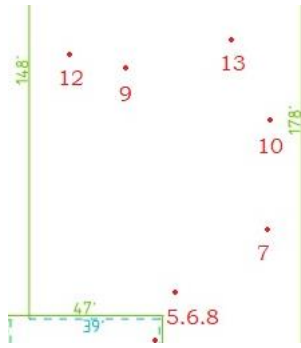




Spot 8:

<p>Spot 8 is located 1' from spots 5 and 6. The area around these units is very saturated and will continue to grow.</p>	<p>Located with IR</p>	<p>Area is 4x4 or 16sf.</p>
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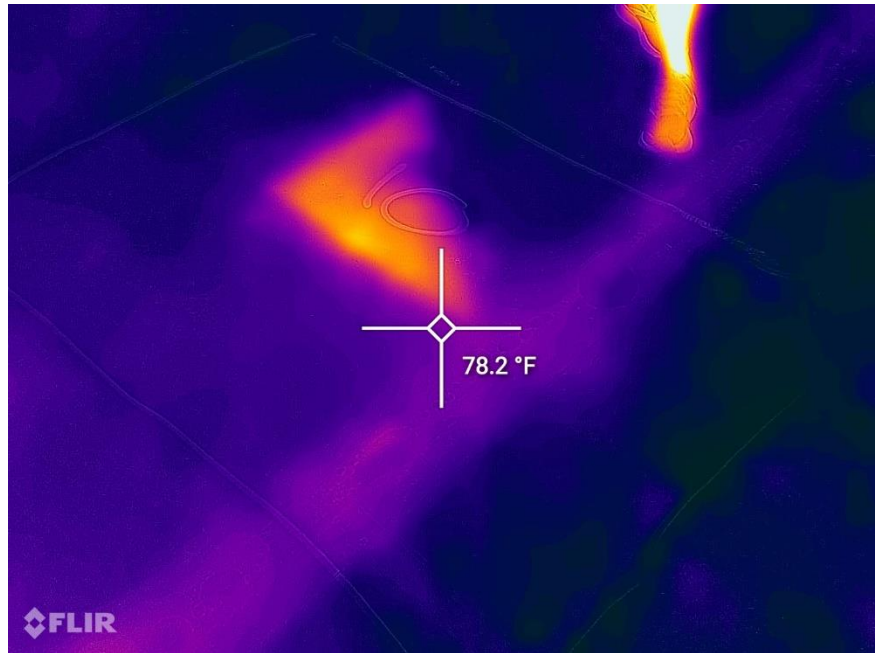
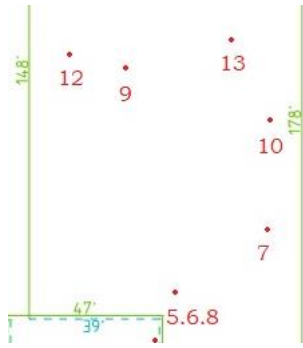




Spot 9:

<p>Spots 9 is located 9' from west wall on the southern side of expansion joint.</p>	<p>Located with IR</p>	<p>Area is 2x6 or 12sf.</p>
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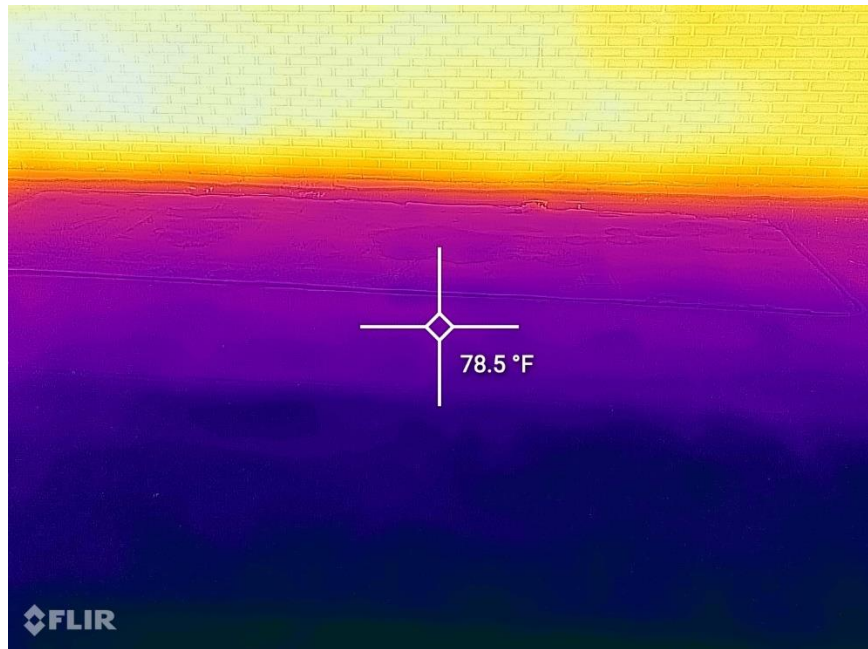
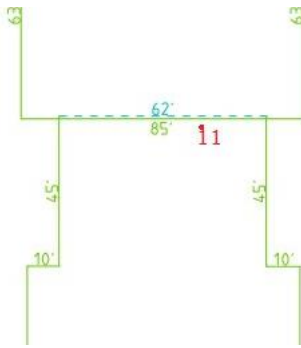




