3940 Washington St.
Kensington

2010 HAWP
31/6

HISTORIC PRESERVATION COMMISSION

Isiah Leggett
County Executive

Leslie Miles
Acting Chairperson

Date: 3/10/11

MEMORANDUM

TO: Carla Reid, Director
Department of Permitting Services

FROM: Anne Fothergill
Planner Coordinator
Historic Preservation Section-Planning Department
Maryland-National Capital Park & Planning Commission

SUBJECT: Historic Area Work Permit #550801—roof replacement

The Montgomery County Historic Preservation Commission (HPC) has reviewed the attached application for a Historic Area Work Permit (HAWP) and this application was **approved** by the HPC on January 12, 2011.

THE BUILDING PERMIT FOR THIS PROJECT SHALL BE ISSUED CONDITIONAL UPON ADHERENCE TO THE ABOVE APPROVED HAWP CONDITIONS AND MAY REQUIRE APPROVAL BY DPS OR ANOTHER LOCAL OFFICE BEFORE WORK CAN BEGIN.

Applicant: James Foy
Address: 3940 Washington Street, Kensington

This HAWP approval is subject to the general condition that the applicant will obtain all other applicable Montgomery County or local government agency permits. After the issuance of these permits, the applicant must contact this Historic Preservation Office if any changes to the approved plan are made. Once the work is completed the applicant will contact the staff person assigned to this application at 301-563-3400 to schedule a follow-up site visit.

DPS - #8

HISTORIC PRESERVATION COMMISSION
301/563-3400

APPLICATION FOR HISTORIC AREA WORK PERMIT

Contact Person: Stephen Foy
Daytime Phone No.: 301-946-8438

Tax Account No.: 01020550

Name of Property Owner: James L. Foy Daytime Phone No.: 301-946-8438

Address: 3940 (Street Number) Kensington (City) Washington (State) 20895 (Zip Code)

Contractor: _____ Phone No.: _____

Contractor Registration No.: _____

Agent for Owner: _____ Daytime Phone No.: _____

LOCATION OF BUILDING/PREMISE

House Number: 3940 Street: Washington

Town/City: Kensington Nearest Cross Street: Prospect

Lot: 54 Block: 13 Subdivision: 15

Liber: 22047 Folio: 690 Parcel: _____

PART ONE: TYPE OF PERMIT ACTION AND USE

1A. CHECK ALL APPLICABLE:

☐ Construct ☐ Extend ☐ Alter/Renovate
☐ Move ☒ Install ☐ Wreck/Raze
☐ Revision ☒ Repair ☐ Revocable

CHECK ALL APPLICABLE:

☐ A/C ☐ Slab ☐ Room Addition ☐ Porch ☐ Deck ☐ Shed
☐ Solar ☐ Fireplace ☐ Woodburning Stove ☐ Single Family
☐ Fence/Wall (complete Section 4) ☐ Other: _____

1B. Construction cost estimate: $ $17,000 to $20,900

1C. If this is a revision of a previously approved active permit, see Permit # _____

PART TWO: COMPLETE FOR NEW CONSTRUCTION AND EXTEND/ADDITIONS

2A. Type of sewage disposal: 01 ☐ WSSC 02 ☐ Septic 03 ☐ Other: _____

2B. Type of water supply: 01 ☐ WSSC 02 ☐ Well 03 ☐ Other: _____

PART THREE: COMPLETE ONLY FOR FENCE/RETAINING WALL

3A. Height _____ feet _____ inches

3B. Indicate whether the fence or retaining wall is to be constructed on one of the following locations:

☐ On party line/property line ☐ Entirely on land of owner ☐ On public right of way/easement

I hereby certify that I have the authority to make the foregoing application, that the application is correct, and that the construction will comply with plans approved by all agencies listed and I hereby acknowledge and accept this to be a condition for the issuance of this permit.

James L Foy — Signature of owner or authorized agent

Oct. 4, 2010 — Date

Approved: ✓ For Chairperson, Historic Preservation Commission

Disapproved: _____ Signature: _____ Date: 3/10/11

Application/Permit No.: 350801 Date Filed: _____ Date Issued: _____

Edit 6/21/99

SEE REVERSE SIDE FOR INSTRUCTIONS

Applicant: James L. Foy

1/2

THE FOLLOWING ITEMS MUST BE COMPLETED AND THE REQUIRED DOCUMENTS MUST ACCOMPANY THIS APPLICATION.

1. **WRITTEN DESCRIPTION OF PROJECT**

   a. Description of existing structure(s) and environmental setting, including their historical features and significance:

   Single family home built in 1903.
   Situated in Kensington Historic District.

   b. General description of project and its effect on the historic resource(s), the environmental setting, and, where applicable, the historic district:

   Replace original slate roof with asphalt shingles.

2. **SITE PLAN**

   Site and environmental setting, drawn to scale. You may use your plat. Your site plan must include:

   a. the scale, north arrow, and date;

   b. dimensions of all existing and proposed structures; and

   c. site features such as walkways, driveways, fences, ponds, streams, trash dumpsters, mechanical equipment, and landscaping.

3. **PLANS AND ELEVATIONS**

   You must submit 2 copies of plans and elevations in a format no larger than 11" x 17". Plans on 8 1/2" x 11" paper are preferred.

   a. ***Schematic construction plans***, with marked dimensions, indicating location, size and general type of walls, window and door openings, and other fixed features of both the existing resource(s) and the proposed work.

   b. Elevations (facades), with marked dimensions, clearly indicating proposed work in relation to existing construction and, when appropriate, context. All materials and fixtures proposed for the exterior must be noted on the elevations drawings. An existing and a proposed elevation drawing of each facade affected by the proposed work is required.

4. **MATERIALS SPECIFICATIONS**

   General description of materials and manufactured items proposed for incorporation in the work of the project. This information may be included on your design drawings.

5. **PHOTOGRAPHS**

   a. Clearly labeled photographic prints of each facade of existing resource, including details of the affected portions. All labels should be placed on the front of photographs.

   b. Clearly label photographic prints of the resource as viewed from the public right-of-way and of the adjoining properties. All labels should be placed on the front of photographs.

6. **TREE SURVEY**

   If you are proposing construction adjacent to or within the dripline of any tree 6" or larger in diameter (at approximately 4 feet above the ground), you must file an accurate tree survey identifying the size, location, and species of each tree of at least that dimension.

7. **ADDRESSES OF ADJACENT AND CONFRONTING PROPERTY OWNERS**

   For ALL projects, provide an accurate list of adjacent and confronting property owners (not tenants), including names, addresses, and zip codes. This list should include the owners of all lots or parcels which adjoin the parcel in question, as well as the owner(s) of lot(s) or parcel(s) which lie directly across the street/highway from the parcel in question. You can obtain this information from the Department of Assessments and Taxation, 51 Monroe Street, Rockville, (301/279-1355).

PLEASE PRINT (IN BLUE OR BLACK INK) OR TYPE THIS INFORMATION ON THE FOLLOWING PAGE.
PLEASE STAY WITHIN THE GUIDES OF THE TEMPLATE, AS THIS WILL BE PHOTOCOPIED DIRECTLY ONTO MAILING LABELS.

MONTGOMERY COUNTY HISTORIC PRESERVATION COMMISSION
STAFF REPORT

Address:	3940 Washington Street, Kensington	**Meeting Date:**	1/12/11
Applicant:	James Foy (Stephen Foy, Agent)	**Report Date:**	1/5/11
Resource:	Primary-One Resource Kensington Historic District	**Public Notice:**	12/29/10
Review:	HAWP	**Tax Credit:**	None
Case Number:	31/6-10G	**Staff:**	Anne Fothergill

PROPOSAL: Slate roof replacement

STAFF RECOMMENDATION

Staff recommends that the HPC approve the HAWP application with one condition:

1. replacement roofing material to be determined by the Historic Preservation Commission

PROPERTY DESCRIPTION

SIGNIFICANCE:	Primary One Resource within the Kensington Historic District
STYLE:	Vernacular
DATE:	1903

PROPOSAL

The applicants are proposing to remove the existing original Bangor slate roof on the house and replace it with asphalt shingles. The applicants have repaired the roof many times and done some replacement with Buckingham slate. The roof continues to leak and there is water damage on the second floor (see exterior and interior photos in Circles 10-20).

APPLICABLE GUIDELINES

When reviewing alterations within the Kensington Historic District, the *Vision of Kensington: A Long-Range Preservation Plan* (*Vision*), *Montgomery County Code Chapter 24A* (*Chapter 24A*) and the *Secretary of the Interior's Standards for Rehabilitation (Standards)* are to be utilized as guidelines to assist the Commission in developing their decision. The pertinent information in these documents is outlined below.

Vision of Kensington: A Long-Range Preservation Plan

The HPC formally adopted the planning study, *Vision of Kensington: A Long-Range Preservation Plan*, and is directed by the Executive Regulations, which were approved by the County Council, to use this plan when considering changes and alterations to the Kensington Historic District. The goal of this preservation plan "was to establish a sound database of information from, which to produce a document that would serve the HPC, M-NCPPC, their staff and the community in wrestling with the protection of historic districts amidst the pressures of life in the 21st century." The plan provides a specific physical description of the district as it is; an analysis of character-defining features of the district; a discussion of the

challenges facing the district; and a discussion of proposed strategies for maintaining the character of the district while allowing for appropriate growth and change.

Montgomery County Code; Chapter 24A-8:

(a) The commission shall instruct the director to deny a permit if it finds, based on the evidence and information presented to or before the commission that the alteration for which the permit is sought would be inappropriate, inconsistent with or detrimental to the preservation, enhancement or ultimate protection of the historic site or historic resource within an historic district, and to the purposes of this chapter.

(b) The commission shall instruct the director to issue a permit, or issue a permit subject to such conditions as are found to be necessary to insure conformity with the purposes and requirements of this chapter, if it finds that:

(1) The proposal will not substantially alter the exterior features of an historic site or historic resource within an historic district; or

(2) The proposal is compatible in character and nature with the historical, archeological, architectural or cultural features of the historic site or the historic district in which an historic resource is located and would not be detrimental thereto or to the achievement of the purposes of this chapter; or

(3) The proposal would enhance or aid in the protection, preservation and public or private utilization of the historic site or historic resource located within an historic district in a manner compatible with the historical, archeological, architectural or cultural value of the historic site or historic district in which an historic resource is located; or

(4) The proposal is necessary in order that unsafe conditions or health hazards be remedied; or

(5) The proposal is necessary in order that the owner of the subject property not be deprived of reasonable use of the property or suffer undue hardship; or

(6) In balancing the interests of the public in preserving the historic site or historic resource located within an historic district, with the interests of the public from the use and benefit of the alternative proposal, the general public welfare is better served by granting the permit.

(c) It is not the intent of this chapter to limit new construction, alteration or repairs to any one period or architectural style.

(d) In the case of an application for work on an historic resource located within an historic district, the commission shall be lenient in its judgment of plans for structures of little historical or design significance or for plans involving new construction, unless such plans would seriously impair the historic or architectural value of surrounding historic resources or would impair the character of the historic district. (Ord. No. 9-4, § 1; Ord. No. 11-59.)

Secretary of the Interior's Standards for Rehabilitation:

Standard # 2: The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.

Standard #5: Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.

Standard # 6: Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.

STAFF DISCUSSION

The *Vision of Kensington: A Long-Range Preservation Plan* states that within the Historic District, "the houses share a uniformity of scale, set backs and construction materials that contributes to the cohesiveness of the district's streetscapes." The *Vision* discusses specifically the Historic Residential Core, where the house at 3940 Washington is located, which "consists of most of the primary historic resources in the residential neighborhood. This includes historic resources built from 1890 to 1930 which exemplify the historic pattern of development characterized by expansive open spaces between homes. In this area it is important to preserve these patterns of open space, front yard setbacks, building scale, architectural character, and the streetscape qualities." As part of the research for the *Vision*, roof form and material "were identified as helping to define the historic character of Kensington." The *Vision* notes that "The majority of buildings have received replacement roof cladding."

