



# HOPEWELL TOWNSHIP MUNICIPAL BUILDING EVALUATION REPORT



APRIL 24, 2009



DESIGNING FOR A SUSTAINABLE FUTURE TODAY

**TABLE OF CONTENTS**

<b>Introduction</b>	<i>Page 3</i>
<b>Evaluations</b>	
<i>Roof Evaluation</i>	<i>Page 4</i>
<i>Masonry/Brick Evaluation</i>	<i>Page 6</i>
<i>EIFS/Stucco Evaluation</i>	<i>Page 10</i>
<i>Windows Evaluation</i>	<i>Page 11</i>
<i>Site Evaluation</i>	<i>Page 12</i>
<i>General Evaluation</i>	<i>Page 16</i>
<b>Evaluation Drawing</b>	<i>Page 20</i>
<b>Budget</b>	<i>Page 21</i>
<b>Infrared Building Envelope Survey</b>	<i>Page 22</i>

---

## **Introduction:**

In January 2009 Spiezle Architectural Group was commissioned to undertake an assessment of the existing Hopewell Township Municipal Building. This evaluation was undertaken in an effort to identify, to the greatest extent possible, the range of physical deficiencies and conditions that may require attention and the further development of a strategic plan to address these deficiencies

The evaluation process began with on-site visits to examine the existing conditions of the building. These visits were conducted by Spiezle Architectural Group in concert with our team of consultants; all experts in their respective fields. As indicated within this report, many issues were identified throughout the building that range in need of attention.

This report will outline our findings during the evaluation process, prepare a strategic plan to address them, and provide a preliminary construction cost estimate. The evaluations are subdivided into the following categories; Roof, Masonry/Brick, EIFS/Stucco, Windows, Site, and General. Each observation and plan has been provided with an associated project budget. A total project budget is provided at the conclusion of the report.

In 1986 an addition was constructed onto the existing Hopewell Township Municipal Building. This two-story addition was constructed with a brick and EIFS (Exterior Insulation Finishing System) façade. The original building was a masonry building, whereas the 1986 addition was a combination of masonry and metal stud construction. To our knowledge the entire façade on the addition is original from 1986, and has not been replaced. It is also our understanding that the original mansard roof was rebuilt with standing seam metal panels in the past 5 years. In 2000 a new modified bitumen roof was also installed on the building.

---

## Roof Evaluation

### *Observation 1 & 2*

The roof is estimated to have been replaced in 2000. Although the roofing manufacturer is unknown, it is thought to be a Siplast roof, and there are several areas in need of repair. There are what appears to be footprints that were made when the roofing was installed that have compromised the roofing membrane. The roof edges were not reinforced and this has led to some cracking at horizontal to vertical intersections. Ponding is occurring in a few locations on the roof due to minimal slope, the worst of which occurs above the elevator shaft where there appears to be no slope.



### *Recommendation 1 & 2*

Due to the relative age of the roof, we recommend contacting the manufacturer and installer of the existing roof, to make any necessary roof repairs under the current warranty.

### *Budget 1 & 2*

Total Preliminary Budget numbers are not applicable for these observations.

---

## Roof Evaluation

### *Observation 3*

The existing mansard roof has no gutters or down spouts. Currently the water travels down the sloped roof continuing onto the vertical panels to a series of drip holes. These holes force the water to drain into a recess in the EIFS façade. This allows the water to be collected in the recess possibly getting behind the façade and inside the wall. This has also resulted in staining of the exterior façade. Water also puddles on the sidewalk causing icing and erosion of landscaping beds.



### *Recommendation 3*

We recommend three different options to resolve the issues with the mansard roof.

- A. The first option is to modify the roof design so that a metal gutter can be affixed to the existing metal panels. This would entail cutting the panels at the transition between sloped and vertical roof, attaching a metal gutter, adding downspouts onto the façade, and extending underground to the existing storm drainage system.
- B. The second option is to remove the mansard roof in its entirety and install a new metal coping sloped back to the flat roof so that the water will all be collected on the flat roof and thereby drain using the existing roof drains.
- C. The third option is to leave the mansard roof as is and provide a larger gutter at the base of the existing vertical transition to receive most of the run off; add downspouts onto the façade, and extending underground to the existing storm drainage system.

If options A or C are selected, portions of the existing site would require modifications to accommodate new underground drainage piping that connects to the existing line under the parking lot. This work would entail removing portions of the sidewalk and parking lot, excavating to the storm line, and patching all modified areas.

### *Budget 3*

Total Preliminary Construction Cost Estimate:

**Option A: \$50,000    Option B: \$155,000    Option C: \$26,000**

---

## Masonry/Brick Evaluation

### *Observation 1*

In examining the masonry, there are several areas of concerns. The first of which is in recessed brick reveal areas where open core bricks were used and are therefore exposed to the weather. Solid brick should have been originally used in these areas. Although in some areas attempts were made to mortar fill the cores, in many cases the cores were never filled completely solid allowing the water to migrate into the walls.



### *Recommendation 1*

To correct the issue whereby the brick reveal exposes the cores of the brick to the weather, we recommend the following: *Option A should be combined with either options B or C.*

- A. At the top of the brick wall install a metal cap
- B. We recommend a cement wash to seal the cores.
- C. We recommend a new brick band, possibly of an accent color, be installed flush with the existing brick face to eliminate the lip that could allow water infiltration.

### *Budget 1*

Total Preliminary Construction Cost Estimate:

**Option A: \$10,000    Option B: \$5,000    Option C: \$18,000**

---

## Masonry/Brick Evaluation

### *Observation 2*

Another concern with the existing masonry is the lack of any visible weep holes at the base of all exterior brick walls and above all windows and doors. It is unknown if thru-wall flashing is present. The lack of weep holes and thru-wall flashing results in water penetrating the wall, thus not having the ability to exit the wall cavity. Currently, rainwater is absorbed through the masonry/brick and into the interior space resulting in issues such as peeling wall paint leading to the potential for mold and mildew development. There is also the potential for freeze thaw cycles to occur with trapped water resulting in structural issues and failure. Many window and door lintels are rusting due to the lack of proper weep holes. This also includes the lintels supporting the brick façade at the cantilevered entrance.



### *Recommendation 2*

Our recommendation is to install all necessary weep holes (24" on-center) and continuous thru-wall flashing into the existing exterior brick. This solution should result in promoting moisture drainage from the wall cavity. The installation of weep holes and thru-wall flashing in a retrofit situation requires the removal and replacement of brick (3 courses or 1 soldier course). Our recommendation would be to also replace all steel lintels with new galvanized steel lintels.

### *Budget 2*

Total Preliminary Construction Cost Estimate: **\$92,500**

---

## Masonry/Brick Evaluation

### *Observation 3*

Additionally, our observations revealed that there are no control joints in the masonry walls. The lack of control joints in masonry walls contributes to unwanted cracks.



### *Recommendation 3*

We recommend cutting in control joints in the exterior brick veneer, 16 inches from every corner, and every 25 feet on the longer walls. This will allow the wall to expand and contract properly and should reduce future cracking in the masonry walls. In addition we also recommend cutting in control joints on the interior masonry walls where cracks are forming. We would also recommend repointing the brick work that has developed cracks.

### *Budget 3*

Total Preliminary Construction Cost Estimate:  
**\$15,000 + \$45 per SF allowance for brick repointing**

### *Observation 4*

The report prepared by Jersey Infrared indicates areas of temperature change behind the brick wall, which indicates water infiltration.

### *Recommendation 4*

We recommend partial demolition of the brick walls in areas indicated on Jersey Infrared's report to further examine and confirm the extent of potential water infiltration.

### *Budget 4*

Total Preliminary Construction Cost Estimate: **\$8,500**

---

## Masonry/Brick Evaluation

### *Observation 5*

The existing brick veneer construction contains a number of unconventional details that are outlined in the previous observations. The number of repairs required to address these concerns are extensive.



### *Recommendation 3*

We recommend replacing the brick veneer system in its entirety with new brick, galvanized steel lintels, thru-wall flashing, weeps and appropriate details.

### *Budget 3*

Total Preliminary Construction Cost Estimate:  
**\$225,000**

---

## EIFS/Stucco Evaluation

### *Observation 1*

The existing EIFS on the building is original to the 1986 addition. Therefore, its 23 years old age has reached it's life expectancy. The included infrared report prepared by Jersey Infrared indicates that large portions of the façade are suspected of having water damage. Currently a portion of the perimeter has been sealed with expandable foam where the EIFS adjoins the walkway. This product tends to absorb water and retain moisture behind the EIFS.



### *Recommendation 1*

The EIFS façade has exceeded its expected service life of 20 years. As illustrated, there are numerous deficiencies which without repair will lead to further deterioration. This deterioration could lead to increased water infiltration and therefore possible indoor air quality issues. As shown on the attached report from Jersey Infrared, the existing EIFS is expected to be saturated. Our recommendation is to completely replace the existing EIFS with a new drainable EIFS system or an alternate exterior siding material such as fiber-cement board siding, metal wall panels or thin-brick.

### *Budget 1*

Total Preliminary Construction Cost Estimate: **\$92,500 (for EIFS replacement)**

---

## Window Evaluation

### *Observation 1*

The seals around most of the existing windows are completely worn out and damaged. In many instances gaps occur around the windows that are large enough to allow visible light, thus allowing air and moisture to enter and exit the building. The existing window frames are not thermally broken. This allows for a transfer of temperature through the frame and is another avenue for moisture to potentially enter the building. Our observations included peeling wallpaper adjacent to the windows. The majority of the operable windows have been damaged over the years and are no longer operable. This was evident at several window locations throughout the building. The bullet-proof glass on the south facing wall, particularly in the Judge's Chambers is delaminating and no longer allows visibility through the glass. It is evident that the thicker bullet-proof glass was not originally intended to be installed in the frames and required additional metal trim attached to the inside face to accommodate the additional glass thickness.



### *Recommendation 1*

Our recommendation is the complete replacement of all windows in their entirety. The windows are over 20 years old, are inoperable and the single-pane glass makes them very inefficient. Windows should be replaced with thermally broken aluminum windows with dual low-e glazing and integral window blinds. Installations would include complete new perimeter caulking for weather tightness. Bullet-proof glazing can also be integrated in areas that require additional protection.

### *Budget 1*

Total Preliminary Construction Cost Estimate: **\$160,000 + \$100 per SF allowance for bullet resistant glazing**

---

## Site Evaluation

### *Observation 1*

The existing brick planter walls are also showing signs of settlement and/or water infiltration and improper drainage. This has resulted in some severe cracking and shifting, minimizing the structural integrity of the wall.



### *Recommendation 1*

It is recommended that the existing planter walls be replaced in their entirety. Proper drainage design would be incorporated into the new design including excavation of the soil, new drainable fill material and drainage piping to relieve rainwater from collecting behind the planter walls. Piping should be connected into the underground storm-water drainage system.

- A. Replace planters with keystone type landscaping wall block
- B. Replace planters with brick and pre-cast concrete cap.

### *Budget 1*

Total Preliminary Construction Cost Estimate:

**Option A: \$13,500    Option B: \$24,750**

---

## Site Evaluation

### *Observation 2*

Rust stains on the steps leading to the municipal building and the police station were evident. The rust is a result of the steel reinforcement within the concrete steps which was either originally installed too close to the concrete surface or the steps have been continuously over salted thereby gradually eroding the concrete surface. Additionally, the center brick pier at the police station entrance is cracking and beginning to shift.



### *Recommendation 2*

It is our recommendation that the center brick pier and all low brick walls be removed and reconstructed in their entirety at the police entrance. The police station entrance presently does not have ADA accessibility so the construction of a new handicap accessible ramp should be coordinated within the design (refer to General Observation No. 4). All concrete steps should also be replaced in their entirety. The rust stains on the municipal entrance steps are minimal and we therefore do not recommend the replacement of these steps at this time. This issue should be revisited if this condition worsens.

### *Budget 2*

Total Preliminary Construction Cost Estimate: **\$100,000**

---

## Site Evaluation

### *Observation 3*

The thin brick pavers set on concrete steps at various entrance locations have begun to crack.



### *Recommendation 3*

Areas with damaged brick pavers should be replaced with concrete.

### *Budget 3*

Total Preliminary Construction Cost Estimate: **\$4,000**

---

## Site Evaluation

### *Observation 4*

Water damage is evident in the masonry walls of the fitness room. Paint is peeling and an unidentified substance is present on the interior wall surface. The majority of the damage is present at or below the window level, which coincides with the exterior grade level. The original construction drawings indicate the design to include waterproofing to be installed between the EIFS layer and masonry wall from 16 inches above grade to the foundation footing. It is possible that this waterproofing has been compromised, was not installed correctly, or possibly is not present. Additional selected demolition and investigation outside this scope of work may be required to assess the cause of the water infiltration.



### *Recommendation 4*

Additional selected demolition and investigation outside this scope of work is recommended to assess the cause of the water infiltration within the fitness room.

### *Budget 4*

Total Preliminary Construction Cost Estimate: **\$20,000**

---

## General Evaluation

### *Observation 1*

There is evidence of rust and corrosion on the interior stair steel stringers in the front stairwell. This appears to be caused by a mixture of storing salt in the stairwell, over salting the steps outside of the doorway, and water getting under to door and into the stairwell.



### *Recommendation 1*

It is recommended that the existing exterior hollow metal door and frame to the front stairwell be replaced with a FRP door and aluminum frame with proper weather seals and hardware. The FRP door and aluminum frame are less susceptible to damage from water and salt and is therefore recommended for exterior applications. Additionally, the steel stair stringers in the entire stairwell should be sanded, prepped, treated, and repainted.

### *Budget 1*

Total Preliminary Construction Cost Estimate:

**\$7,500 (replace door and frame)      \$8,000 (paint steel stair stringers)**

---

## General Evaluation

### *Observation 2*

The existing open light wells at the front entrance are provided with screens only and therefore allow rainwater to enter the covered roof area as well as discoloration of the EIFS on the pilasters between the windows.