Spot 10:

<p>Spots 10 located 9' south of expansion joint and 15' from eastern edge.</p>	<p>Located with IR</p>	<p>Area is 4x4 or 16sf.</p>
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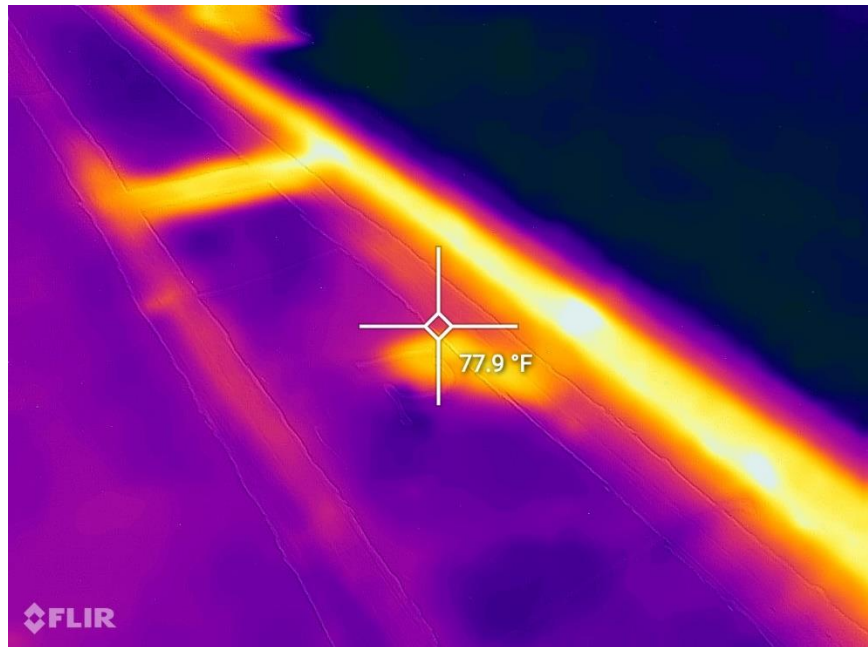
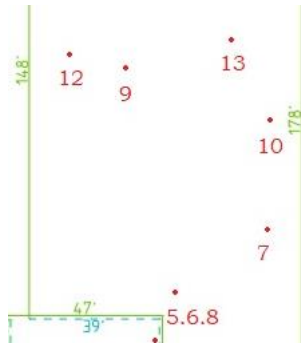




Spot 11:

<p>Spot 11 is located 14' from east edge against the northern building wall</p>	<p>Located with IR</p>	<p>Area is 6x15 or 90sf.</p>
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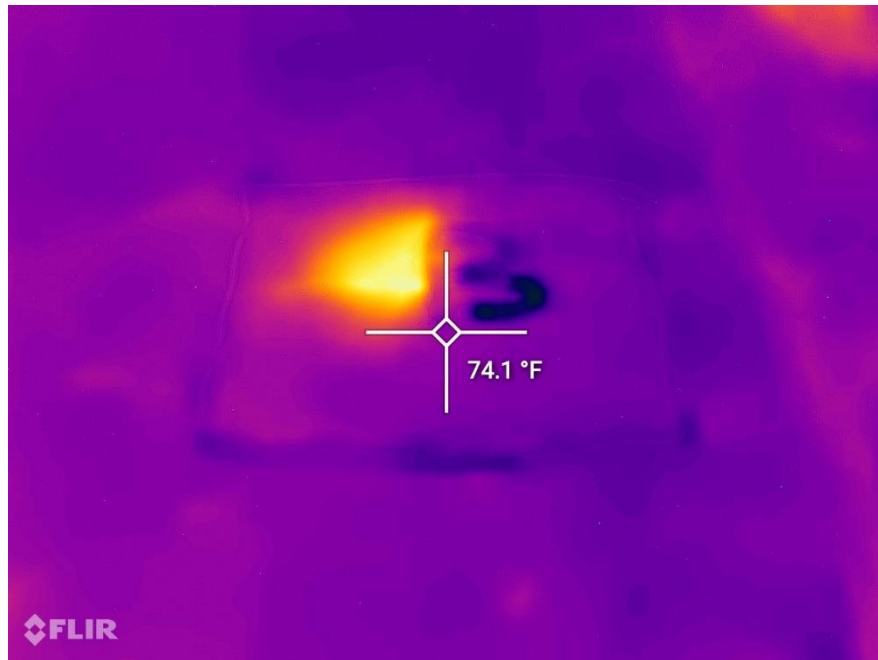
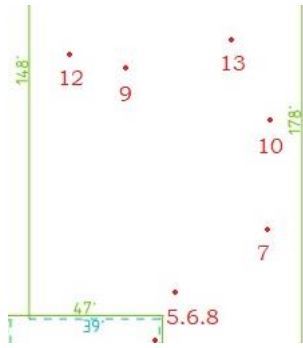




Spot 12:

<p>Spot 12 is located 10' from west edge on northern side of expansion joint.</p>	<p>Located with IR</p>	<p>Area is 4x4 or 16sf.</p>
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Spot 13:

<p>Spot 13 is located 8' north of expansion joint and 19' from east edge.</p>	<p>Located with IR</p>	<p>Area is 4x4 or 16sf.</p>
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