The *Design Guidelines for Historic Sites and Districts in Montgomery County, Maryland* state:

> **5.0 ROOFS**
> Although the function of a roof is to protect a building from the elements, it also contributes to the overall character of the building. The roof is a defining feature for most historic structures. When repeated along the street or within a group of buildings, the repetition of similar roof forms contributes to a sense of visual continuity. In each case, the roof pitch, its materials, size and orientation are all distinct features that contribute to the character of a roof. Gabled and hip forms occur most frequently, although shed and flat roofs appear on some building types.
>
> A variety of roof materials exist. Roof materials are major elements in the street scene and contribute to the character of individual building styles. However, they are susceptible to deterioration, and their replacement may become necessary.
>
> Traditional roof materials include slate, wood shingle, standing seam metal, and tiles (and for 20th century resources, asphalt shingles). The use of traditional materials is recommended, as often the higher initial cost of these materials will be offset by the longevity and durability of the material.
>
> **Use roof materials in a manner similar to that seen historically.**
> 5.4 Preserve original roof materials.
> • Avoid removing roof material that is in good condition. Replace it with similar material only when necessary.
>
> 5.5 Replacement roof materials for a historic house should convey a scale and texture similar to those used traditionally.
> • Replacement in-kind is encouraged. A roof replacement material should be in keeping with the original architectural style of the structure.
> • New roof materials should match the original in scale, color and texture as closely as possible.

Staff requested that the applicants provide at least one roofer's professional assessment of the roof's condition, and more than one if possible. Additionally, staff recommended that the applicant provide information on the roofer's experience working with slate roofs. The applicant has had the roof repaired many times and roofers have informed him that the roof should be replaced but only one roofer provided the applicant with something in writing and it is not a detailed condition assessment. The information this roofer provided is in Circles 23-29. The other five roofers the applicant contacted did not respond

or did not provide anything in writing.

If the applicant was to replace the slate roof in-kind, the work would be eligible for tax credits of possibly up to 30% of the expenses through state and county tax credits. The Secretary of the Interior's *Standards for Rehabilitation*, the Montgomery County *Design Guidelines*, and the National Park Service Technical Preservation Services' *Preservation Brief* all recommend in-kind replacement of slate roofs with slate roofs (see Circles 33-51).

The original Bangor slate is over one hundred years old and according to the Slate Roof Bible Bangor slate lasts about 50-125 years and another source says about 90 years. It is reasonable to expect that this roofing material could fail after more than one hundred years and need to be completely replaced, which is what the applicant is proposing. The roof has been repaired and altered many times and some of the slate was replaced with Buckingham slate and is not the original Bangor slate. See more details provided by the applicant about the roof in Circles 21+22.

Because of its age and condition, staff supports removing this slate roof. There are a number of reasons why the HPC might consider replacing the slate roof with another roofing material. Within the context of the Kensington historic district, there are many houses built in the same era that no longer have their original roofing material (as noted in the *Vision of Kensington)* and they still contribute to the historic district. There are also more ornate and high style houses in the district that do not have slate roofs. This vernacular style house will still contribute to the historic district without a slate roof as the slate roof is not a character-defining feature of this house. For these reasons, staff supports the replacement of this roof with a different roofing material.

As *Standard #6* states: "Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials." The HPC may want to consider what material they could support if they allow a replacement material. The applicant has proposed asphalt shingles but other options include rubber slate and architectural shingles to have the appearance of slate (see Circles 52-56). The large expanse of roofing on this house is very high and it may be appropriate to install a material that has the overall appearance of slate since it will not be seen close up.

STAFF RECOMMENDATION

Staff recommends that the Commission **approve** the HAWP application **with one condition** as being consistent with Chapter 24A-8(b)(1) ;

and with the general condition that the applicant shall present the **3 permit sets of drawings, if applicable, to Historic Preservation Commission (HPC) staff for review and stamping** prior to submission for the Montgomery County Department of Permitting Services (DPS) building permits;

and with the general condition that the applicant shall notify the Historic Preservation Staff if they propose to make **any alterations** to the approved plans.

[redacted]

DPS - #8

HISTORIC PRESERVATION COMMISSION
301/563-3400

APPLICATION FOR HISTORIC AREA WORK PERMIT

Contact Person: Stephen Foy

Daytime Phone No.: 301-946-8438

Tax Account No.: 01020550

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☐ Construct ☐ Extend ☐ Alter/Renovate

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I hereby certify that I have the authority to make the foregoing application, that the application is correct, and that the construction will comply with plans approved by all agencies listed and I hereby acknowledge and accept this to be a condition for the issuance of this permit.

James L Foy (Signature of owner or authorized agent) Oct. 4, 2010 (Date)

Approved: _____ For Chairperson, Historic Preservation Commission

Disapproved: _____ Signature: _____ Date: _____

Application/Permit No.: 550801 Date Filed: _____ Date Issued: _____

Edit 6/21/99 **SEE REVERSE SIDE FOR INSTRUCTIONS**

(5)

Applicant: James L Foy

1/

THE FOLLOWING ITEMS MUST BE COMPLETED AND THE REQUIRED DOCUMENTS MUST ACCOMPANY THIS APPLICATION.

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Applicant: James L. Foy

HAWP APPLICATION: MAILING ADDRESSES FOR NOTIFING
[Owner, Owner's Agent, Adjacent and Confronting Property Owners]

Owner's mailing address	**Owner's Agent's mailing address**
James L. Foy 3940 Washington St Kensington MD 20895	
Adjacent and confronting Property Owners mailing addresses	
Shirley A. Watson 10211 Summit Ave. Kensington MD 20895	Peter & E. H. Condliffe 3939 Washington St. Kensington MD 20895
Monica Jaramillo 10213 Summit Ave Kensington MD 20895	Harold & Aletta Frazier 3942 Washington St. Kensington MD 20895
Kenneth & Penny Kolson 10209 Summit Ave. Kensington MD 20895	Christopher & Ranelle Bruch 3936 Washington St Kensington MD 20895

Applicant: James L. Foy

3/10

MEMORANDUM

From: James L. Foy owner and permanent resident of a family home at 3940 Washington Street Kensington. Maryland

We bought and moved into our Kensington home in January 1961, attracted to the old fashioned, roomy Victorian house. The place was constructed in 1903 to our best knowledge. It is most likely that the slate roof is the original roof.

The roof has required numerous repairs over the past forty-nine years with slate replacement nearly every year for the past twenty years or more. The roof has a particularly steep pitch which adds to the problem with packed snow. Heavy snowfall and accumulation has been a large problem every winter, worse this past year because of the blizzards. Recent examination of the roof reveals the need for a total roof replacement.

Replacing this roof with new slate would be prohibitively expensive. I am the person responsible for all repair and renovation expenses. I am on a fixed, pension, income from a career in teaching. I am eighty-four years old and the annual county property taxes are beginning to be a burden. I am requesting a waiver from the "in kind" requirement for our home. A "smart" shingle roof could be selected for replacement. All our neighbors reside in homes with shingle roofs.

James L. Foy
Oct. 4, 2010

(8)

Applicant: James L. Foy

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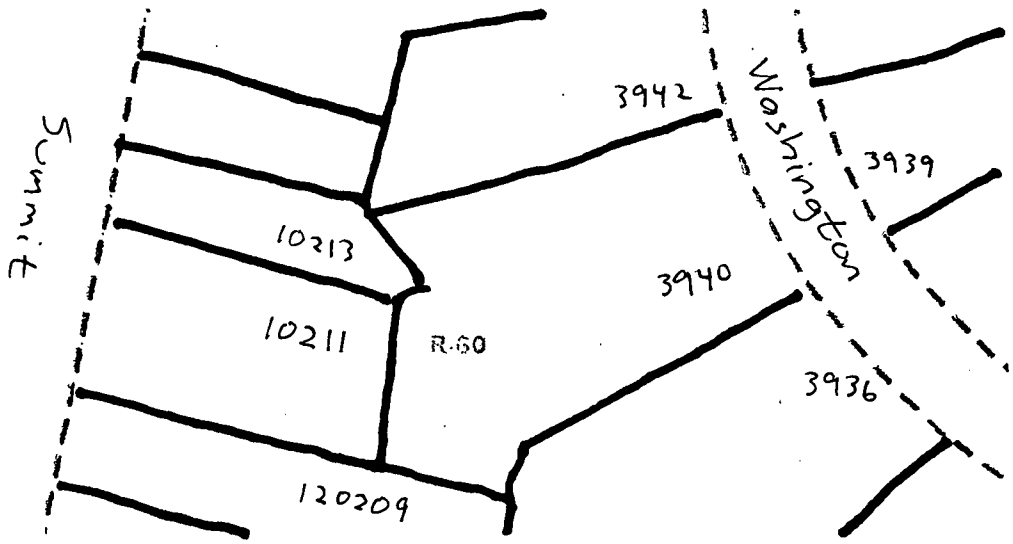
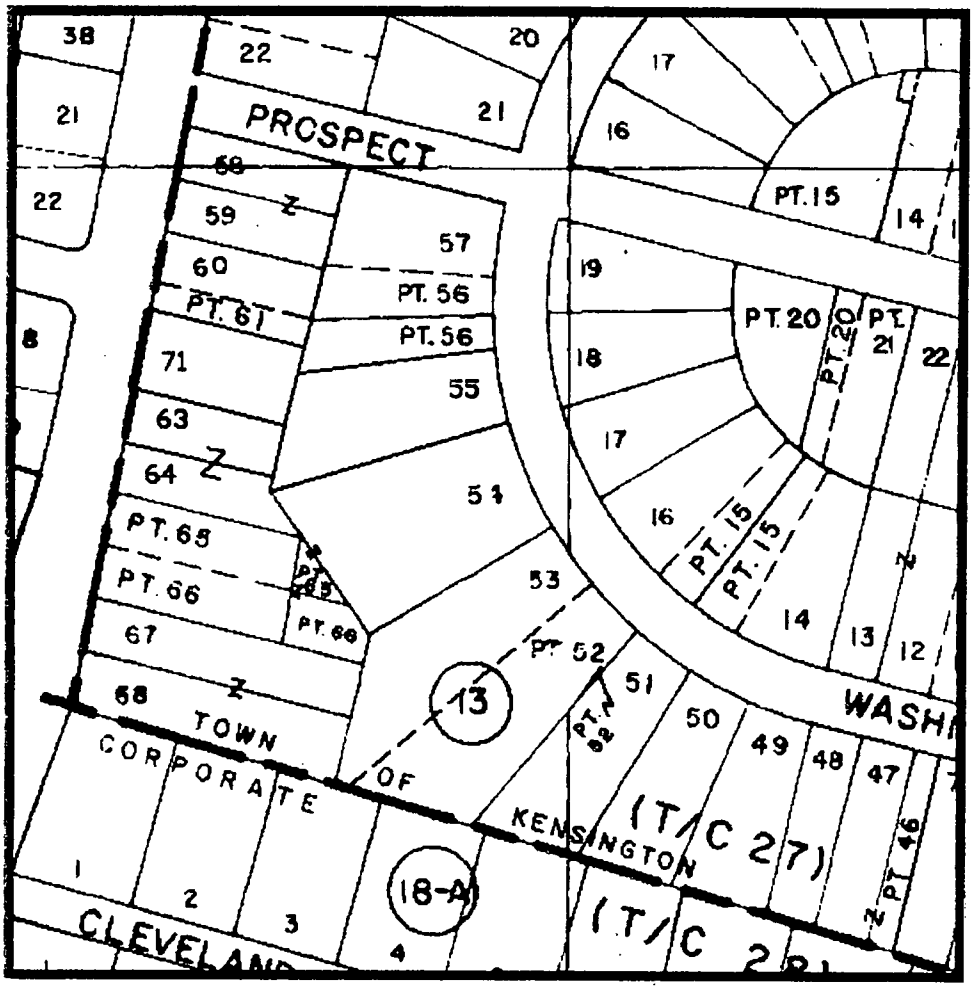
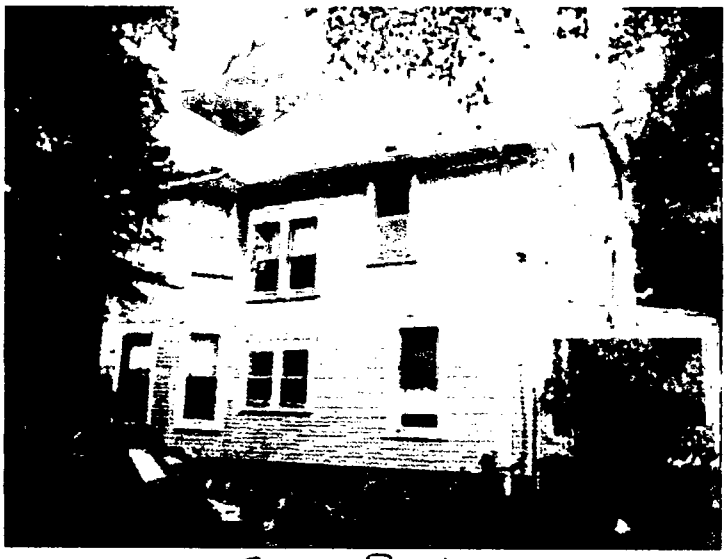