### *Recommendation 2*

We recommend the installation of enclosed skylights to provide a weather tight situation under the covered roof. This will maintain the natural light into the adjacent office spaces.

### *Budget 2*

Total Preliminary Construction Cost Estimate: **\$28,000**

---

## General Evaluation

### *Observation 3*

During our observations, we were advised by the on-site maintenance staff that there had been a previous problem with mold in the lower level of the building in the Health Care Suite. The maintenance staff suggested that the problem was related to condensation from overhead pipes and that indications of water damage would appear after heavy rain storms. We were also advised that the ceiling tiles in this area have been replaced several times a year because of the water damage and that the finishes on some ceiling diffusers have been compromised.



### *Recommendation 3*

Further investigation is required to fully ascertain the cause of the aforementioned issues. We recommend that additional surveying and testing be performed by a plumbing/mechanical professional engineer.

### *Budget 3*

Total Preliminary Construction Cost Estimates are not applicable for these observations.

---

## General Evaluation

### *Observation 4*

The police station entrance presently does not have ADA accessibility.



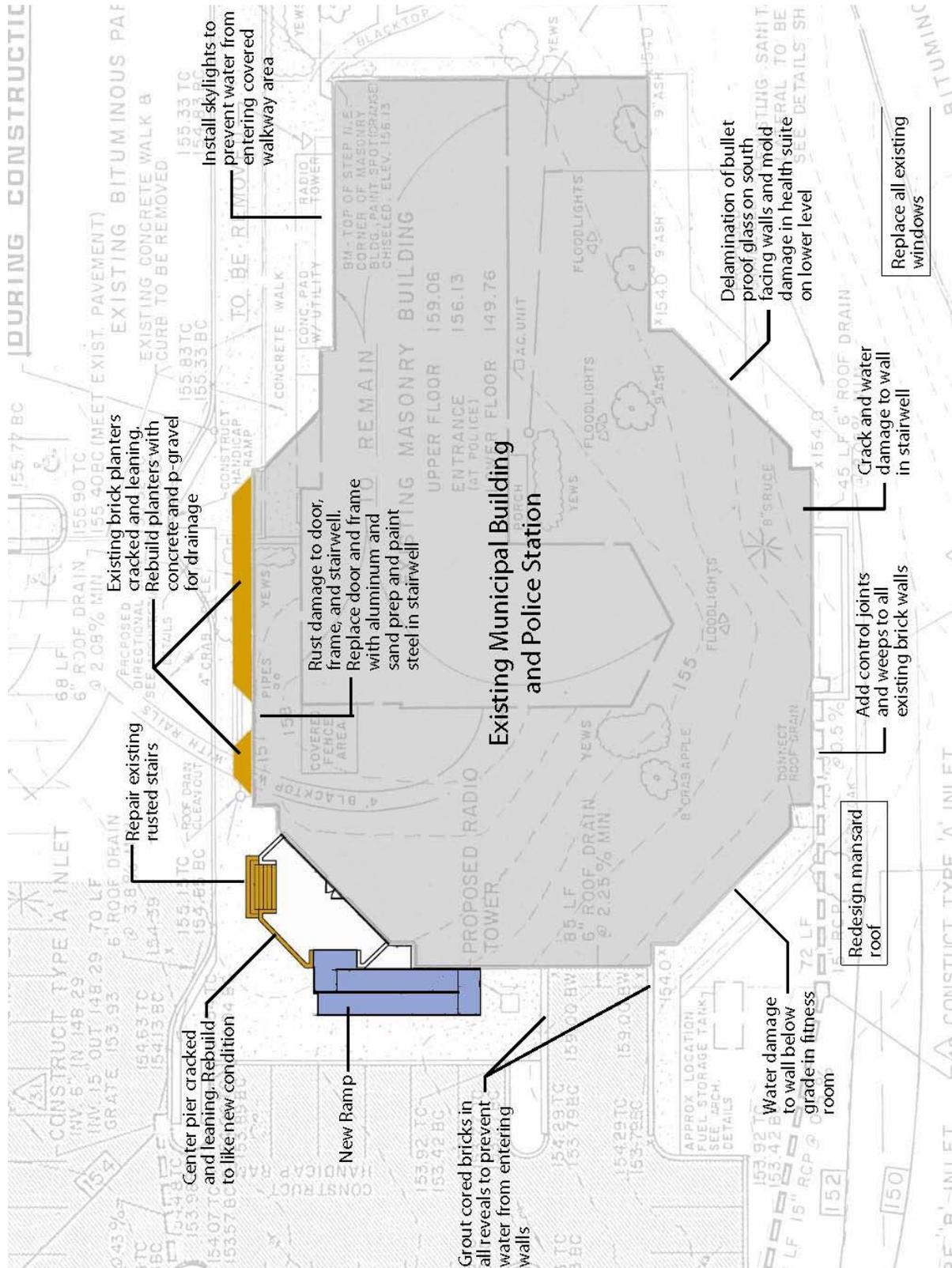
### *Recommendation 4*

It is recommended that a new handicap accessible ramp be constructed at the police station entrance. This recommendation is made in concert with replacement of the existing entrance steps and low brick walls (refer to Site Evaluation Observation No. 2).

### *Budget 4*

Total Preliminary Construction Cost Estimate: **\$90,000**

# Evaluation Drawing



## Budget

System/Deficiency	Preliminary Construction Cost Estimate	Preliminary Soft Cost Budget	10% Contingency	Total Preliminary Budget
<b>Roof</b>				
1. Make repairs under existing roof warranty	N/A	N/A		N/A
2. Make repairs under existing roof warranty	N/A	N/A		N/A
3. Mansard roof modification options				
Option A: Cut and modify mansard roof	\$50,000	\$12,500	\$5,000	\$67,500
Option B: Remove mansard roof	\$155,000	\$38,750	\$15,500	\$209,250
Option C: Install gutter system	\$26,000	\$6,500	\$2,600	\$35,100
<b>Masonry/Brick</b>				
1. Repair exposed brick cores				
Option A: Install metal cap at top of masonry wall	\$10,000	\$2,500	\$1,000	\$13,500
Option B: Cement wash	\$5,000	\$1,250	\$500	\$6,750
Option C: New flush brick	\$18,000	\$4,500	\$1,800	\$24,300
2. Install through wall flashing and weep holes, above all window and door openings and at base of wall, and replace lintels	\$92,500	\$23,125	\$9,250	\$124,875
3. Install control joints	\$15,000	\$3,750	\$1,500	\$20,250
Additional: Repoint Brick - Allowance	\$45 per SF			
4. Partial demolition of masonry to examine damage	\$8,500	\$2,125	\$850	\$11,475
5. Completely remove and replace brick façade	\$225,000	\$56,250	\$22,500	\$303,750
<b>EIFS/Stucco</b>				
1. Completely replace EIFS	\$92,500	\$23,125	\$9,250	\$124,875
<b>Windows</b>				
1. Replace windows	\$160,000	\$40,000	\$16,000	\$216,000
Alternate: Bullet resistant glazing - Allowance	\$100 per SF			
<b>Site</b>				
1. Replace planters				
Option A: Keystone Block	\$13,500	\$3,375	\$1,350	\$18,225
Option B: Brick and Concrete	\$24,500	\$6,125	\$2,450	\$33,075
2. Repair/replace police entrance stairs	\$100,000	\$25,000	\$10,000	\$135,000
3. Replace damaged pavers	\$4,000	\$1,000	\$400	\$5,400
4. Selective demolition to investigate water infiltration of lower level	\$20,000	\$5,000	\$2,000	\$27,000
<b>General</b>				
1. Replace existing door with FRP and alum. Frame	\$7,500	\$1,875	\$750	\$10,125
Additional: Paint metal in stairwell	\$8,000	\$2,000	\$800	\$10,800
2. Custom skylights	\$28,000	\$7,000	\$2,800	\$37,800
3. Investigate condensate pipe leaks	N/A	N/A		
4. Install new ADA ramp	\$90,000	\$22,500	\$9,000	\$121,500
<b>Total</b>	<b>\$798,500</b>	<b>\$199,625</b>	<b>\$79,850</b>	<b>\$1,077,975</b>

\* Budget soft costs are 25% of hard costs. Actual soft costs to be determined based on final scope.

\* Total Costs are based on using Option A for roof and site work, and masonry option 5.

\* Assume construction start 4th Quarter 2009 utilizing prevailing wage rates.

\* Costs assume no asbestos or hazardous material removal.

***INFRARED BUILDING ENVELOPE SURVEY***

*for*

*Spiezle Architect Group  
120 Sanhican Drive  
Trenton, NJ 08618*

*at*

*Hopewell Township Municipal Building  
201 Washington Crossing Pennington Road  
Titusville, NJ*



# **JERSEY INFRARED CONSULTANTS**

P.O. Box 39  
Burlington, NJ 08016  
Phone: (609) 386-1281  
Fax: (609) 387-4334

April 1, 2009

Steve Siegel  
Spiezle Architect Group  
120 Sanhican Drive  
Trenton, NJ 08618

RE: INFRARED BUILDING ENVELOPE SURVEY REPORT  
OUR JOB NUMBER: 09-2617.1

Dear Mr. Siegel:

Here is our completed report, DVD, and CD-ROM for the Infrared Building Envelope Survey performed for Spiezle Architect Group at the Hopewell Township Municipal Building facility located at 201 Washington Crossing Pennington Road in Titusville, NJ on March 30, 2009.

Thank you for this opportunity to serve you. If you have any questions or if we can be of further assistance, please feel free to call.

Very truly yours,



Robert K. Weigle  
Level III  
Infraspection Institute Certified Infrared Thermographer #6175

RKW:lw  
Enclosure

## INTRODUCTION TO THE INFRARED BUILDING ENVELOPE SURVEY (INTERIOR/EXTERIOR)

Infrared thermography is a form of non-contact, non-destructive testing used to detect and document thermal patterns and associated temperatures across a given surface. Infrared thermography can be used as a quality assurance and/or diagnostic tool to find latent failures or defects within the building envelope.

Two types of energy loss can occur within a building envelope. The first type of loss is conduction. Conduction losses are most often due to missing or damaged insulation within the building walls and/or roof. Conduction heat losses may also be caused due to entrapped moisture within the building sidewalls. The second type of heat loss is air infiltration/exfiltration. Air infiltration/exfiltration can occur at numerous locations within a building envelope through seemingly insignificant cracks and uncaulked openings. Air infiltration can be detected when Surveys are performed from the interior of the building. Air exfiltration can be detected when Surveys are performed from the exterior of the building.

Our infrared Surveys are performed by Certified Thermographers using a portable thermal imaging system called FLIR ThermaCAM. This equipment detects infrared energy emitted from an object and converts it into an image which is displayed on a monitor screen.

Because infrared energy is a direct and proportional function of temperature, the video image is designed to depict temperature levels on the monitor in either black and white or color. In the black and white mode, the thermal image looks very similar to a black and white television picture where the various shades of gray represent different temperature levels throughout the chosen temperature range. Black corresponds to a lower temperature, and white indicates a higher temperature. In the color mode, colors are matched to the reference temperature bar at the side of the Thermogram. Colors which appear closer to the top of the reference bar correspond to higher temperatures. Colors appearing closer to the bottom of the reference bar correspond to lower temperatures.

Our FLIR equipment has the capability to sense object temperatures from -10° Celsius to +1500° Celsius, with sensitivity of 0.07 Celsius degrees.

When viewed through the infrared imager, air infiltration/exfiltration generally appear as amorphous thermal signatures appearing around windows, doors and other penetrations or openings in the building envelope. Conduction heat losses generally appear as amorphous or square edge patterns throughout the building envelope.

Once the temperature and location of the problem area have been noted, a photograph and VHS videotape is taken of the image displayed on the FLIR monitor. These Thermograms, along with our problem definition, provide you with the necessary information to investigate problem areas.

April 1, 2009

Spiezle Architect Group  
120 Sanhican Drive  
Trenton, NJ 08618

THERMOGRAPHER'S COMMENTS  
OUR JOB NUMBER: 09-2617.1

On March 30, 2009, an Infrared Building Envelope Survey was performed for Spiezle Architect Group at the Hopewell Township Municipal Building facility located at 201 Washington Crossing Pennington Road in Titusville, NJ.

The Survey covered the exterior walls, windows, and doors of the building. The Survey was conducted from the exterior of the building in an attempt to locate thermal patterns consistent with latent moisture in the exterior EIFS and brick facades.

The Survey was performed by an Infrasppection Institute Certified Infrared Thermographer using a ThermoCAM P65 Thermal Imaging System, Serial #21803660.

This report contains a set of drawings marked with yellow highlighter. Yellow areas indicate the relative size and location of thermal anomalies detected on the night of our Survey. Also included in this report are Thermograms of several thermal anomalies.

WEATHER CONDITIONS: March 30, 2009, daytime skies were partly cloudy with highs in the low 50's. Evening skies were partly cloudy with lows in the mid 30's. Winds were moderate at 10 to 15 miles per hour.

The latest precipitation prior to the start of our Survey occurred on March 29th.

FINDINGS: All thermal data collected during our Survey were stored on videotape and PC card. Thermograms were then made from the PC card and appear on the following pages along with a brief description of problem areas.

The relative size and location of thermal anomalies detected were also marked on the enclosed drawings.

For best comprehension, it is recommended that the accompanying DVD be viewed simultaneously with this report.

RECOMMENDATIONS: We recommend that the cause of all thermal anomalies be investigated and that the proper corrective measures be taken. A follow-up Survey should then be performed once repairs have been made.

Spiezle Architect Group  
April 1, 2009

Our Job Number: 09-2617.1

Page 2

Please note that all inspections are performed with the building in an "as found" condition. No attempt is made to verify that the building is under normal operating condition at the time of the Infrared Survey.

This report depicts thermal patterns in the building envelope at the time of the Infrared Survey. No information regarding the structural integrity of the building or the building components is provided or implied in this report.