Applicant: James L. Foy

5/10

Front



Front Right

Rear Right

Rear

Rear Left

Front Left

(10)

Applicant: James L. Foy

6/10

Rear Left

Front

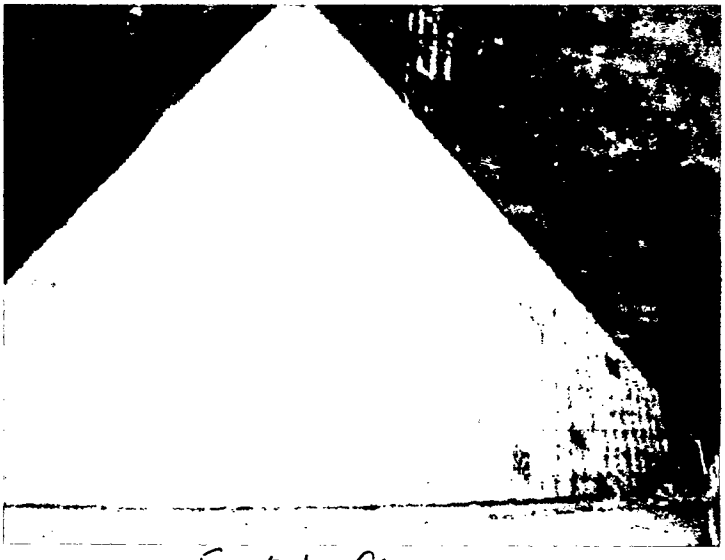
Front Right

Front Right

Front Right

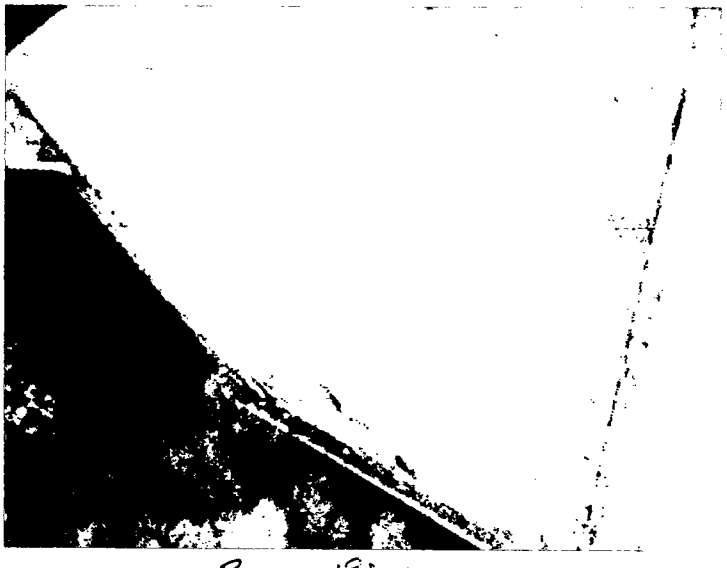
Roofline

Applicant: James L. Foy



Front Left

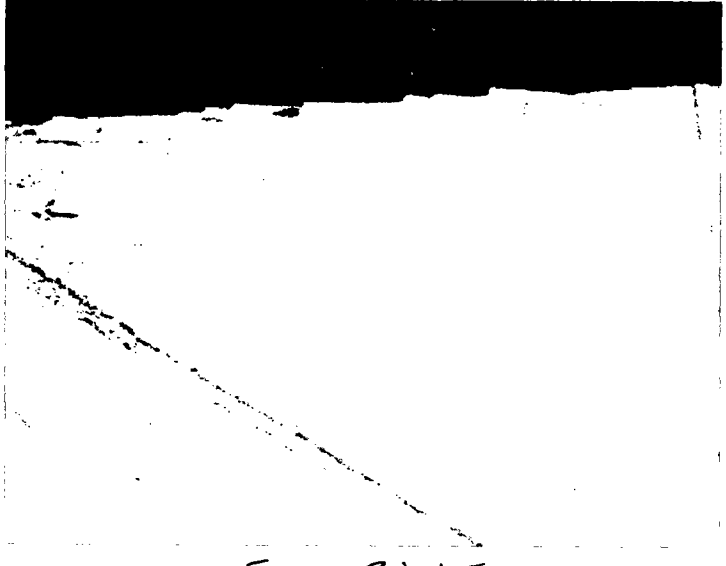
Rear Left



Rear Right

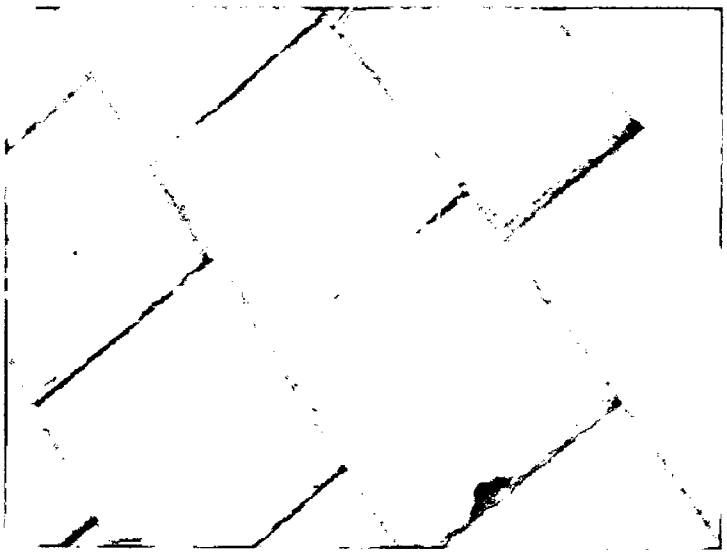
Front

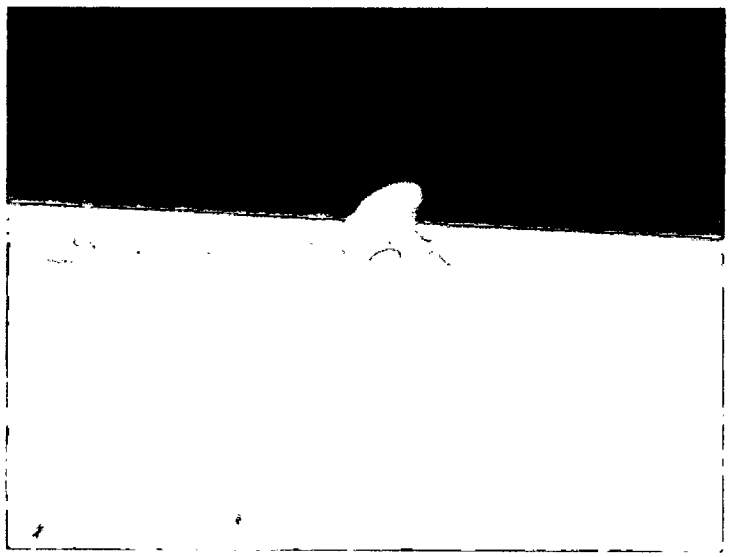
Roof

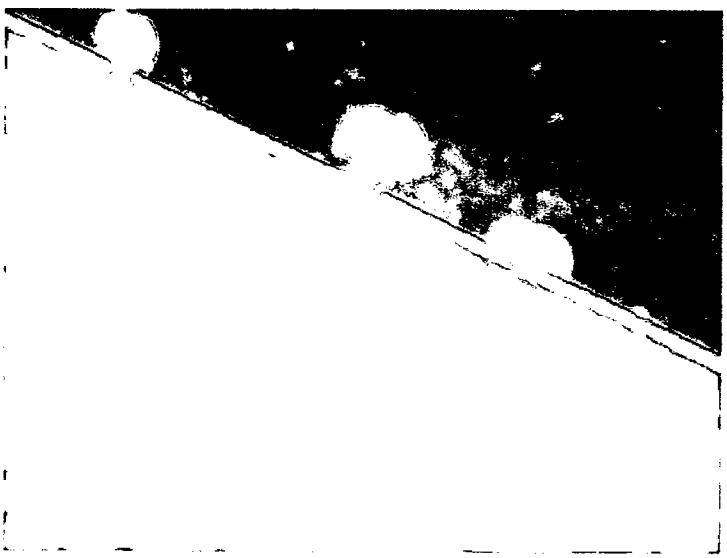


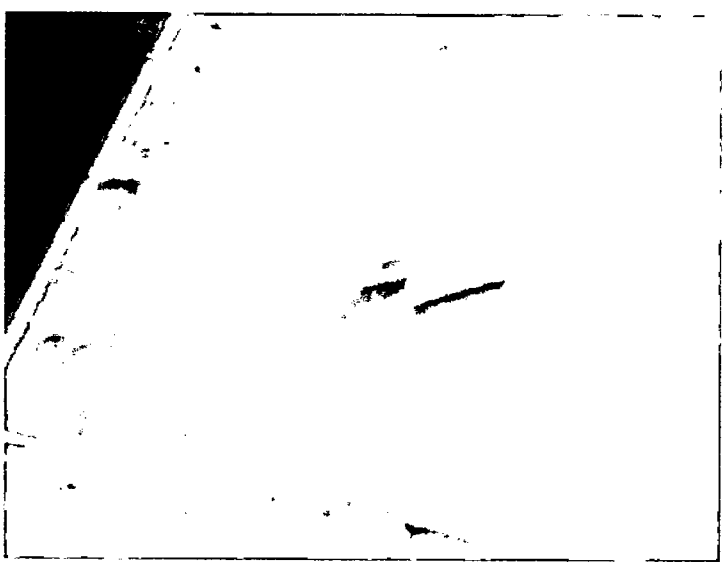
Front Right.

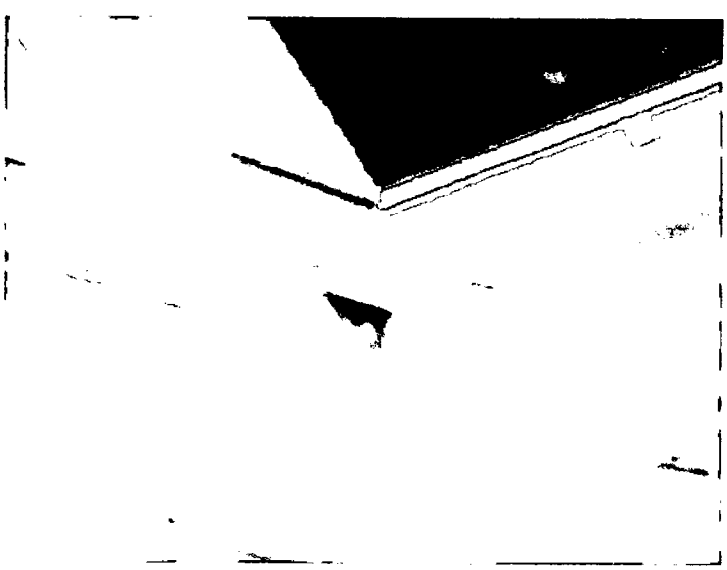
Applicant: James L. Foy









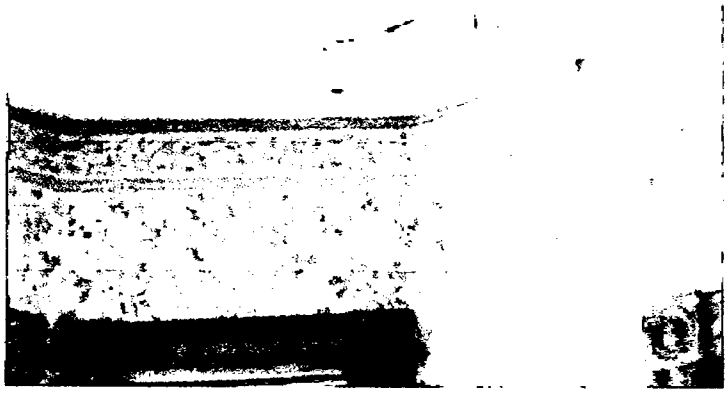


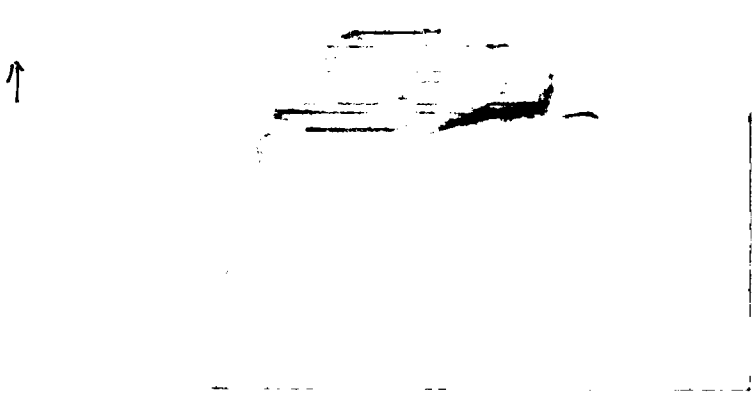
Slate Detail

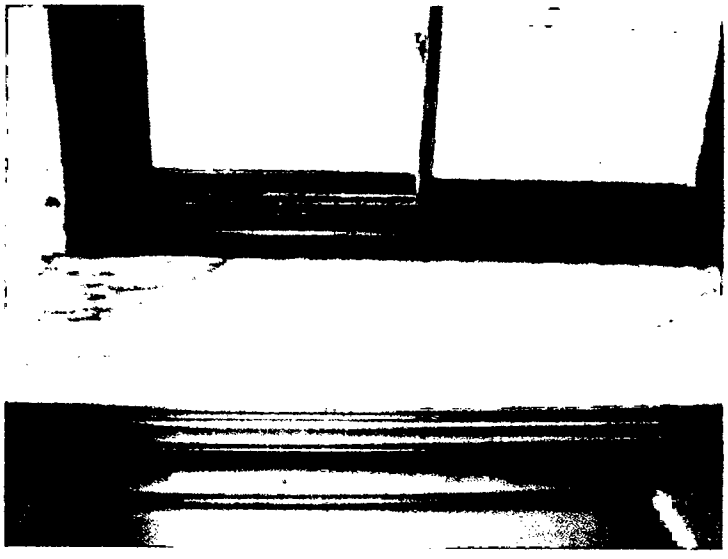
(13) 9/10

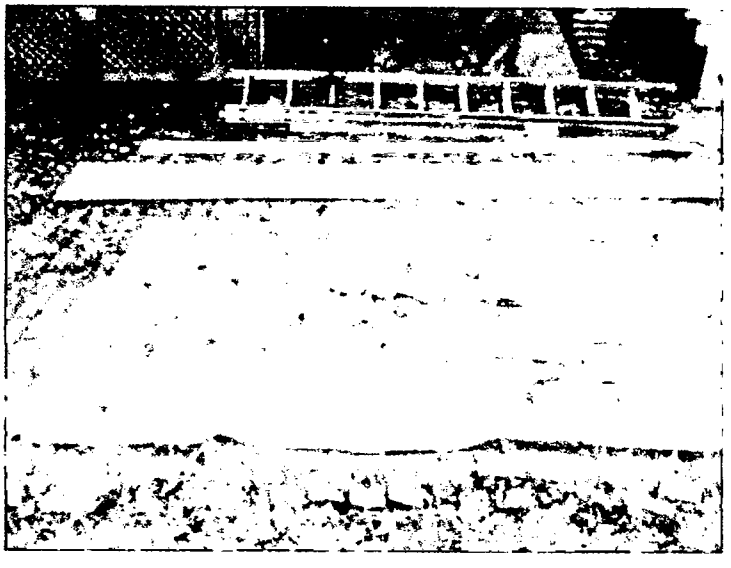
Applicant: James L. Foy

2nd Floor Water Damage



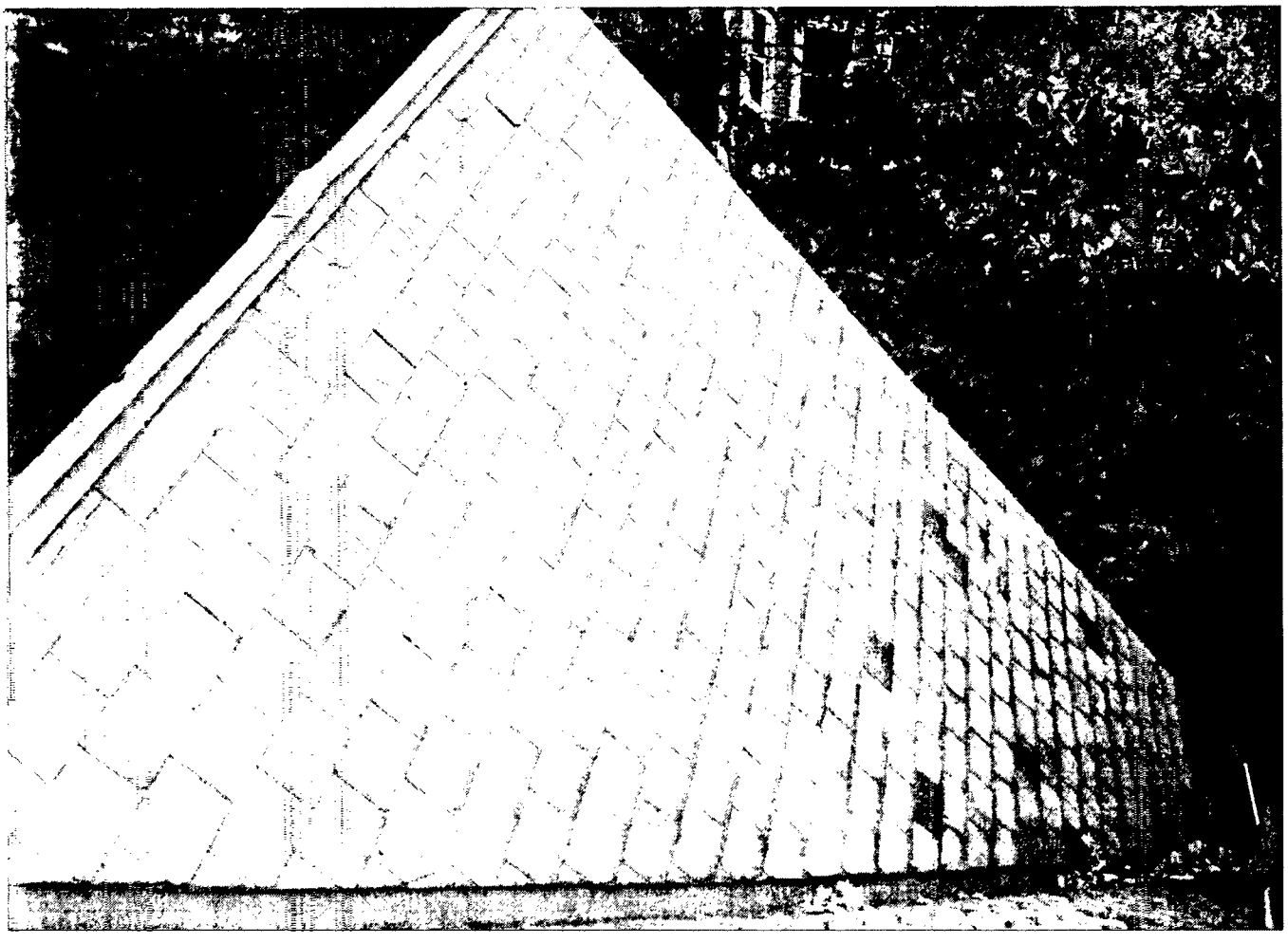


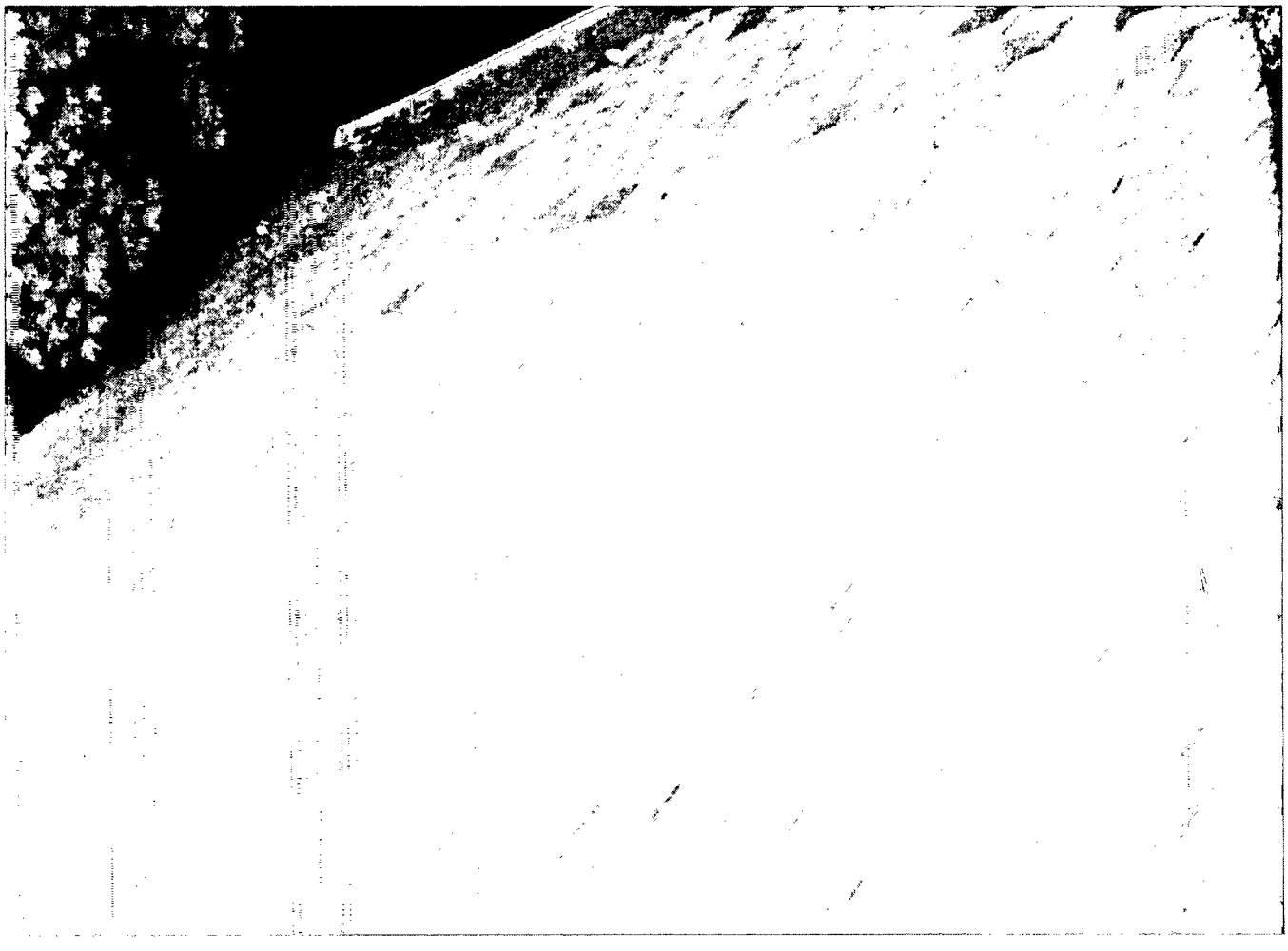


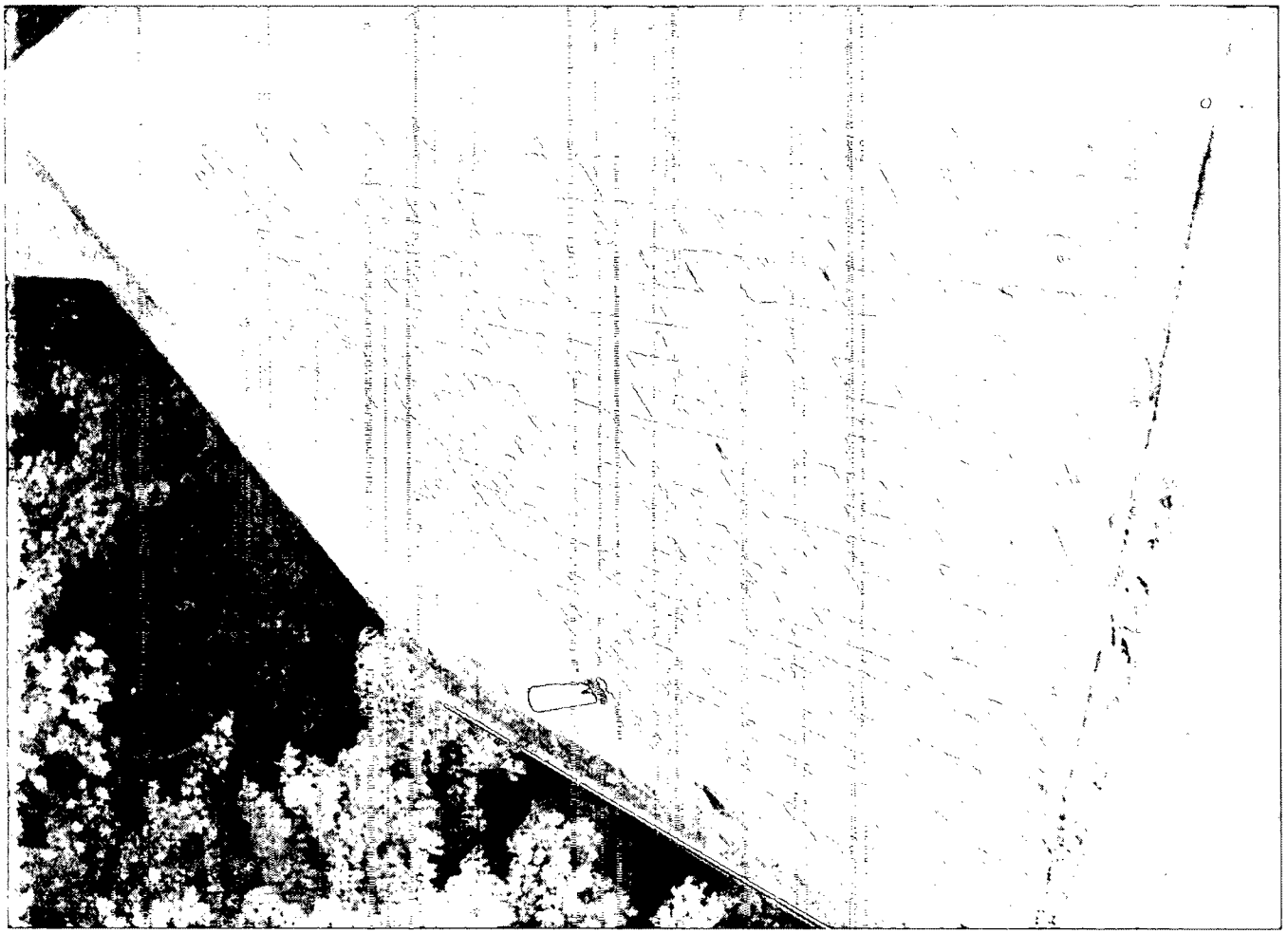


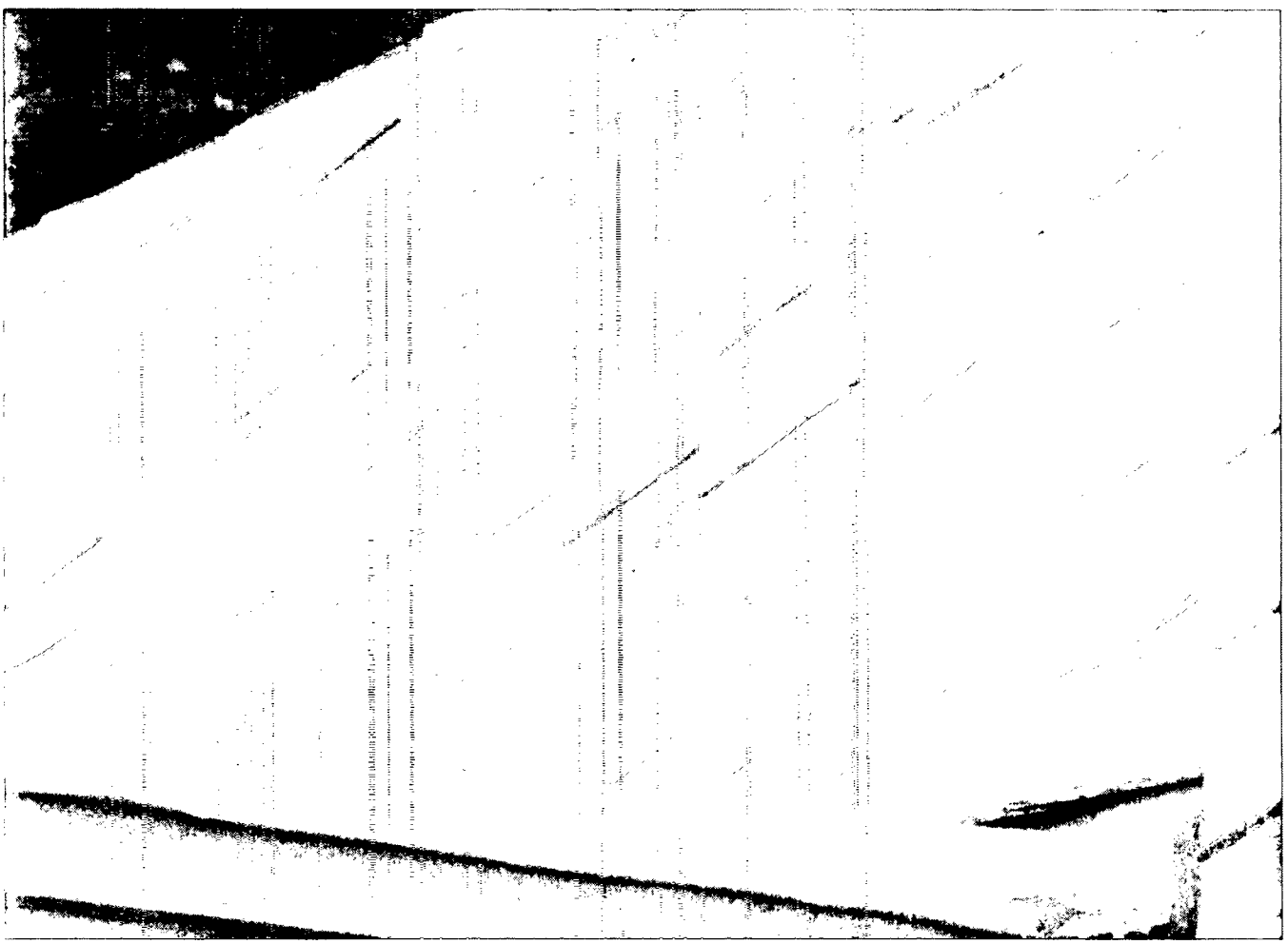
Debris From Roof

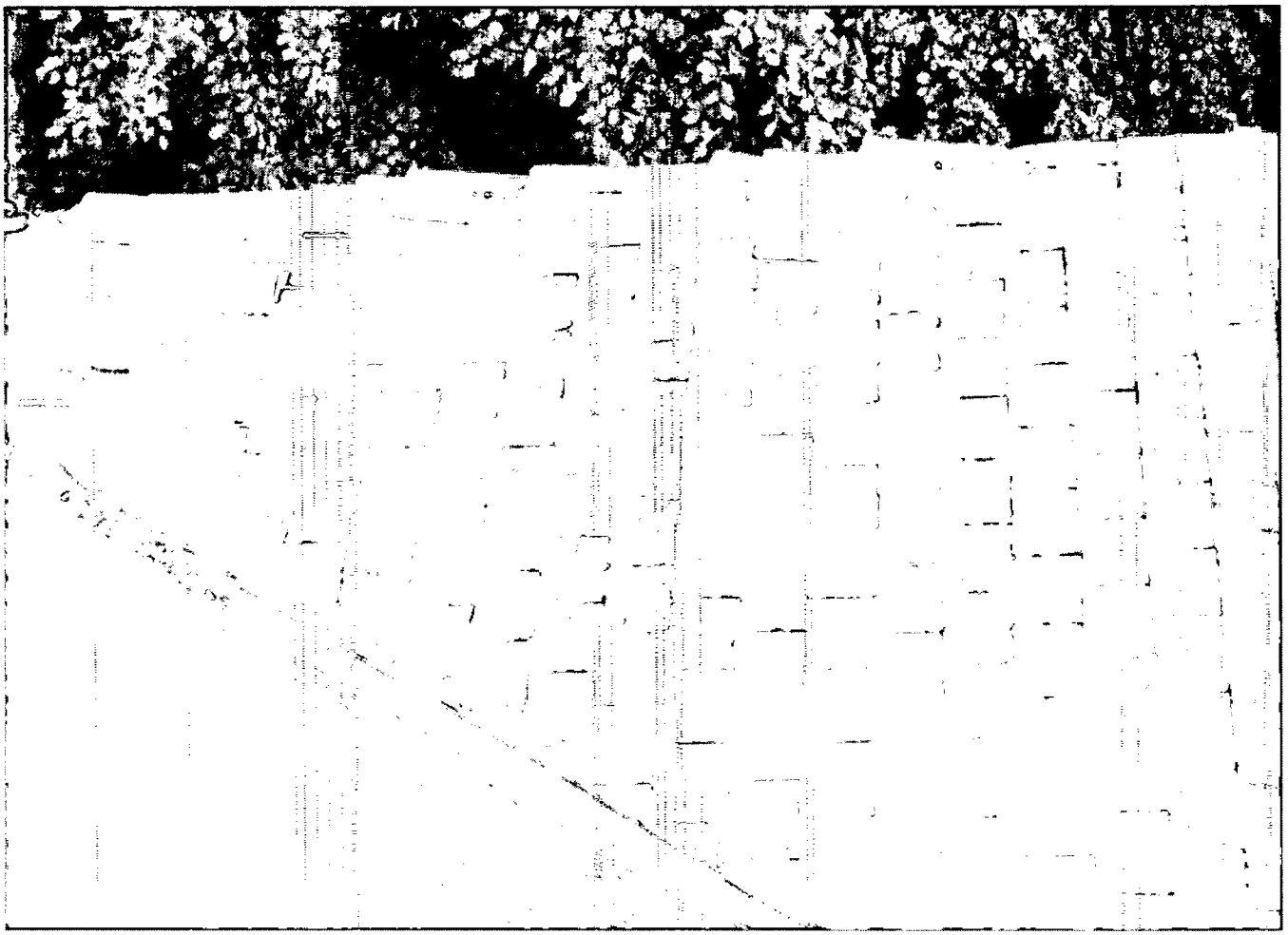
Applicant: James L. Foy

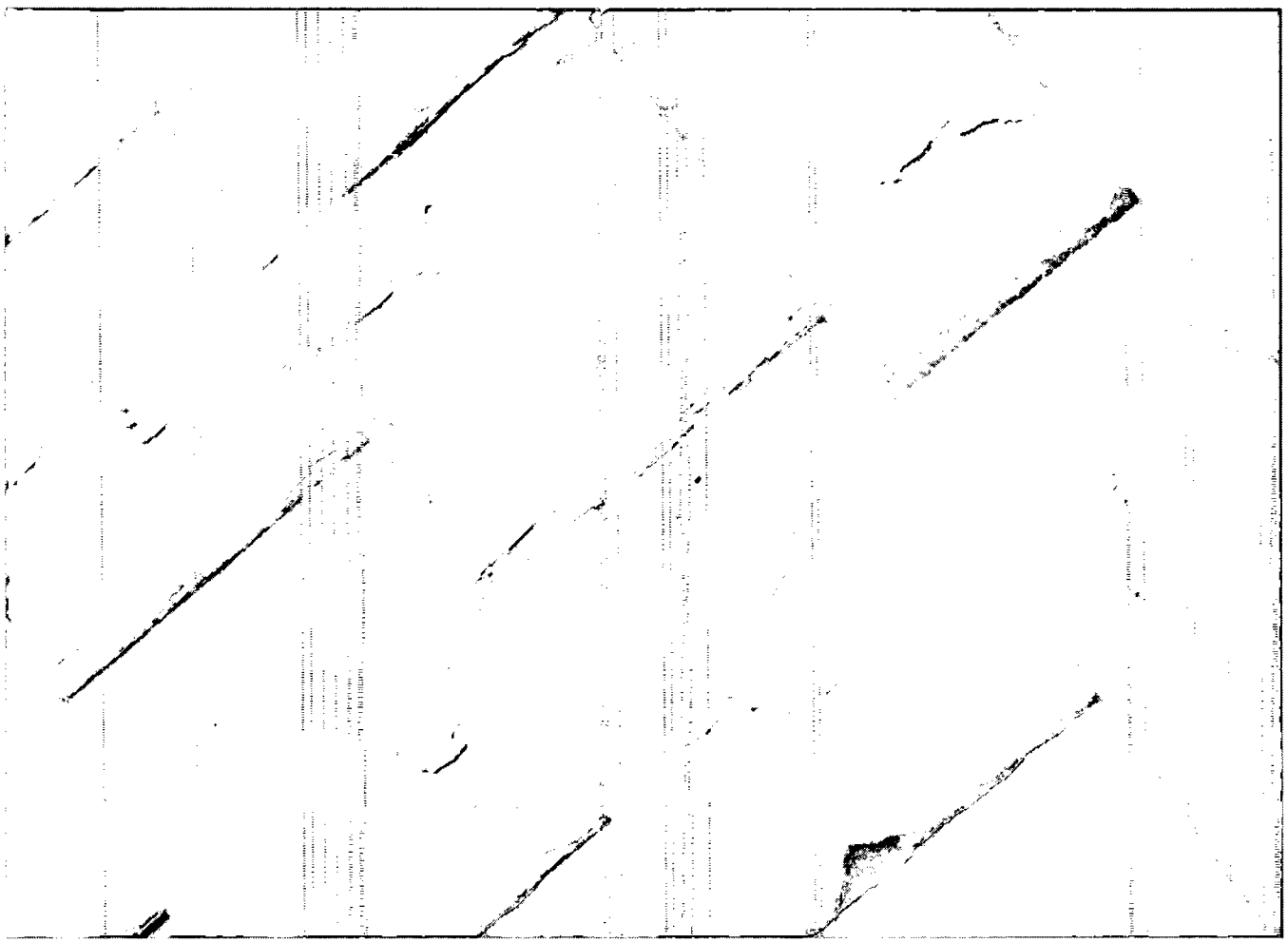


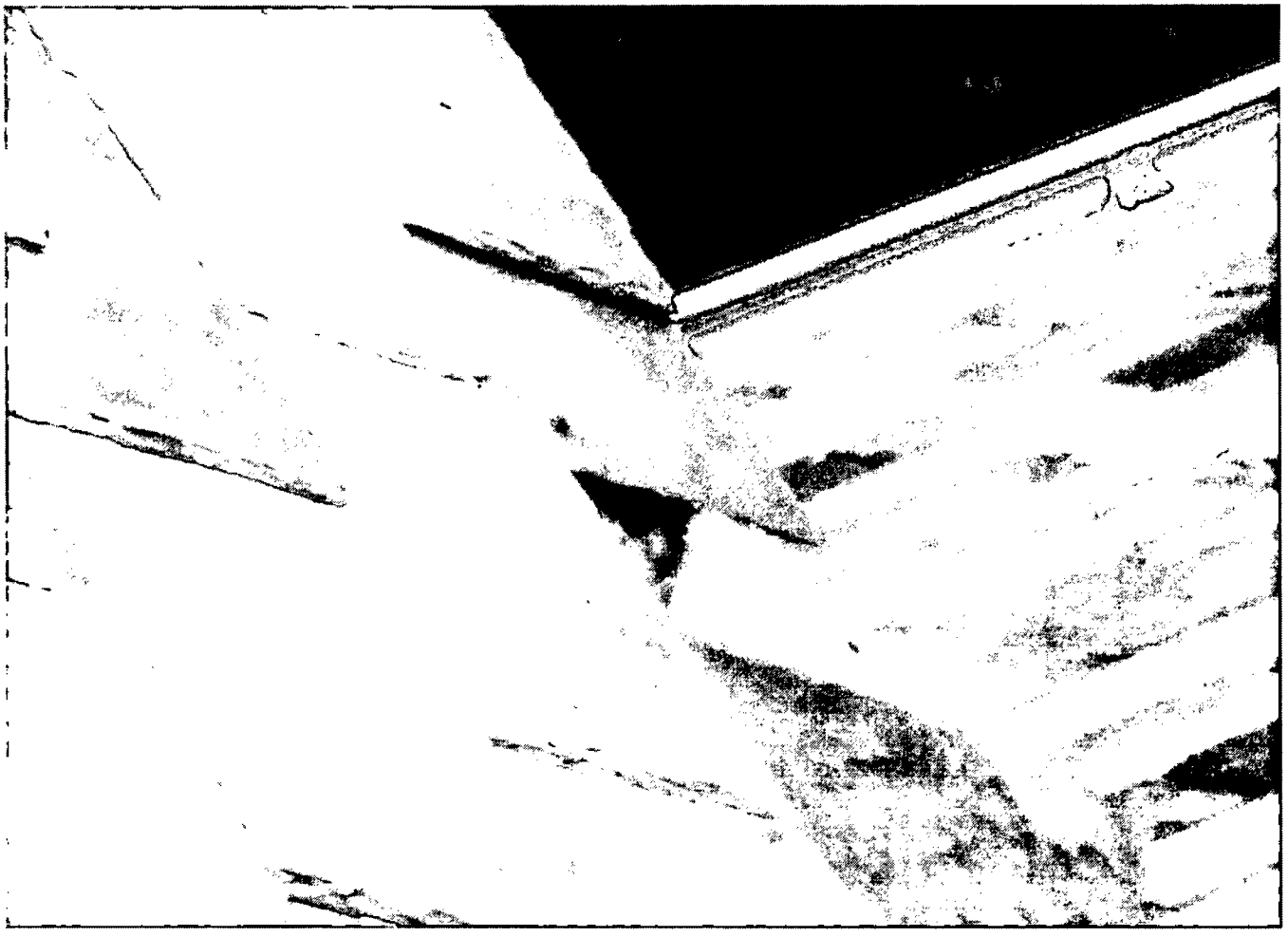












Fothergill, Anne

From: stephenfoy@gmail.com
Sent: Sunday, January 02, 2011 8:15 PM
To: Fothergill, Anne
Subject: Re: slate roof replacement application

On 12/21/2010 11:43 AM, Fothergill, Anne wrote:

> Can you email me in one email everything you know about the roof on this house. I know you have sent me multiple emails with lots of information but I would like one page with all the information that I can include in your application.
> Please include:

> How long your family has owned the house

Since January 1961.

> How many times (approx.) the roof has been repaired

The roof has been repaired at least every other year between 1991-2009.

> What type of slate is original on the house and what type it has been
> replaced with

The original slate is Bangor No. 1. Replacement slate used in repairs has been Buckingham.

> How many roofers you called for estimates/assessments this fall

I contacted six roofers. Three from the listings on your web site. And three that you recommended via email.

The three roofers from your website were:

Central Roofing and Siding Co.
Phone: 301-881-2424

H.T Harrison & Sons, Inc.
Phone: 301-279-9404

Historic Roofing Company Inc.
Phone: 410-741-0572

Of the three contacted from the web site listings two came to the house, Central and Harrison. The third replied indicating they'd make arrangements to inspect the roof, but I never heard back from them.

Harrison provided the single assessment.

The three roofers you recommended via email were:

Jacks Roofing
301-585-4985

Patch Roofing
301-229-1595

Baker Roofing
301-251-0363

Jacks came to the house but did not provide an assessment.

Patch and Baker did not respond to my inquiries.

> Anything else you would like to include that the HPC should know about
> this roof

The roof is original to the house. The house is over 100 years old.

The estimated life of this type of roof, Bangor slate, is 50-75 years.