A handwritten signature in black ink that reads "Robert K. Weigle /cc". The signature is written in a cursive style.

Robert K. Weigle

Level III

Infraspection Institute Certified Infrared Thermographer #6175

RKW:lw

Spiezie Architect Group  
Hopewell Township Municipal Building  
201 Washington Crossing Pennington Road  
Trenton, NJ

Our Job Number: 09-2617.1

### BUILDING DATA SHEET

**BUILDING NAME:** Hopewell Township Municipal Building

**BUILDING USE:** Public

#### WEATHER DATA:

Date:	3/30/09	Time:	7:00 PM
Indoor Air Temperature:	70°F	Outdoor Air Temperature:	45°F
Wind Speed:	10-15 mph	Wind Direction:	Variable
Daytime Sky Conditions:	Partly Cloudy		
Nighttime Sky Conditions:	Partly Cloudy		

#### BUILDING CONSTRUCTION:

Number of Floors:	2
Roof Type:	Insulated, flat
Exterior Wall Construction:	Preformed concrete, brick
Exterior Wall Finish:	Brick, EIFS
Heating Controls:	Zoned

TABLE OF CONTENTS  
OUR JOB NUMBER: 09-2617.1

PICTURE	LOCATION	EQUIPMENT
1	South Elevation	Left Side of Brick Wall
2	South Elevation	Right Side of Brick Wall
3	Southeast Elevation	Left of Left Window in EIFS Section
4	Southeast Elevation	Bottom Right Side of Window in EIFS Section
5	South Elevation	Brick Wall Between 1st and 2nd Windows
6	South Elevation	Brick Wall, Bottom Right of 2nd Window
7	East Elevation	Between Two Left Windows in Brick Area
8	East Elevation	Below 2nd Window in Brick Area
9	East Elevation	45 Degree Brick Wall, Near Top
10	North Elevation	1st Window from Left, EIFS Wall
11	North Elevation	2nd Window from Left, EIFS Wall
12	North Elevation	3rd Window from Left, EIFS Wall
13	North Elevation	4th Window from Left, EIFS Wall

TABLE OF CONTENTS  
OUR JOB NUMBER: 09-2617.1

PICTURE	LOCATION	EQUIPMENT
14	North Elevation	Brick Area Between Window and Man Door
15	Northwest Elevation	EIFS Wall, Below Left Light
16	Northwest Elevation	EIFS Wall Above and Below Right Light
17	West Elevation, North Setback	Left of Window, EIFS Wall
18	Southwest Elevation	Left Side of Left Window, EIFS Wall
19	Southwest Elevation	Right of Window, EIFS Wall
20	Southwest Elevation	Left and Right of Bottom Right Window

Area/Picture No. 1 Job No. 09-2617.1 Date 3/30/09

Location South Elevation

Equipment Left Side of Brick Wall

Wind Speed 10-15 mph Wind From Variable Sky Partly Cloudy

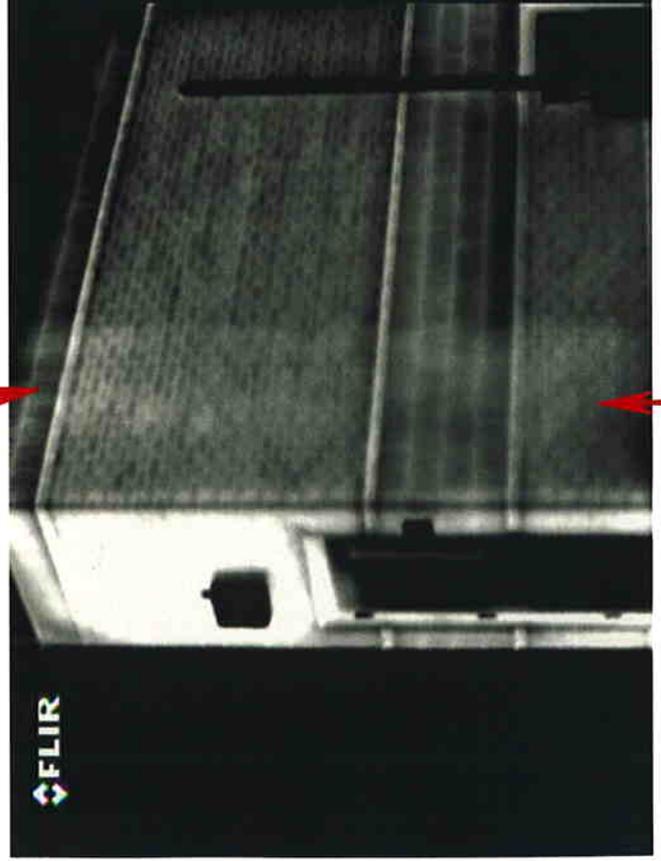
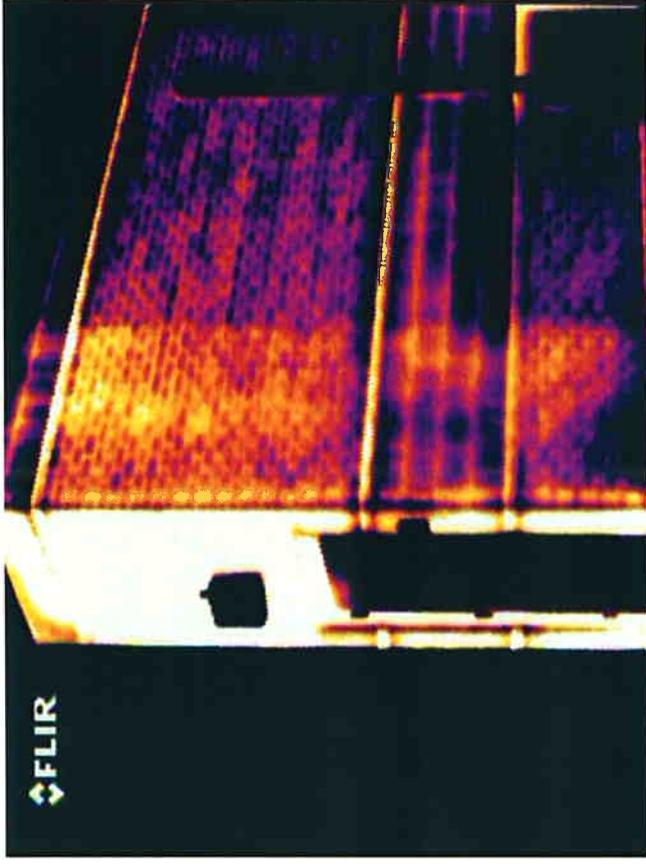
Emiss. 1.00 B/G 23° Distance 10' Lens 1x

Ambient Temp 45°F

Comments Thermogram shows thermal pattern typical of latent moisture within brick facade.

Priority

Repair Check Date



RESERVED FOR THERMOGRAM  
AFTER COMPONENT REPAIR

Area/Picture No. 2 Job No. 09-2617.1 Date 3/30/09

Location South Elevation

Equipment Right Side of Brick Wall

Wind Speed 10-15 mph Wind From Variable Sky Partly Cloudy

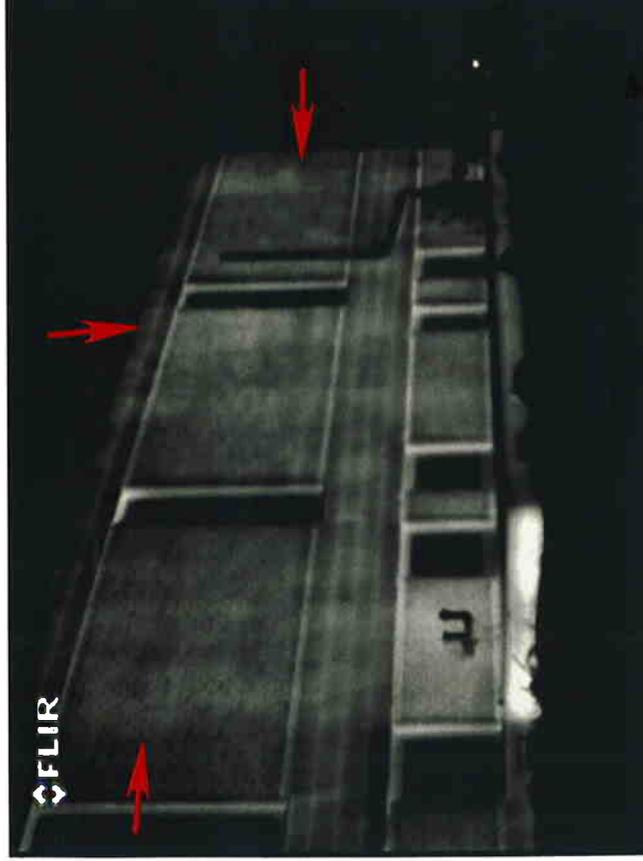
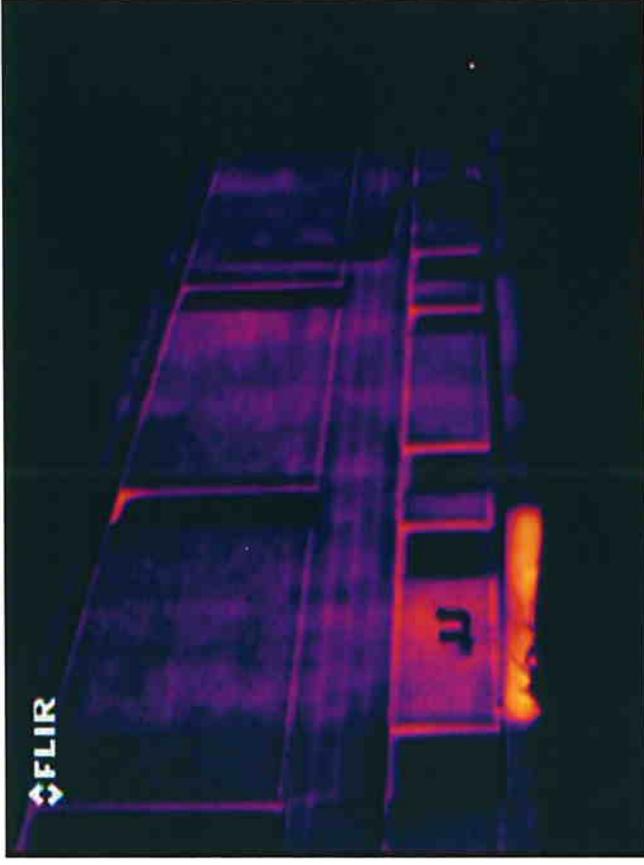
Emiss. 1.00 B/G 23° Distance 50' Lens 1x

Ambient Temp 45°F

Comments Thermogram shows thermal pattern typical of latent moisture within brick facade.

Priority

Repair Check Date



RESERVED FOR THERMOGRAM  
AFTER COMPONENT REPAIR

Area/Picture No. 3 Job No. 09-2617.1 Date 3/30/09

Location Southeast Elevation

Equipment Left of Left Window in EIFS Section

Wind Speed 10-15 mph Wind From Variable Sky Partly Cloudy

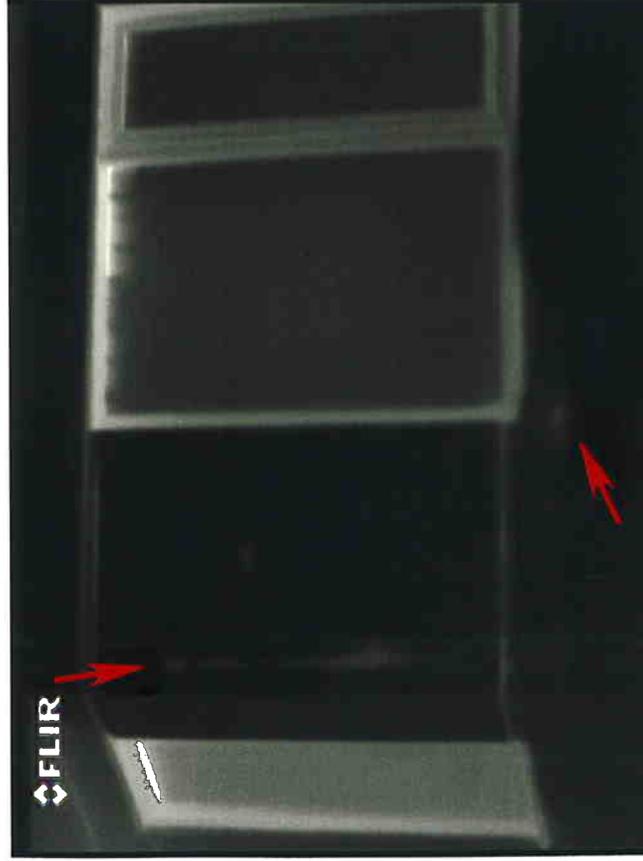
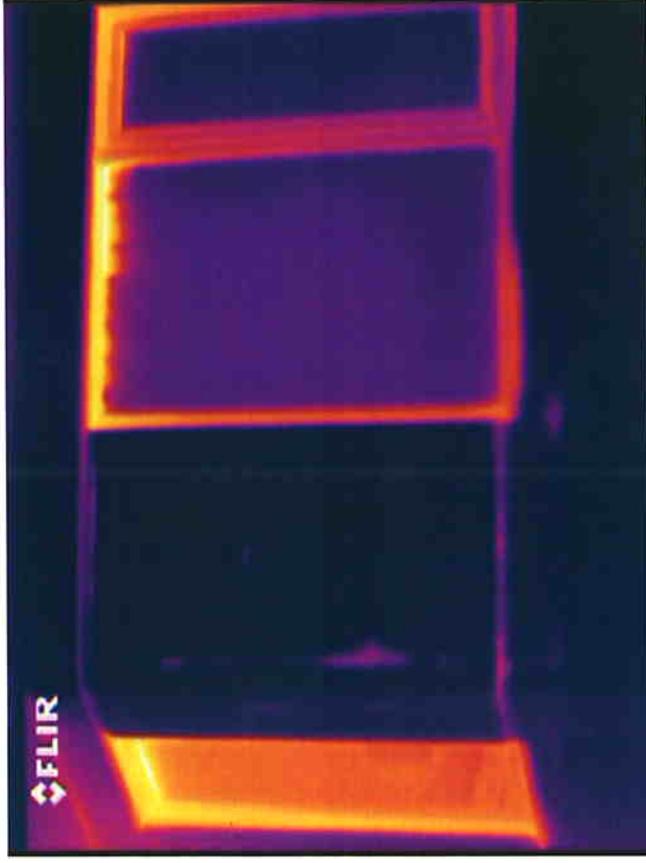
Emiss. 1.00 B/G 23° Distance 15' Lens 1x

Ambient Temp 45°F

Comments Thermogram shows thermal pattern typical of latent moisture.

Priority

Repair Check Date



RESERVED FOR THERMOGRAM  
AFTER COMPONENT REPAIR

Area/Picture No. 4 Job No. 09-2617.1 Date 3/30/09

Location Southeast Elevation

Equipment Bottom Right Side of Window in EIFS Section

Wind Speed 10-15 mph Wind From Variable Sky Partly Cloudy

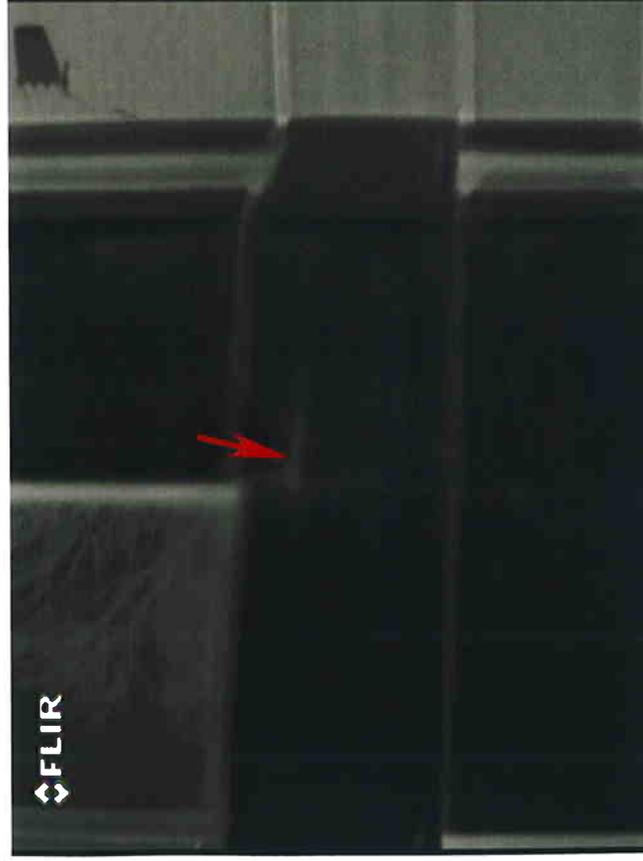
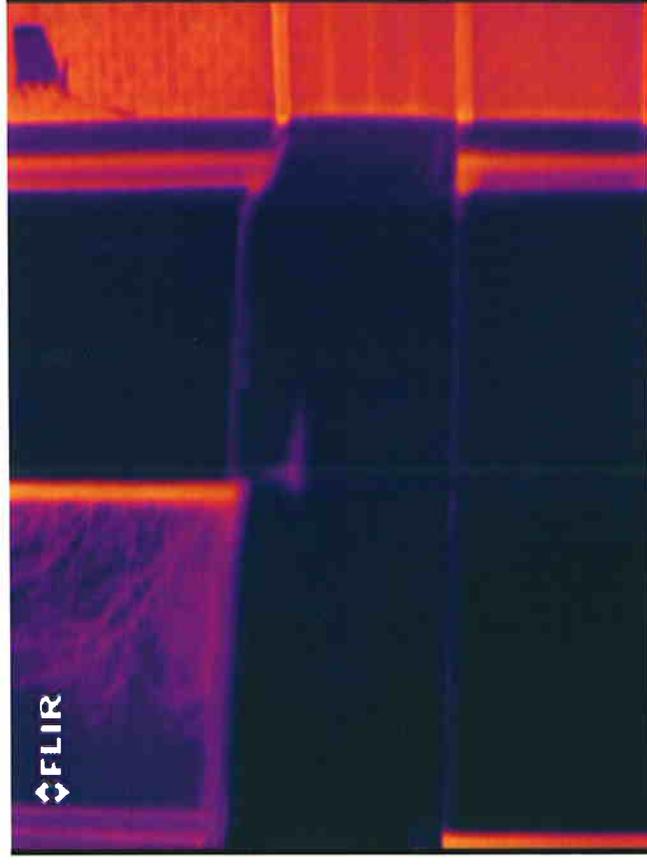
Emiss. 1.00 B/G 23° Distance 10' Lens 1x

Ambient Temp 45°F

Comments Thermogram shows thermal pattern typical of latent moisture.

Priority

Repair Check Date



RESERVED FOR THERMOGRAM  
AFTER COMPONENT REPAIR

Area/Picture No. 5 Job No. 09-2617.1 Date 3/30/09

Location South Elevation

Equipment Brick Wall Between 1st and 2nd Windows

Wind Speed 10-15 mph Wind From Variable Sky Partly Cloudy

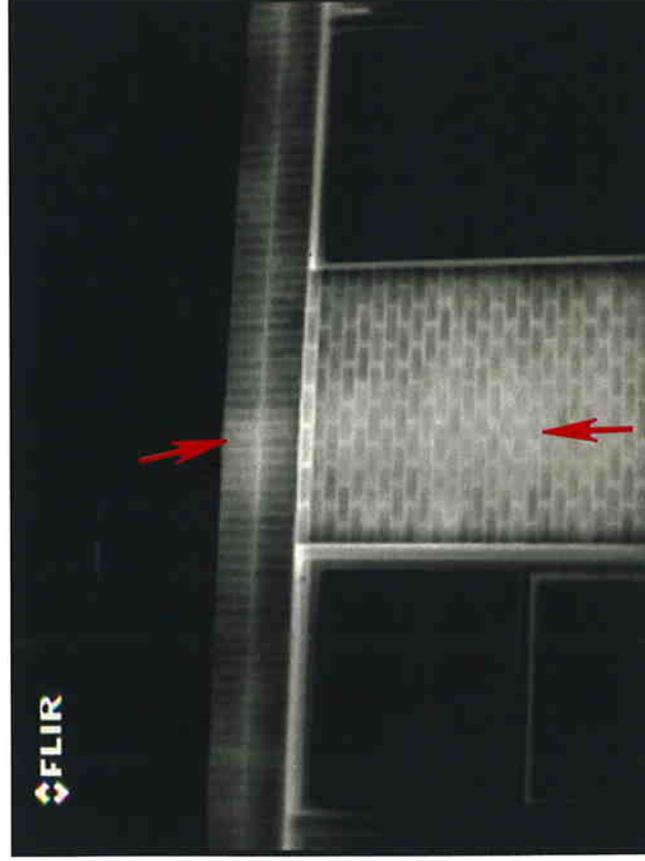
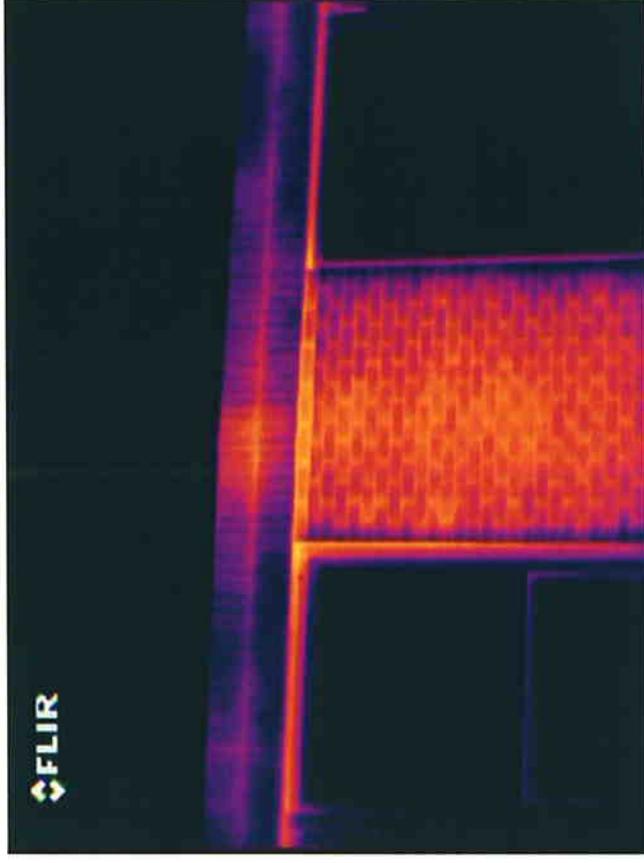
Emiss. 1.00 B/G 23° Distance 15' Lens 1x

Ambient Temp 45°F

Comments Thermogram shows thermal pattern typical of latent moisture within brick facade.

Priority

Repair Check Date



RESERVED FOR THERMOGRAM  
AFTER COMPONENT REPAIR

**Area/Picture No.** 6    **Job No.** 09-2617.1    **Date** 3/30/09

**Location** South Elevation

**Equipment** Brick Wall, Bottom Right of 2nd Window

**Wind Speed** 10-15 mph    **Wind From** Variable    **Sky** Partly Cloudy

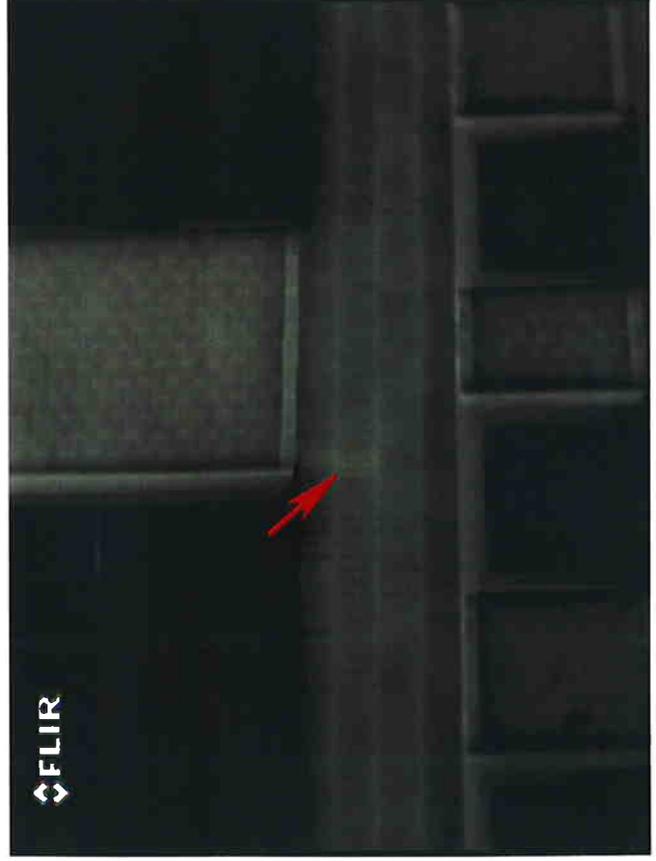
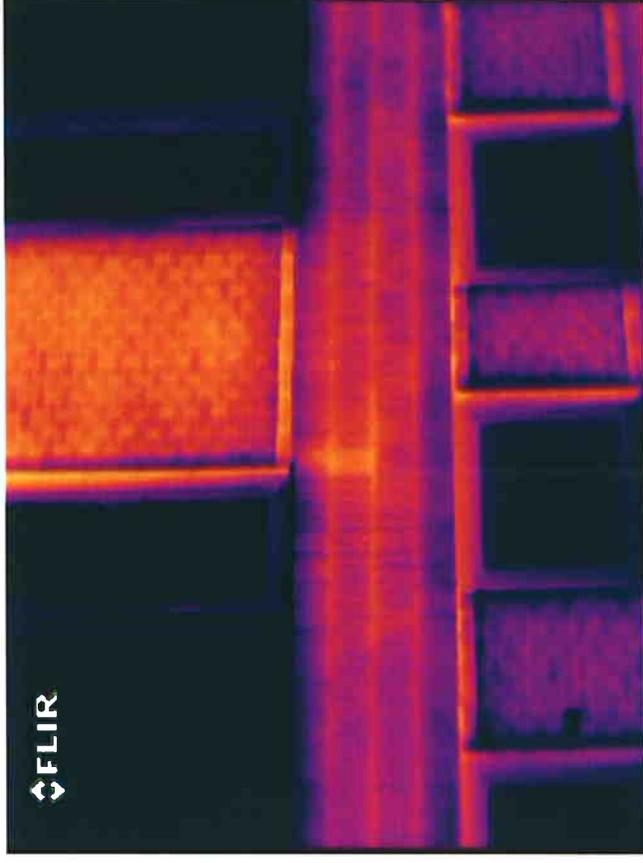
**Emiss.** 1.00    **B/G** 23°    **Distance** 20'    **Lens** 1x