Maintenance has become impractical. Repairs cannot be warrantied.
Merely walking on the roof in course of making repairs causes damage.

There is water damage in the attic and on the second floor. Repairs to the attic and second floor cannot begin until the roof is secured.

Replacing the roof "in kind" with new slate is too expensive.

There are no other slate roofs on the block. Only two houses on adjoining streets have full slate roofs.

Please let me know if I may be of further assistance.

--
Regards,
Stephen Foy
stephenfoy@gmail.com

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H. T. HARRISON & SONS, INC.

"QUALITY ROOFING & SHEET METAL WORK SINCE 1908"

204 N. STONESTREET AVENUE • ROCKVILLE, MARYLAND 20850 • TEL: (301) 279-9404 • FAX: (301) 279-9361
Email: info@hthroofing.com

October 25, 2010

Stephen Foy
3940 Washington Street
Kensington, MD 20895

Re: Roofing

Dear Mr. Foy:

Thank you contacting our office with your request for roofing services on your home.

Our on site visual exterior inspection of the existing slate roof system was performed. Our "hands-on" investigation found that the existing slate appear to be the original installed roof and we calculate to in excess of 80 years old. We also performed a visual review of the existing flashing, valleys, step flashing, apron meta and other roof related items.

As requested we are furnishing to you a service contract for slate roof repair service. However, we must make you aware that our on site investigation noted numerous missing and broken slates. Some slates were found to be loosely hanging with a strong risk of potential danger should the slate come loose and fall.

Due to conditions found we suggest roof replacement be considered. Attached you will also find two additional service contracts for your review. One is for the tear off of existing slate and installation of new slate roofing. The other is for the tear off of existing slate and installation of new GAF/Lifetime shingle roofing.

We thank you for the opportunity to provide our professional roofing services to you on this project. Please do not hesitate to contact us if you have any questions or need further information.

Sincerely,

Wayne A. Harrison
President

Enclosures

HTH FILE # W-1239-10

H. T. HARRISON & SONS, INC.

"QUALITY ROOFING & SHEET METAL WORK SINCE 1908"

204 N. STONESTREET AVENUE • ROCKVILLE, MARYLAND 20850 • TEL: (301) 279-9404 • FAX: (301) 279-9361

M.H.I.C. #5561

SERVICE CONTRACT

Date 10/25/10

Purchaser Stephen Foy

Street 3940 Washington Street

City Kensington, MD 20895