**Ambient Temp** 45°F

**Comments** Thermogram shows thermal pattern typical of latent moisture.

**Priority**

**Repair Check Date**



**RESERVED FOR THERMOGRAM  
AFTER COMPONENT REPAIR**

Area/Picture No. 7 Job No. 09-2617.1 Date 3/30/09

Location East Elevation

Equipment Between Two Left Windows in Brick Area

Wind Speed 10-15 mph Wind From Variable Sky Partly Cloudy

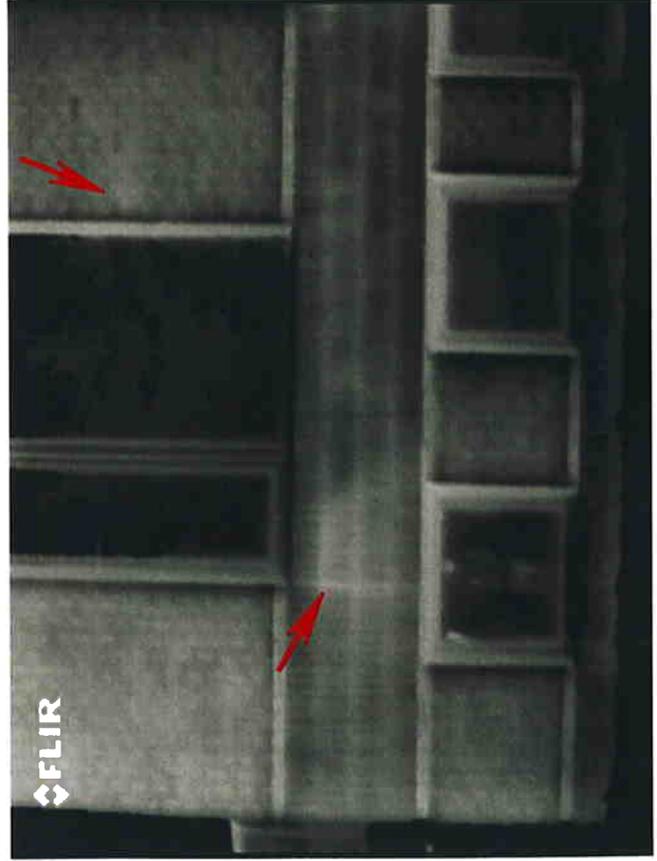
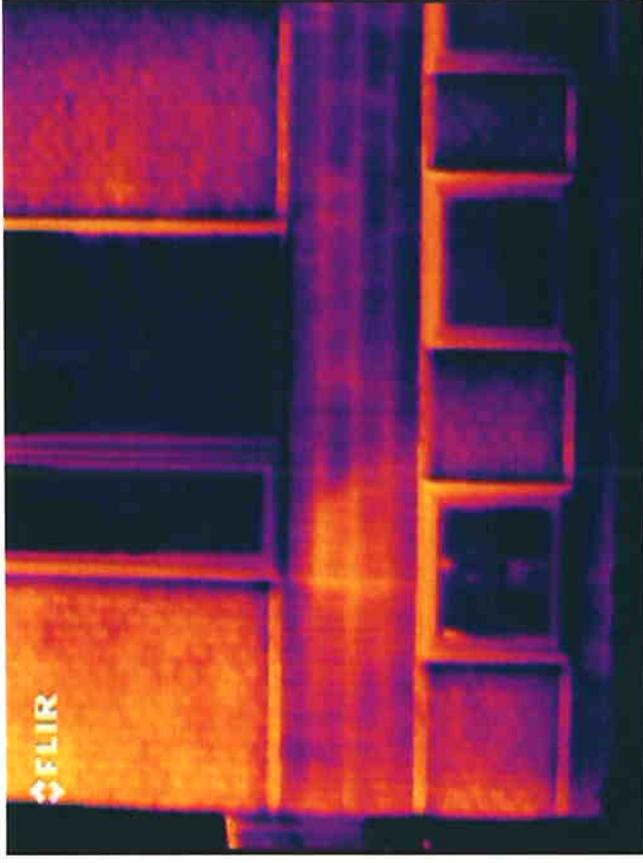
Emiss. 1.00 B/G 23° Distance 25' Lens 1x

Ambient Temp 45°F

Comments Thermogram shows thermal pattern typical of latent moisture.

Priority

Repair Check Date



RESERVED FOR THERMOGRAM  
AFTER COMPONENT REPAIR

Area/Picture No. 8 Job No. 09-2617.1 Date 3/30/09

Location East Elevation

Equipment Below 2nd Window in Brick Area

Wind Speed 10-15 mph Wind From Variable Sky Partly Cloudy

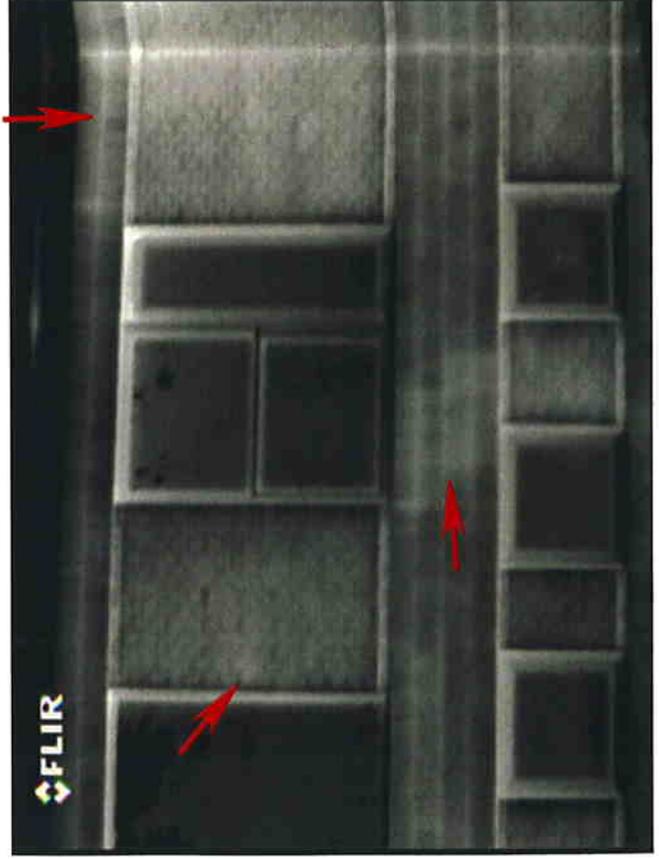
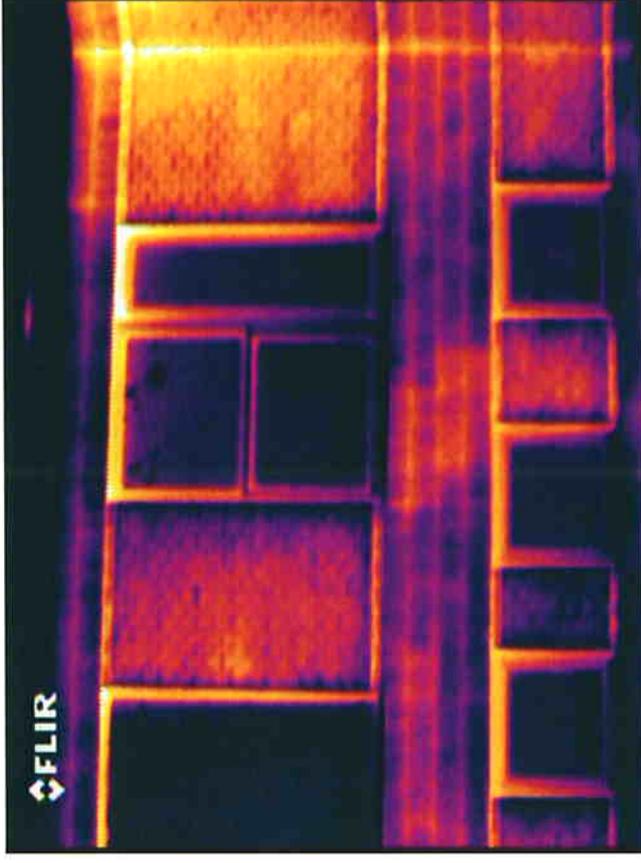
Emiss. 1.00 B/G 23° Distance 30' Lens 1x

Ambient Temp 45 °F

Comments Thermogram shows thermal pattern typical of latent moisture.

Priority

Repair Check Date



RESERVED FOR THERMOGRAM  
AFTER COMPONENT REPAIR

**Area/Picture No.** 9    **Job No.** 09-2617.1    **Date** 3/30/09

**Location** East Elevation

**Equipment** 45 Degree Brick Wall, Near Top

**Wind Speed** 10-15 mph    **Wind From** Variable    **Sky** Partly Cloudy

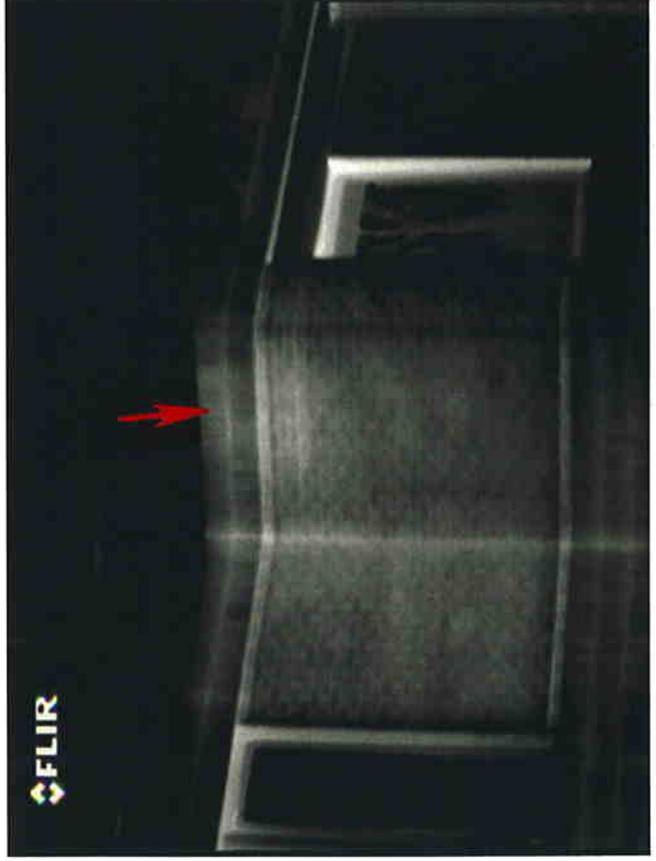
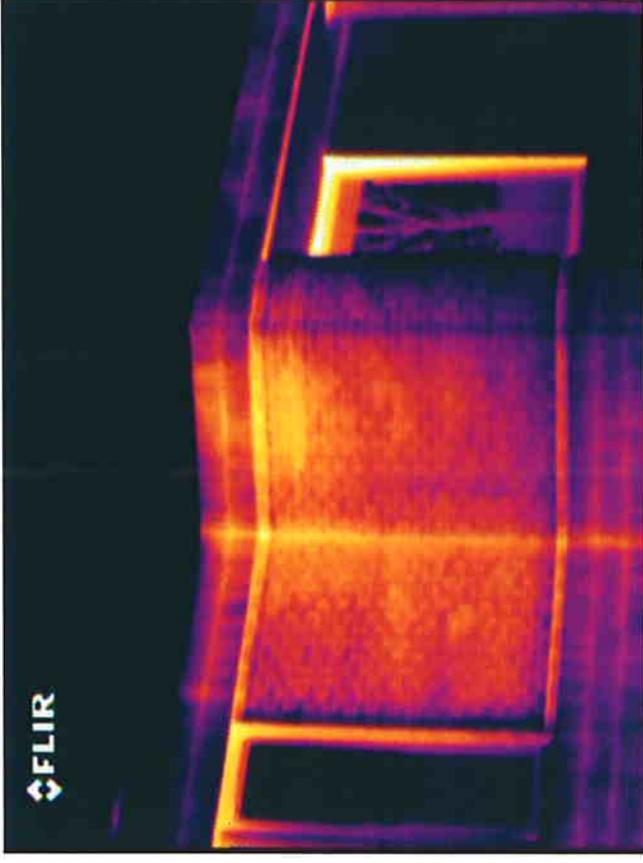
**Emiss.** 1.00    **B/G** 23°    **Distance** 30'    **Lens** 1x

**Ambient Temp** 45 °F

**Comments** Thermogram shows thermal pattern typical of latent moisture within brick facade.

**Priority**

**Repair Check Date**



**RESERVED FOR THERMOGRAM  
AFTER COMPONENT REPAIR**

Area/Picture No. 10 Job No. 09-2617.1 Date 3/30/09

Location North Elevation

Equipment 1st Window from Left, EIFS Wall

Wind Speed 10-15 mph Wind From Variable Sky Partly Cloudy

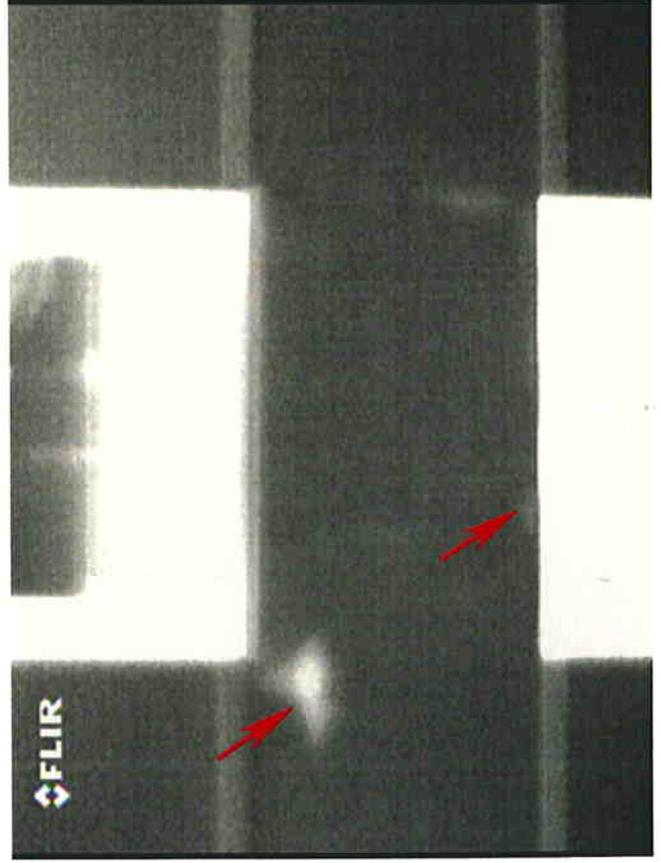
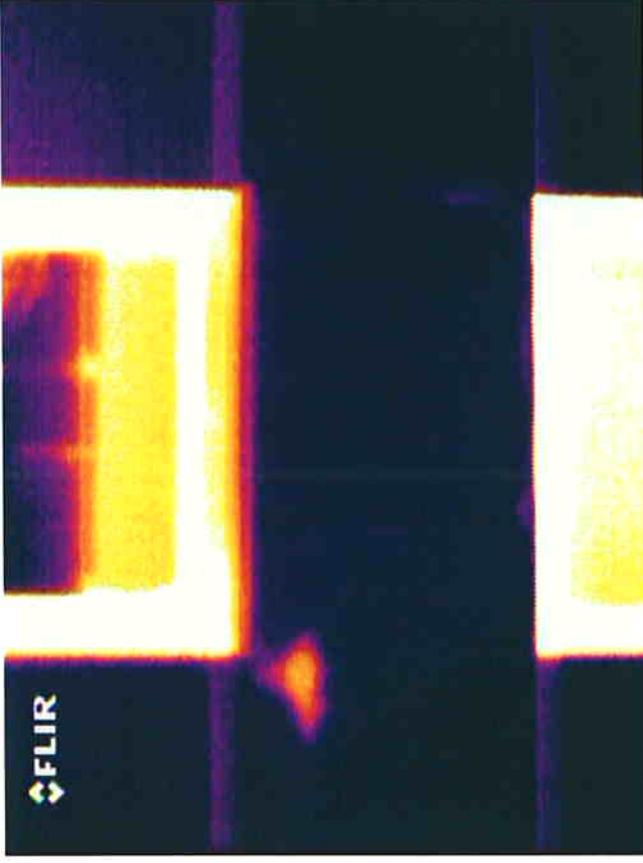
Emiss. 1.00 B/G 23° Distance 10' Lens 1x

Ambient Temp 45 °F

Comments Thermogram shows thermal pattern typical of latent moisture.

Priority

Repair Check Date



RESERVED FOR THERMOGRAM  
AFTER COMPONENT REPAIR

**Area/Picture No.** 11    **Job No.** 09-2617.1    **Date** 3/30/09

**Location** North Elevation

**Equipment** 2nd Window from Left, EIFS Wall

**Wind Speed** 10-15 mph    **Wind From** Variable    **Sky** Partly Cloudy

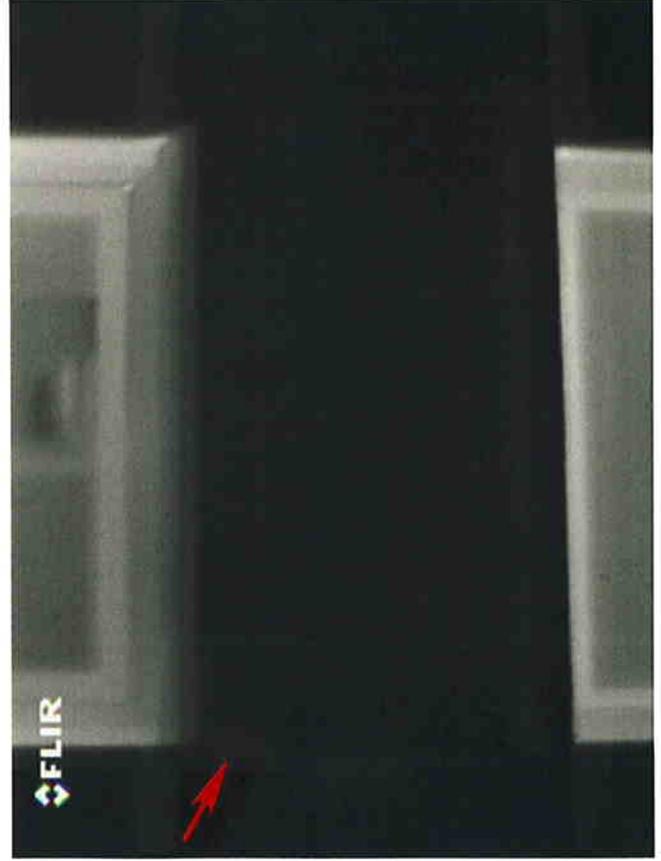
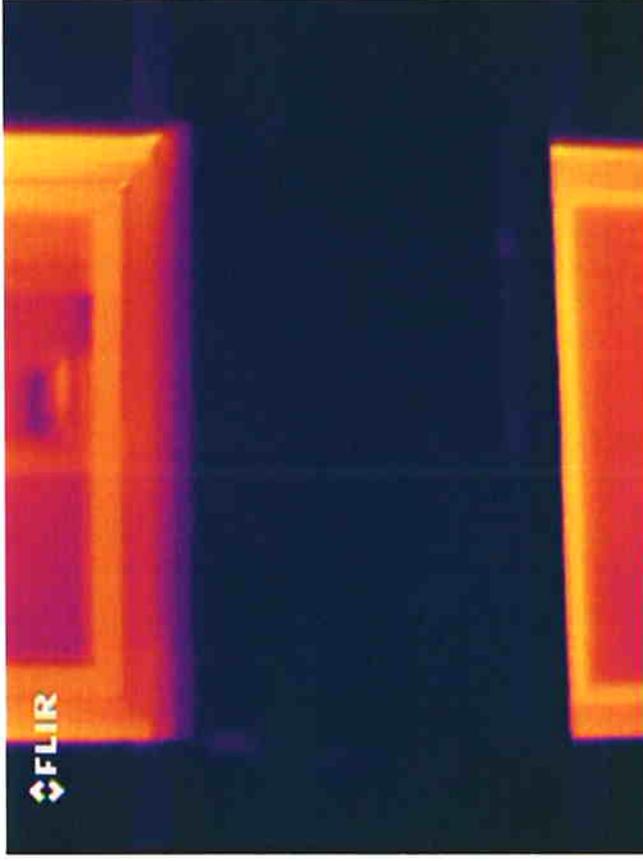
**Emiss.** 1.00    **B/G** 23°    **Distance** 10'    **Lens** 1x

**Ambient Temp** 45 °F

**Comments** Thermogram shows thermal pattern typical of latent moisture.

**Priority**

**Repair Check Date**



**RESERVED FOR THERMOGRAM  
AFTER COMPONENT REPAIR**

Area/Picture No. 12 Job No. 09-2617.1 Date 3/30/09

Location North Elevation

Equipment 3rd Window from Left, EIFS Wall

Wind Speed 10-15 mph Wind From Variable Sky Partly Cloudy

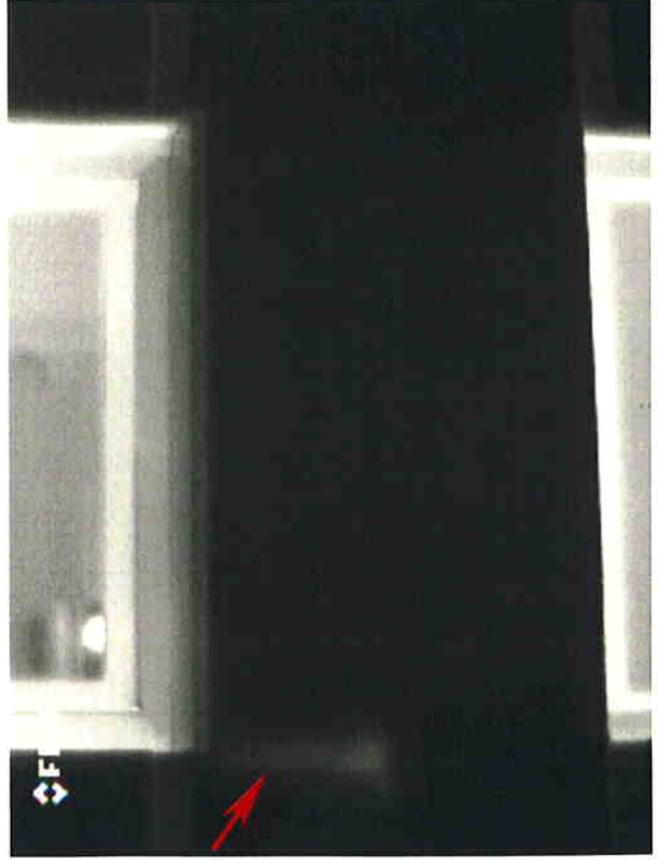
Emiss. 1.00 B/G 23° Distance 10' Lens 1x

Ambient Temp 45 °F

Comments Thermogram shows thermal pattern typical of latent moisture.

Priority

Repair Check Date



RESERVED FOR THERMOGRAM  
AFTER COMPONENT REPAIR

Area/Picture No. 13 Job No. 09-2617.1 Date 3/30/09

Location North Elevation

Equipment 4th Window from Left, EIFS Wall

Wind Speed 10-15 mph Wind From Variable Sky Partly Cloudy

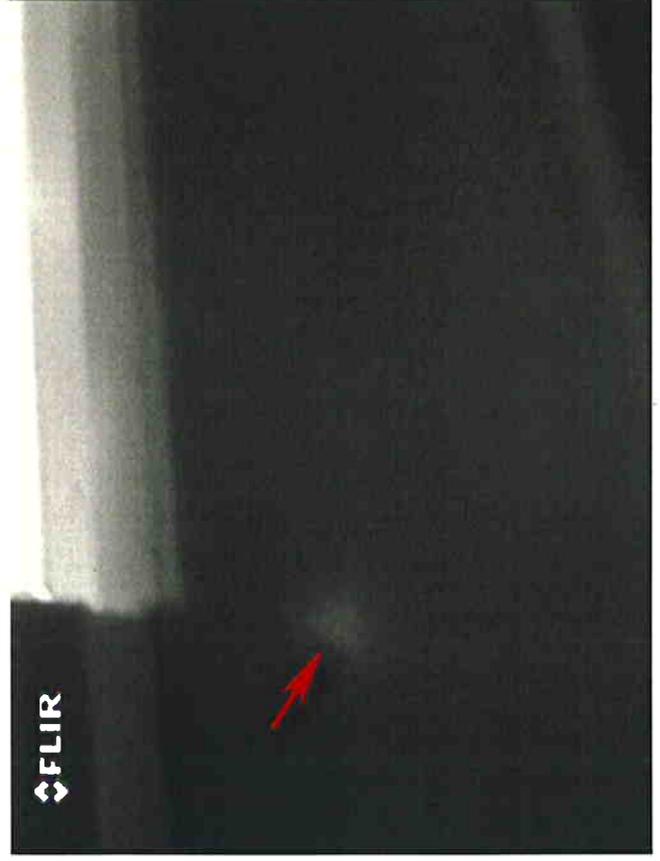
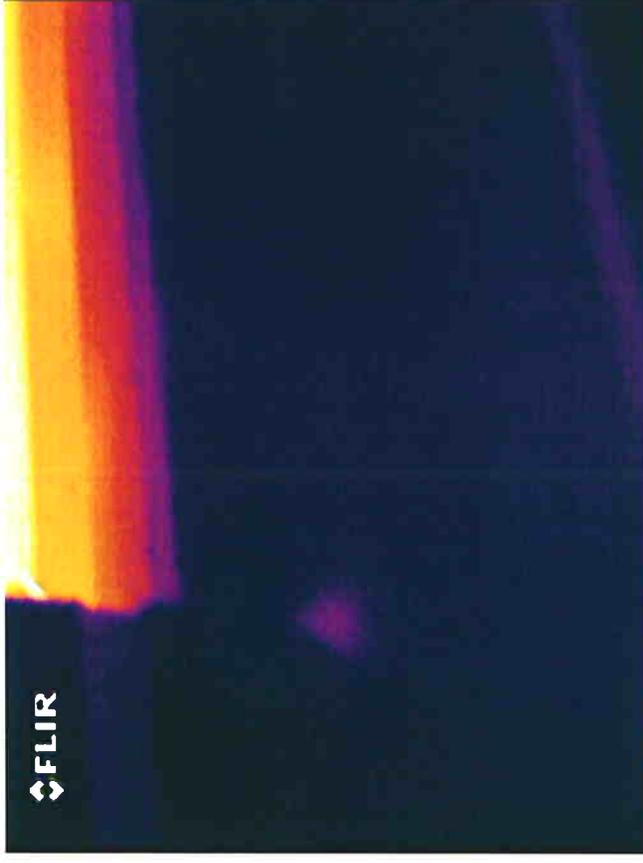
Emiss. 1.00 B/G 23° Distance 8' Lens 1x

Ambient Temp 45 °F

Comments Thermogram shows thermal pattern typical of latent moisture.