Project Roofing Service @ SLATE ROOF

H. T. Harrison & Sons, Inc. (Contractor) for the following sum, hereby proposes to provide the necessary service to perform the necessary labor to install, construct and place the improvements described and to furnish and install all materials incidental to the installation, construction or placement of the improvements on, or in the building at the Project listed above as follows ("Work"):

Tear off the existing slate roofing down to the roof deck. Clean up and haul away roofing debris.

After the tear off is completed, the deck will be inspected and repaired/replaced as needed at an additional cost* to the owner.

Furnish and install ice and water shield at eaves, hip and valley.

Furnish and install new S1 (black / gray) roofing slate using copper nails over new 30# roofing felt.

Furnish and install sixteen-ounce (16 oz) copper valley.

Furnish sixteen-ounce (16 oz) copper step flashing.

Furnish and install sixteen-ounce (16 oz.) copper apron flashing.

Furnish and install new vent pipe collars at existing vent pipes.

Included is the H.T. Harrison & Sons, Inc. two (2) year warranty.

FOR THE CONTRACT AMOUNT OF: $63,544.00

If accepted, initial here _____

NOTE: *EXTRA *COSTS ARE INVOICED WHEN APPLICABLE*:

1. There may be a fuel charge.
2. Owner shall provide set up, work area and parking.
3. Owner shall remove and re-install all equipment (mechanical, antenna's, electric lines, etc.) as necessary.
4. The prices stated in this service contract are guaranteed for 15 days due to escalating material cost.
5. Deteriorated plywood will be replaced at an additional cost CDX at $2.10 or FRT at $2.85 per square foot.
6. Deteriorated fascia/rake boards will be replaced additional cost of $8.30 or $9.45 (primed) per linear foot.
7. Deteriorated 1" x 6" roof deck sheathing will be replaced at an additional cost of $8.30 per foot.

Please execute full signature on reverse side of this contract.

TERMS

This Service Contract shall become binding only when either signed by a duly authorized representative of the Contractor or Contractor's commencement of performance of its Work hereunder. This Service Contract constitutes the entire agreement between the parties, there being no covenant, promises or agreements, written or oral, except as specified below.

Owner understands, acknowledges and agrees to the following:

A. All amounts are due and payable upon invoice. Contractor may require 1/3 deposit prior to commencement of performance of its work. Contract may require credit application.

B. The Contractor shall not be responsible for damage due to strikes, fires, accidents or any other causes beyond its control. The contract work is to be performed on an open shop basis.

C. The Contractor shall not be responsible for leaks through walls, windows, chimney, siding, woodwork or other areas which are not installed within the specific scope of Contractor's Work, or for water damage to buildings or their contents as a result of such leaks.

D. In the event any material or product specified above becomes unavailable at a reasonable cost or for any other reason beyond the Contractor's control, the Contractor may provide a suitable substitute of reasonably equal quality and utility. In the event substitution is not practicable or feasible, as determined by the Contractor, the Contractor's obligations under this Service Contract shall terminate upon written notification to Owner.

E. Owner assures that all roof drains, gutters and downspouts are in good working condition and free of all debris, prior to Contractor's commencement of Work. Contractor shall not be responsible for the existing slope of the roof deck or roof structure.

F. In the event the Contractor's performance of services while re-roofing for repairing a roof discloses the need for the replacement of sheathing, woodwork, fascias and roof decks, or other materials by Contractor such replacement may be performed and Owner shall be charged on a time-and-material basis at Contractor's then standard rates. In addition to this, to help facilitate the replacement of the roof, Owner will be responsible for the disconnection and removal of mechanical equipment and mechanical lines. The reconnection of said equipment is the sole responsibility of the Owner.

G. In the performance of re-roofing and repair services, the Contractor shall not be responsible for the existing roof, site conditions, engineering design, flashings or sheet metal items, or any leaks caused by the same and/or the tie-in between the re-roofing work and the existing roof. Further, Contractor shall not be responsible to maintain the roof in a water tight condition during the performance of such service. H.T. Harrison & Sons, Inc. will not be responsible for any dust or debris that may fall into attic spaces. Owner shall be responsible for protecting contents.

H. The Contractor shall not be responsible for the design or installation of the roof deck or for structural movement or the condition or slope of the roof deck. Further, Owner shall be fully responsible that the roof trusses, deck, supports and other structural elements are sufficient to support the loading and installation of materials. Contractors shall not be responsible for drywall damage caused by structural movement, including but not limited to "nail pops".

I. The Owner represents that the Work site/structural and land is free of hazardous material (including asbestos) and if such material is found during Contractor's performance of it's Work, Owner shall immediately have it removed at Owner's sole expense in accordance with all state and federal regulations, which apply to such materials.

J. Contractor agrees that its Work performed is free of defects in material and workmanship for one year of the date of its substantial completion. Such guaranty is for repair and replacement of its Work only as provided in the H.T. Harrison & Sons, Inc. Limited Warranty. Under no circumstances shall Contractor be liable for any consequential, incidental or delay damages. SUCH GUARANTY AND LIMITED WARRANTY SET FORTH HEREIN ARE MADE EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. IT SHALL BE A CONDITON PRECEDENT TO ANY APPLICABILITY OR ENFORCEMENT OF ANY GUARANTEE OR WARRANTY PROVIDED HEREIN, THAT ALL OBLIGATIONS DUE TO CONTRACTOR BE PAID IN FULL. NOTE: SOME STATES DO NOT ALLOW EXCLUSTION OR LIMITATION OF WARRANTIES OR INCIDENTAL OR CONSEQUENTIAL DAMAGES IN CONSUMER TRANSACTIONS, SO THE ABOVE LIMITATIONS AND EXCLUSIONS MAY NOT APPY TO THE OWNER. THIS WARRANTY PROIVDES THE OWNER WITH SPECIFIC LEGAL RIGHTS AND THE OWNER MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

K. The Price for the Work is based upon Contractor's reasonable anticipated material costs. In the event such material cost increases by greater than five percent (5%), Owner may elect to either pay the increase of Contractor's material costs or terminate this Service Contract, paying to Contractor for Work performed to date. Such election must be made in writing within three (3) days of Owner receiving notification of such increase. Owner's failure to elect gives the Contractor the right to either proceed or terminate further performance.

L. In the event this Service Contract is attached and/or incorporated into any other agreement between the parties, with respect to the Project or Work of Contractor, not withstanding anything to the contrary, in the event of a conflict between the terms, the Terms of this Service Contract shall govern.

M. Owner shall pay 1.5% interest per month (18% annual rate) on any unpaid balance over 30 days due from the date of presentation of an invoice. In the event the Contractor places for collection any monies due over 30 days from date of presentation of an invoice, Owner shall pay reasonable attorney's fees and any other costs incurred by the Contractor in the collection of monies due to Contractor.

Approximate Dates: In the event this Service Contract is accepted and returned to Contractor within five (5) days of the date stated above, the following Approximate Dates shall apply. Otherwise the parties shall agree on new Approximate Dates.

Approximate Date of Commencement: _____

Approximate Date of Completion: _____

Maryland Home Improvement Commission
500 N. Calvert Street, #306
Baltimore, MD 21201 (410) 230-6309

WAH2010/HTHFile # W-1239-10
WAH/ch
10/25/10

H.T. HARRISON & SONS, INC. (M.H.I.C. #5561)

By: _____
Contractor/Authorized Agent

Date of Acceptance: _____

W. Harrison

Accepted Price: _____

Owner has read the above terms and agrees to be bound by them. Owner understands that the Contractor will provide a Limited Warranty Upon the completion of the Service Contract. Owner has received and reviewed the Limited Warranty and accepts its terms, understanding that the terms in the Limited Warranty are effective only upon full performance by Owner, including full payment of all monies due.

The proposal stated above must be accepted and returned to Contractor within 30 days of the date stated above or be deemed null and void. If accepted, please sign and return one copy.

By: _____
Owner/Authorized Purchaser

H. T. HARRISON & SONS, INC.

"QUALITY ROOFING & SHEET METAL WORK SINCE 1908"

204 N. STONESTREET AVENUE • ROCKVILLE, MARYLAND 20850 • TEL: (301) 279-9404 • FAX: (301) 279-9361

M.H.I.C. #5561

SERVICE CONTRACT

Date 10/25/10

Purchaser Stephen Foy
Street 3940 Washington Street
City Kensington, MD 20895

Project Roofing Service @
SHINGLE ROOF

H. T. Harrison & Sons, Inc. (Contractor) for the following sum, hereby proposes to provide the necessary service to perform the necessary labor to install, construct and place the improvements described and to furnish and install all materials incidental to the installation, construction or placement of the improvements on, or in the building at the Project listed above as follows ("Work"):

Tear off the existing slate roofing down to the roof deck. Clean up and haul away roofing debris.

After the tear off is completed, the deck will be inspected and repaired/replaced as needed at an additional cost* to the owner.

Furnish and install ice and water shield at eaves, hip and valley.

Furnish and install new GAF/Timberline Prestique Lifetime shingles over new roofing felt in accordance to manufacture specifications.
Shingle color to be selected by owner. Place color selection here_____

Furnish and install hip and ridge shingles.

Furnish and install .032 aluminum valley.

Furnish and install new .032 aluminum step flashing.

Furnish and install new .032 aluminum apron flashing.

Furnish and install no-caulk vent pipe collars at existing vent pipes.

Included is the GAF/ELK Lifetime shingle warranty.

Included is H.T. Harrison and Sons, Inc two-year (2 yr.) warranty.

FOR THE CONTRACT AMOUNT OF: $28,374.00
If accepted, initial here _____

NOTE: *EXTRA *COSTS ARE INVOICED WHEN APPLICABLE*:

1. There may be a fuel charge.
2. Owner shall provide set up, work area and parking.
3. Owner shall remove and re-install all equipment (mechanical, antenna's, electric lines, etc.) as necessary.
4. The prices stated in this service contract are guaranteed for 15 days due to escalating material cost.
5. Deteriorated plywood will be replaced at an additional cost CDX at $2.10 or FRT at $2.85 per square foot.
6. Deteriorated fascia/rake boards will be replaced additional cost of $8.30 or $9.45 (primed) per linear foot.
7. Deteriorated 1" x 6" roof deck sheathing will be replaced at an additional cost of $8.30 per foot.

Please execute full signature on reverse side of this contract.

TERMS

This Service Contract shall become binding only when either signed by a duly authorized representative of the Contractor or Contractor's commencement of performance of its Work hereunder. This Service Contract constitutes the entire agreement between the parties, there being no covenant, promises or agreements, written or oral, except as specified below.

Owner understands, acknowledges and agrees to the following:

A. All amounts are due and payable upon invoice. Contractor may require 1/3 deposit prior to commencement of performance of its work. Contract may require credit application.

B. The Contractor shall not be responsible for damage due to strikes, fires, accidents or any other causes beyond its control. The contract work is to be performed on an open shop basis.

C. The Contractor shall not be responsible for leaks through walls, windows, chimney, siding, woodwork or other areas which are not installed within the specific scope of Contractor's Work, or for water damage to buildings or their contents as a result of such leaks.

D. In the event any material or product specified above becomes unavailable at a reasonable cost or for any other reason beyond the Contractor's control, the Contractor may provide a suitable substitute of reasonably equal quality and utility. In the event substitution is not practicable or feasible, as determined by the Contractor, the Contractor's obligations under this Service Contract shall terminate upon written notification to Owner.

E. Owner assures that all roof drains, gutters and downspouts are in good working condition and free of all debris, prior to Contractor's commencement of Work. Contractor shall not be responsible for the existing slope of the roof deck or roof structure.

F. In the event the Contractor's performance of services while re-roofing for repairing a roof discloses the need for the replacement of sheathing, woodwork, fascias and roof decks, or other materials by Contractor such replacement may be performed and Owner shall be charged on a time-and-material basis at Contractor's then standard rates. In addition to this, to help facilitate the replacement of the roof, Owner will be responsible for the disconnection and removal of mechanical equipment and mechanical lines. The reconnection of said equipment is the sole responsibility of the Owner.

G. In the performance of re-roofing and repair services, the Contractor shall not be responsible for the existing roof, site conditions, engineering design, flashings or sheet metal items, or any leaks caused by the same and/or the tie-in between the re-roofing work and the existing roof. Further, Contractor shall not be responsible to maintain the roof in a water tight condition during the performance of such service. H.T. Harrison & Sons, Inc. will not be responsible for any dust or debris that may fall into attic spaces. Owner shall be responsible for protecting contents.

H. The Contractor shall not be responsible for the design or installation of the roof deck or for structural movement or the condition or slope of the roof deck. Further, Owner shall be fully responsible that the roof trusses, deck, supports and other structural elements are sufficient to support the loading and installation of materials. Contractors shall not be responsible for drywall damage caused by structural movement, including but not limited to "nail pops".

I. The Owner represents that the Work site/structural and land is free of hazardous material (including asbestos) and if such material is found during Contractor's performance of it's Work, Owner shall immediately have it removed at Owner's sole expense in accordance with all state and federal regulations, which apply to such materials.

J. Contractor agrees that its Work performed is free of defects in material and workmanship for one year of the date of its substantial completion. Such guaranty is for repair and replacement of its Work only as provided in the H.T. Harrison & Sons, Inc. Limited Warranty. Under no circumstances shall Contractor be liable for any consequential, incidental or delay damages. SUCH GUARANTY AND LIMITED WARRANTY SET FORTH HEREIN ARE MADE EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. IT SHALL BE A CONDITON PRECEDENT TO ANY APPLICABILITY OR ENFORCEMENT OF ANY GUARANTEE OR WARRANTY PROVIDED HEREIN, THAT ALL OBLIIGATIONS DUE TO CONTRACTOR BE PAID IN FULL. NOTE: SOME STATES DO NOT ALLOW EXCLUSTION OR LIMITATION OF WARRANTIES OR INCIDENTAL OR CONSEQUENTIAL DAMAGES IN CONSUMER TRANSACTIONS, SO THE ABOVE LIMITATIONS AND EXCLUSIONS MAY NOT APPY TO THE OWNER. THIS WARRANTY PROIVDES THE OWNER WITH SPECIFIC LEGAL RIGHTS AND THE OWNER MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

K. The Price for the Work is based upon Contractor's reasonable anticipated material costs. In the event such material cost increases by greater than five percent (5%), Owner may elect to either pay the increase of Contractor's material costs or terminate this Service Contract, paying to Contractor for Work performed to date. Such election must be made in writing within three (3) days of Owner receiving notification of such increase. Owner's failure to elect gives the Contractor the right to either proceed or terminate further performance.