Priority

Repair Check Date



RESERVED FOR THERMOGRAM  
AFTER COMPONENT REPAIR

Area/Picture No. 14 Job No. 09-2617.1 Date 3/30/09

Location North Elevation

Equipment Brick Area Between Window and Man Door

Wind Speed 10-15 mph Wind From Variable Sky Partly Cloudy

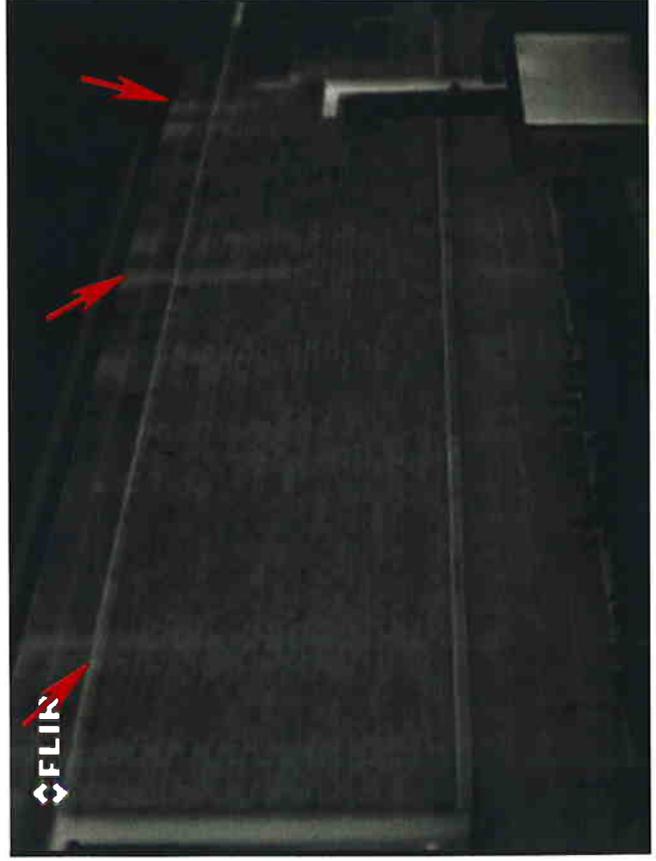
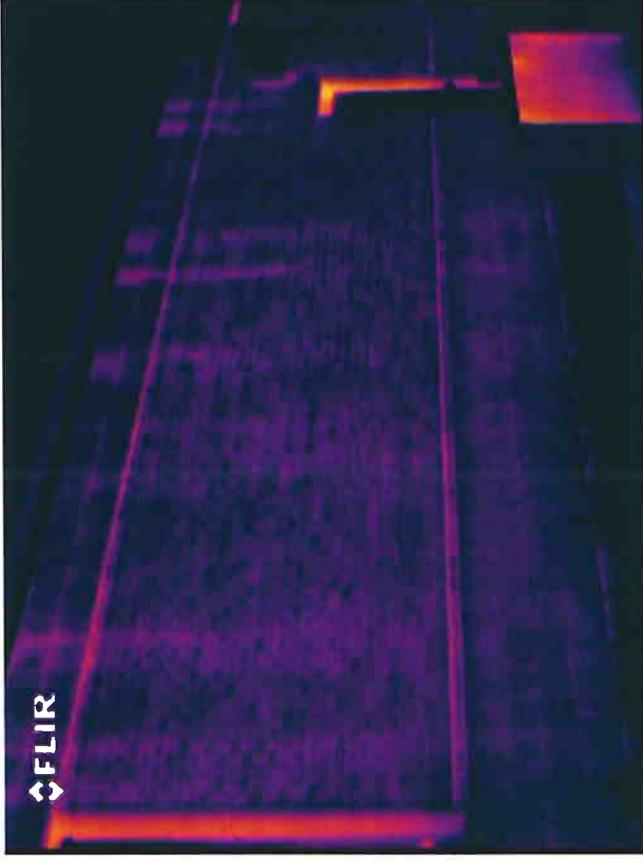
Emiss. 1.00 B/G 23° Distance 20' Lens 1x

Ambient Temp 45 °F

Comments Thermogram shows thermal pattern typical of latent moisture.

Priority

Repair Check Date



RESERVED FOR THERMOGRAM  
AFTER COMPONENT REPAIR

**Area/Picture No.** 15    **Job No.** 09-2617.1    **Date** 3/30/09

**Location** Northwest Elevation

**Equipment** EIFS Wall, Below Left Light

**Wind Speed** 10-15 mph    **Wind From** Variable    **Sky** Partly Cloudy

**Emiss.** 1.00    **B/G** 23°    **Distance** 10'    **Lens** 1x

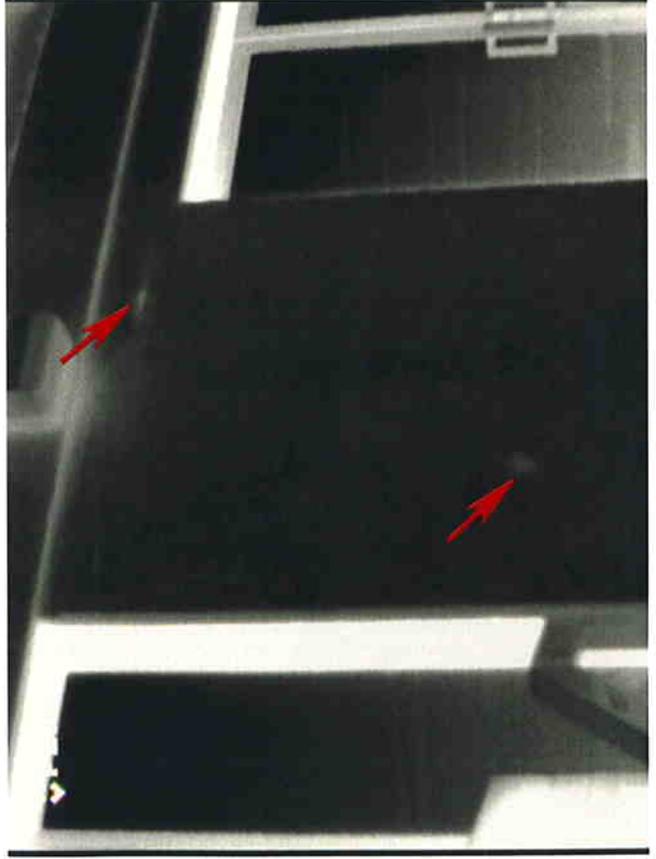
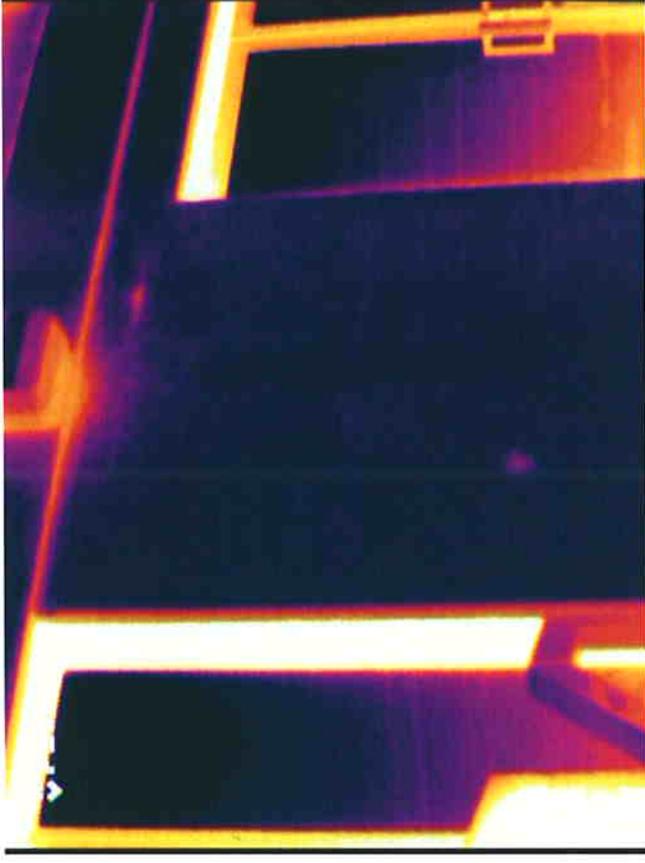
**Ambient Temp** 45 °F

**Comments** Thermogram shows thermal pattern typical of latent moisture.

---

**Priority**

**Repair Check Date**



**RESERVED FOR THERMOGRAM  
AFTER COMPONENT REPAIR**

**Area/Picture No.** 16    **Job No.** 09-2617.1    **Date** 3/30/09

**Location** Northwest Elevation

**Equipment** EIFS Wall Above and Below Right Light

**Wind Speed** 10-15 mph    **Wind From** Variable    **Sky** Partly Cloudy

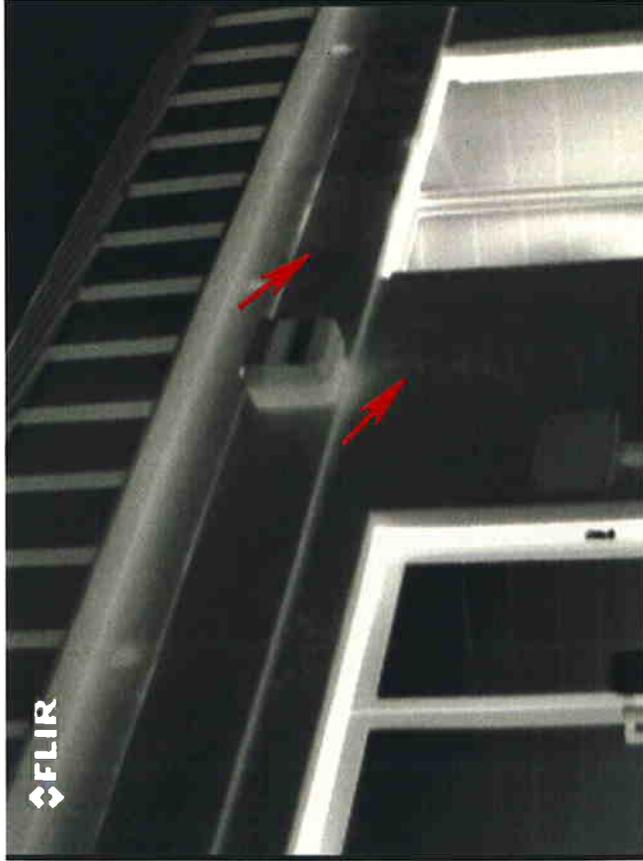
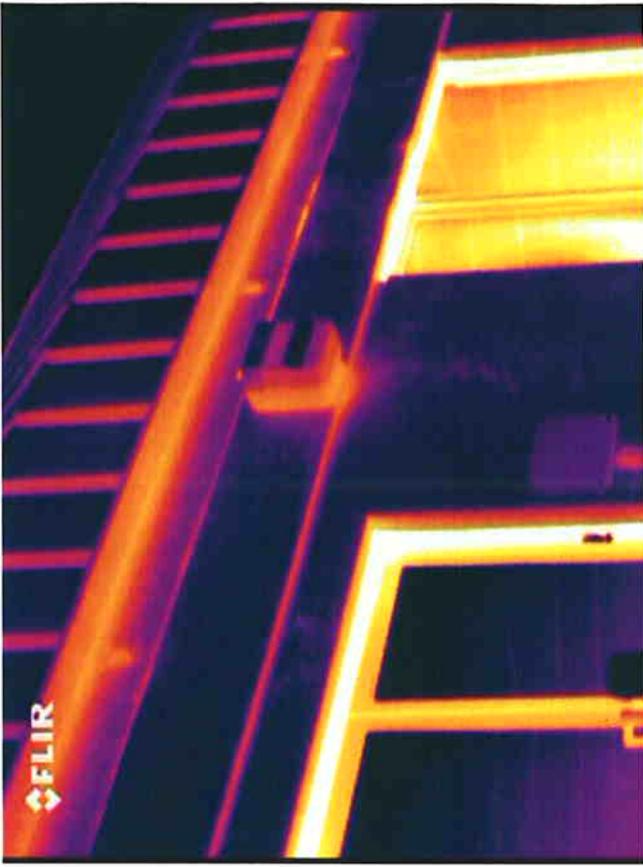
**Emiss.** 1.00    **B/G** 23°    **Distance** 15'    **Lens** 1x

**Ambient Temp** 45 °F

**Comments** Thermogram shows thermal pattern typical of latent moisture.

**Priority**

**Repair Check Date**



**RESERVED FOR THERMOGRAM  
AFTER COMPONENT REPAIR**

**Area/Picture No.** 17    **Job No.** 09-2617.1    **Date** 3/30/09

**Location** West Elevation, North Setback

**Equipment** Left of Window, EIFS Wall

**Wind Speed** 10-15 mph    **Wind From** Variable    **Sky** Partly Cloudy

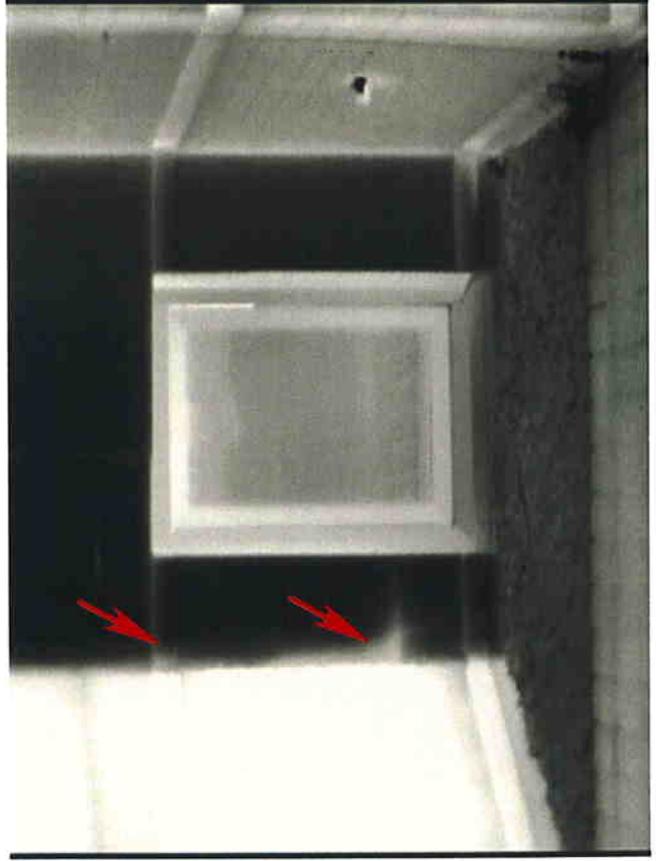
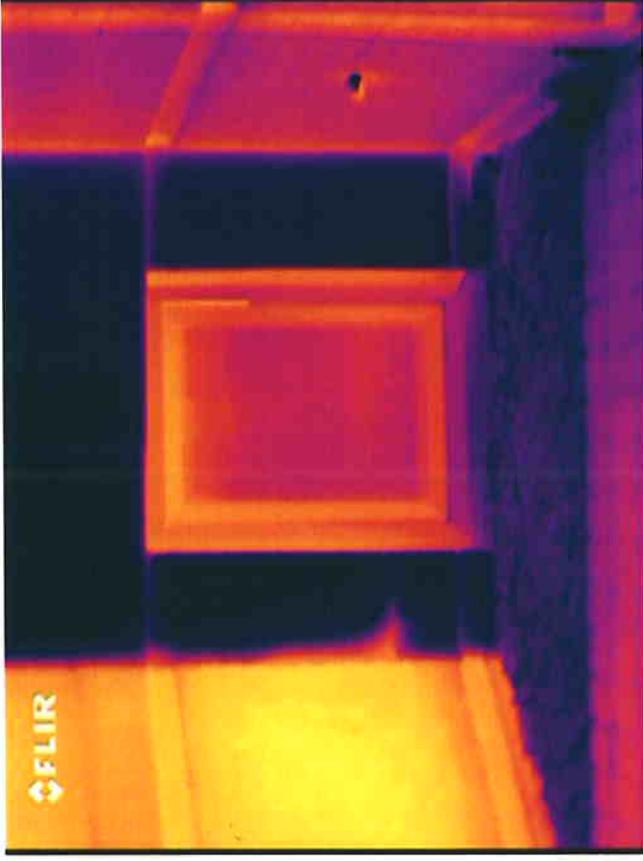
**Emiss.** 1.00    **B/G** 23°    **Distance** 10'    **Lens** 1x

**Ambient Temp** 45 °F

**Comments** Thermogram shows thermal pattern typical of latent moisture.

**Priority**

**Repair Check Date**



**RESERVED FOR THERMOGRAM  
AFTER COMPONENT REPAIR**

**Area/Picture No.** 18    **Job No.** 09-2617.1    **Date** 3/30/09

**Location** Southwest Elevation

**Equipment** Left Side of Left Window, EIFS Wall

**Wind Speed** 10-15 mph    **Wind From** Variable    **Sky** Partly Cloudy

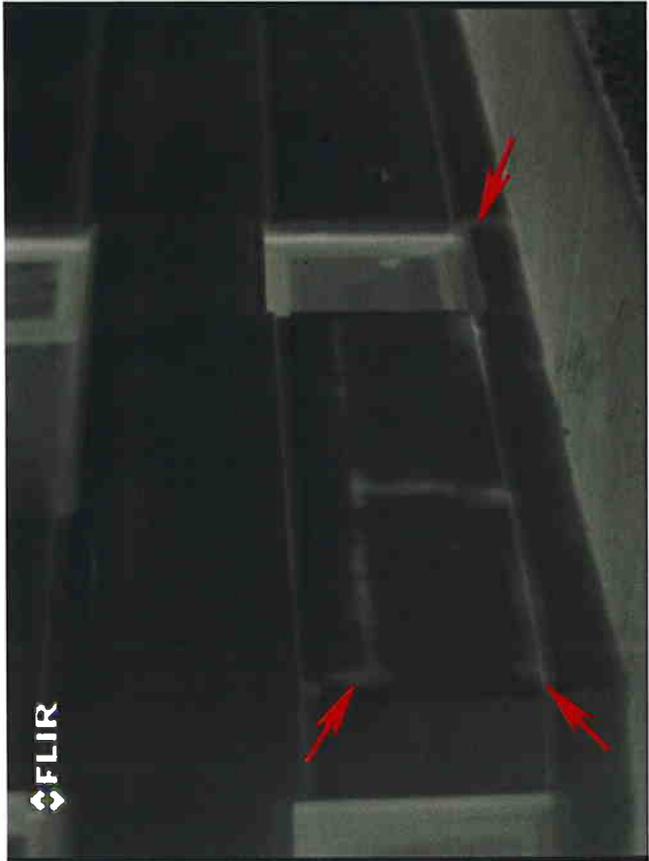
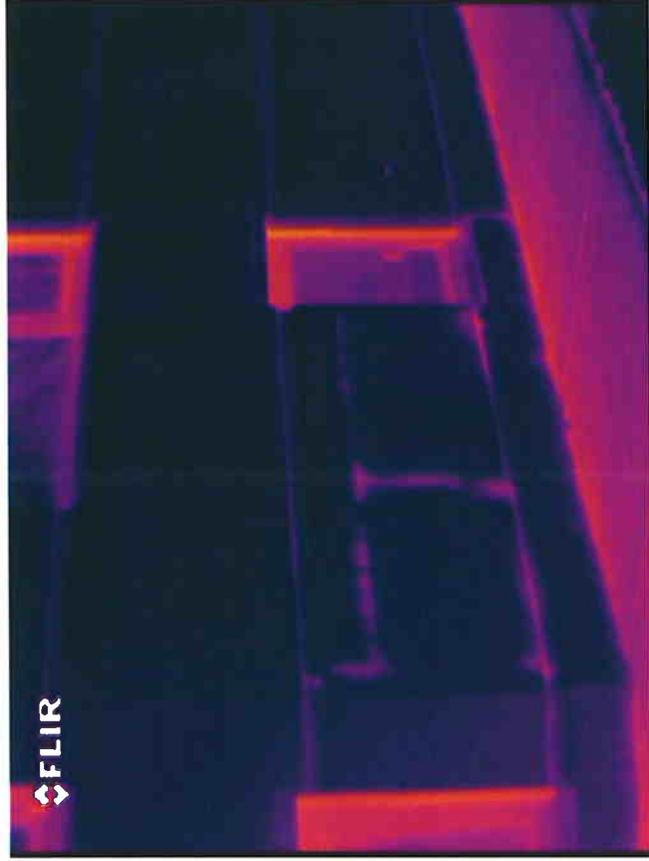
**Emiss.** 1.00    **B/G** 23°    **Distance** 10'    **Lens** 1x

**Ambient Temp** 45 °F

**Comments** Thermogram shows thermal pattern typical of latent moisture.

**Priority**

**Repair Check Date**



**RESERVED FOR THERMOGRAM  
AFTER COMPONENT REPAIR**

**Area/Picture No.** 19    **Job No.** 09-2617.1    **Date** 3/30/09

**Location** Southwest Elevation

**Equipment** Right of Window, EIFS Wall

**Wind Speed** 10-15 mph    **Wind From** Variable    **Sky** Partly Cloudy

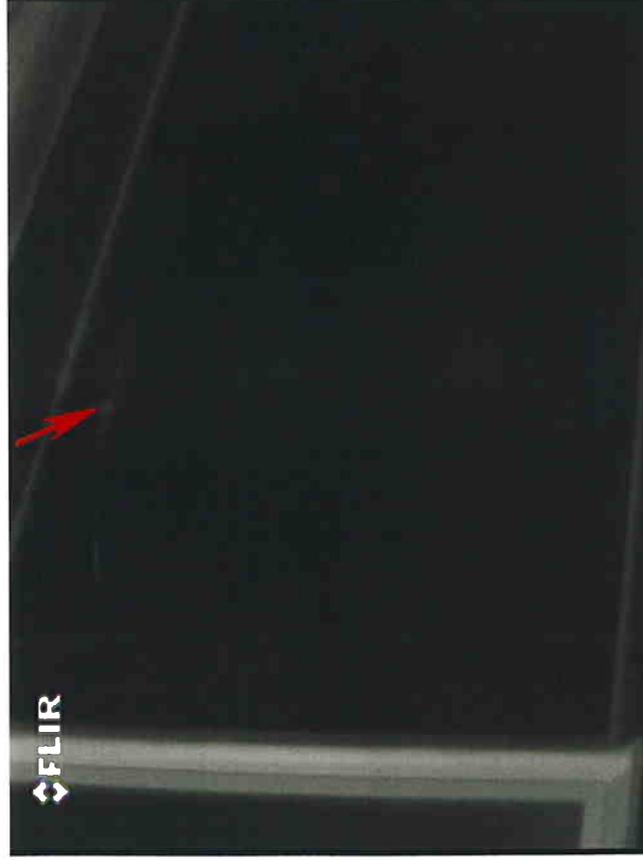
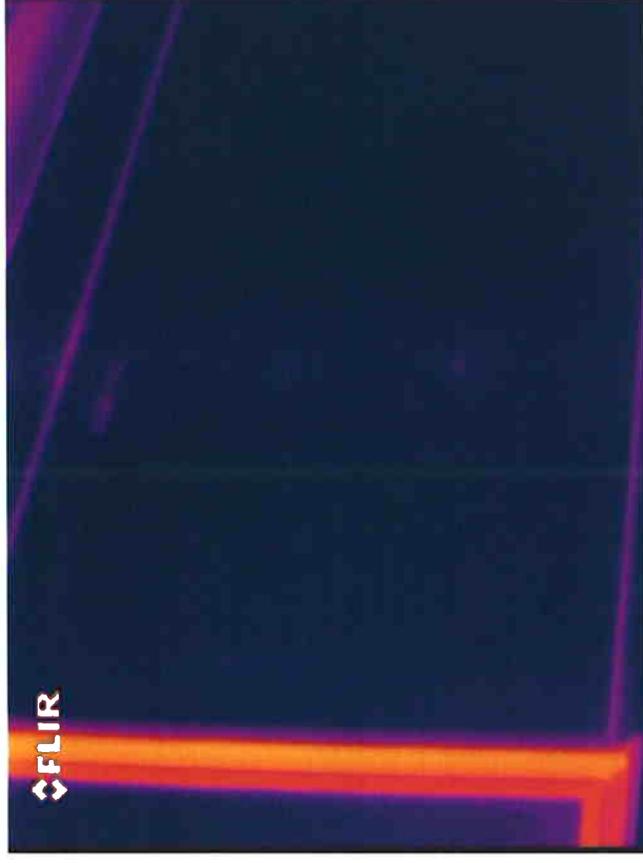
**Emiss.** 1.00    **B/G** 23°    **Distance** 10'    **Lens** 1x

**Ambient Temp** 45 °F

**Comments** Thermogram shows thermal pattern typical of latent moisture.

**Priority**

**Repair Check Date**



**RESERVED FOR THERMOGRAM  
AFTER COMPONENT REPAIR**

Area/Picture No. 20 Job No. 09-2617.1 Date 3/30/09

Location Southwest Elevation

Equipment Left and Right of Bottom Right Window

Wind Speed 10-15 mph Wind From Variable Sky Partly Cloudy

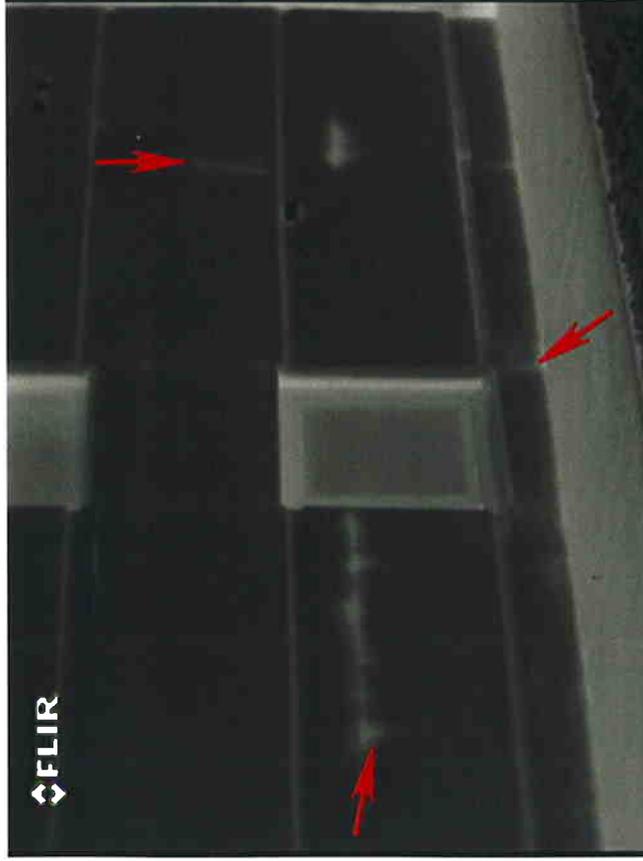
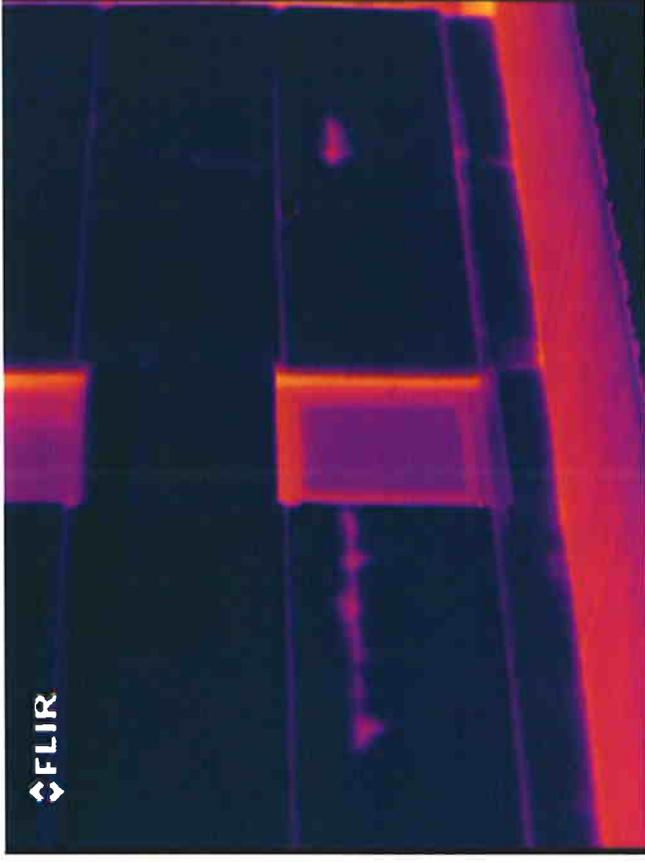
Emiss. 1.00 B/G 23° Distance 10' Lens 1x

Ambient Temp 45 °F

Comments Thermogram shows thermal pattern typical of latent moisture.

Priority

Repair Check Date



RESERVED FOR THERMOGRAM  
AFTER COMPONENT REPAIR