L. In the event this Service Contract is attached and/or incorporated into any other agreement between the parties, with respect to the Project or Work of Contractor, not withstanding anything to the contrary, in the event of a conflict between the terms, the Terms of this Service Contract shall govern.

M. Owner shall pay 1.5% interest per month (18% annual rate) on any unpaid balance over 30 days due from the date of presentation of an invoice. In the event the Contractor places for collection any monies due over 30 days from date of presentation of an invoice, Owner shall pay reasonable attorney's fees and any other costs incurred by the Contractor in the collection of monies due to Contractor.

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Approximate Date of Commencement: _____

Approximate Date of Completion: _____

Maryland Home Improvement Commission
500 N. Calvert Street, #306
Baltimore, MD 21201 (410) 230-6309

WAH2010/HTHFile # W-1239/B-10
WAH/ch
10/25/10

H.T. HARRISON & SONS, INC. (M.H.I.C. #5561)

By: _____
Contractor/Authorized Agent

Date of Acceptance: _____

Accepted Price: _____

W. Harrison

Owner has read the above terms and agrees to be bound by them. Owner understands that the Contractor will provide a Limited Warranty Upon the completion of the Service Contract. Owner has received and reviewed the Limited Warranty and accepts its terms, understanding that the terms in the Limited Warranty are effective only upon full performance by Owner, including full payment of all monies due.

The proposal stated above must be accepted and returned to Contractor within 30 days of the date stated above or be deemed null and void. If accepted, please sign and return one copy.

By: _____
Owner/Authorized Purchaser

H. T. HARRISON & SONS, INC.

"QUALITY ROOFING & SHEET METAL WORK SINCE 1908"

204 N. STONESTREET AVENUE • ROCKVILLE, MARYLAND 20850 • TEL: (301) 279-9404 • FAX: (301) 279-9361

M.H.I.C. #5561

SERVICE CONTRACT

Date 10/25/10

Purchaser Stephen Foy

Street 3940 Washington Street

City Kensington, MD 20895

Project Roofing Service @ SLATE ROOF

H. T. Harrison & Sons, Inc. (Contractor) for the following sum, hereby proposes to provide the necessary service to perform the necessary labor to install, construct and place the improvements described and to furnish and install all materials incidental to the installation, construction or placement of the improvements on, or in the building at the Project listed above as follows ("Work"):

Furnish labor and material to repair missing and broken slate (approximately 200 pieces).

Repair and re-seal hip and ridge areas where necessary.

Replace two (2) deteriorated vent pipe collars.

Repair valley flashing as necessary.

FOR THE CONTRACT AMOUNT OF: $16,725.00

If accepted, initial here _____

Although every effort will be made to produce watertight roofing, due to the condition of the existing roof system there is no offered, implied or expressed warrant or guaranty on roofing repair service.

NOTE: *EXTRA *COSTS ARE INVOICED WHEN APPLICABLE*:

1. There may be a fuel charge.
2. Owner shall provide set up, work area and parking.
3. Owner shall remove and re-install all equipment (mechanical, antenna's, electric lines, etc.) as necessary.
4. The prices stated in this service contract are guaranteed for 15 days due to escalating material cost.
5. Deteriorated plywood will be replaced at an additional cost CDX at $2.10 or FRT at $2.85 per square foot.
6. Deteriorated fascia/rake boards will be replaced additional cost of $8.30 or $9.45 (primed) per linear foot.
7. Deteriorated 1" x 6" roof deck sheathing will be replaced at an additional cost of $8.30 per foot.

Please execute full signature on reverse side of this contract.

TERMS

This Service Contract shall become binding only when either signed by a duly authorized representative of the Contractor or Contractor's commencement of performance of its Work hereunder. This Service Contract constitutes the entire agreement between the parties, there being no covenant, promises or agreements, written or oral, except as specified below.

Owner understands, acknowledges and agrees to the following:

A. All amounts are due and payable upon invoice. Contractor may require 1/3 deposit prior to commencement of performance of its work. Contract may require credit application.

B. The Contractor shall not be responsible for damage due to strikes, fires, accidents or any other causes beyond its control. The contract work is to be performed on an open shop basis.

C. The Contractor shall not be responsible for leaks through walls, windows, chimney, siding, woodwork or other areas which are not installed within the specific scope of Contractor's Work, or for water damage to buildings or their contents as a result of such leaks.

D. In the event any material or product specified above becomes unavailable at a reasonable cost or for any other reason beyond the Contractor's control, the Contractor may provide a suitable substitute of reasonably equal quality and utility. In the event substitution is not practicable or feasible, as determined by the Contractor, the Contractor's obligations under this Service Contract shall terminate upon written notification to Owner.

E. Owner assures that all roof drains, gutters and downspouts are in good working condition and free of all debris, prior to Contractor's commencement of Work. Contractor shall not be responsible for the existing slope of the roof deck or roof structure.

F. In the event the Contractor's performance of services while re-roofing for repairing a roof discloses the need for the replacement of sheathing, woodwork, fascias and roof decks, or other materials by Contractor such replacement may be performed and Owner shall be charged on a time-and-material basis at Contractor's then standard rates. In addition to this, to help facilitate the replacement of the roof, Owner will be responsible for the disconnection and removal of mechanical equipment and mechanical lines. The reconnection of said equipment is the sole responsibility of the Owner.

G. In the performance of re-roofing and repair services, the Contractor shall not be responsible for the existing roof, site conditions, engineering design, flashings or sheet metal items, or any leaks caused by the same and/or the tie-in between the re-roofing work and the existing roof. Further, Contractor shall not be responsible to maintain the roof in a water tight condition during the performance of such service. H.T. Harrison & Sons, Inc. will not be responsible for any dust or debris that may fall into attic spaces. Owner shall be responsible for protecting contents.

H. The Contractor shall not be responsible for the design or installation of the roof deck or for structural movement or the condition or slope of the roof deck. Further, Owner shall be fully responsible that the roof trusses, deck, supports and other structural elements are sufficient to support the loading and installation of materials. Contractors shall not be responsible for drywall damage caused by structural movement, including but not limited to "nail pops".

I. The Owner represents that the Work site/structural and land is free of hazardous material (including asbestos) and if such material is found during Contractor's performance of it's Work, Owner shall immediately have it removed at Owner's sole expense in accordance with all state and federal regulations, which apply to such materials.

J. Contractor agrees that its Work performed is free of defects in material and workmanship for one year of the date of its substantial completion. Such guaranty is for repair and replacement of its Work only as provided in the H.T. Harrison & Sons, Inc. Limited Warranty. Under no circumstances shall Contractor be liable for any consequential, incidental or delay damages. SUCH GUARANTY AND LIMITED WARRANTY SET FORTH HEREIN ARE MADE EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. IT SHALL BE A CONDITON PRECEDENT TO ANY APPLICABILITY OR ENFORCEMENT OF ANY GUARANTEE OR WARRANTY PROVIDED HEREIN, THAT ALL OBLIIGATIONS DUE TO CONTRACTOR BE PAID IN FULL. NOTE: SOME STATES DO NOT ALLOW EXCLUSTION OR LIMITATION OF WARRANTIES OR INCIDENTAL OR CONSEQUENTIAL DAMAGES IN CONSUMER TRANSACTIONS, SO THE ABOVE LIMITATIONS AND EXCLUSIONS MAY NOT APPY TO THE OWNER. THIS WARRANTY PROIVDES THE OWNER WITH SPECIFIC LEGAL RIGHTS AND THE OWNER MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

K. The Price for the Work is based upon Contractor's reasonable anticipated material costs. In the event such material cost increases by greater than five percent (5%), Owner may elect to either pay the increase of Contractor's material costs or terminate this Service Contract, paying to Contractor for Work performed to date. Such election must be made in writing within three (3) days of Owner receiving notification of such increase. Owner's failure to elect gives the Contractor the right to either proceed or terminate further performance.

L. In the event this Service Contract is attached and/or incorporated into any other agreement between the parties, with respect to the Project or Work of Contractor, not withstanding anything to the contrary, in the event of a conflict between the terms, the Terms of this Service Contract shall govern.

M. Owner shall pay 1.5% interest per month (18% annual rate) on any unpaid balance over 30 days due from the date of presentation of an invoice. In the event the Contractor places for collection any monies due over 30 days from date of presentation of an invoice, Owner shall pay reasonable attorney's fees and any other costs incurred by the Contractor in the collection of monies due to Contractor.

Approximate Dates: In the event this Service Contract is accepted and returned to Contractor within five (5) days of the date stated above, the following Approximate Dates shall apply. Otherwise the parties shall agree on new Approximate Dates.

Approximate Date of Commencement: _____

Approximate Date of Completion: _____

Maryland Home Improvement Commission
500 N. Calvert Street, #306
Baltimore, MD 21201 (410) 230-6309

WAH2010/HTHFile # W-1239/A-10
WAH/ch
10/25/10

Date of Acceptance: _____

Accepted Price: _____

H.T. HARRISON & SONS, INC. (M.H.I.C. #5561)

By: _____
Contractor/Authorized Agent

W. Harrison

Owner has read the above terms and agrees to be bound by them. Owner understands that the Contractor will provide a Limited Warranty Upon the completion of the Service Contract. Owner has received and reviewed the Limited Warranty and accepts its terms, understanding that the terms in the Limited Warranty are effective only upon full performance by Owner, including full payment of all monies due.

The proposal stated above must be accepted and returned to Contractor within 30 days of the date stated above or be deemed null and void. If accepted, please sign and return one copy.

By: _____
Owner/Authorized Purchaser

3940 Washington

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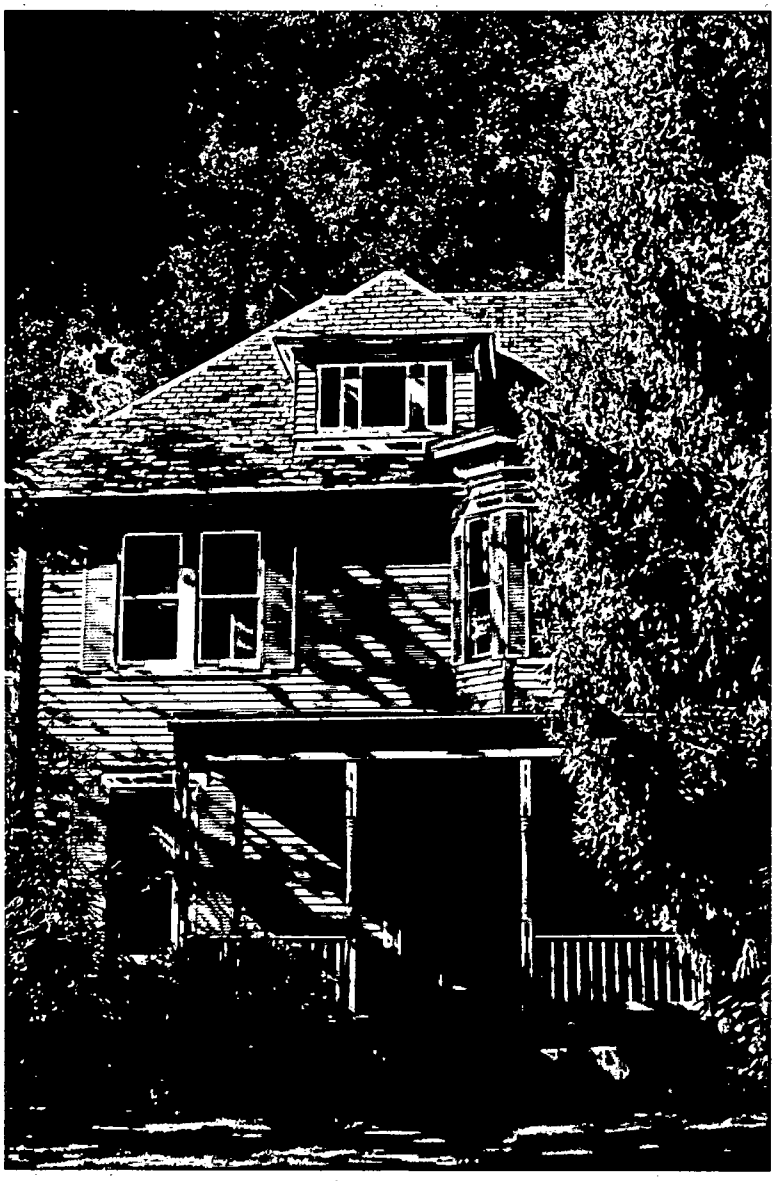
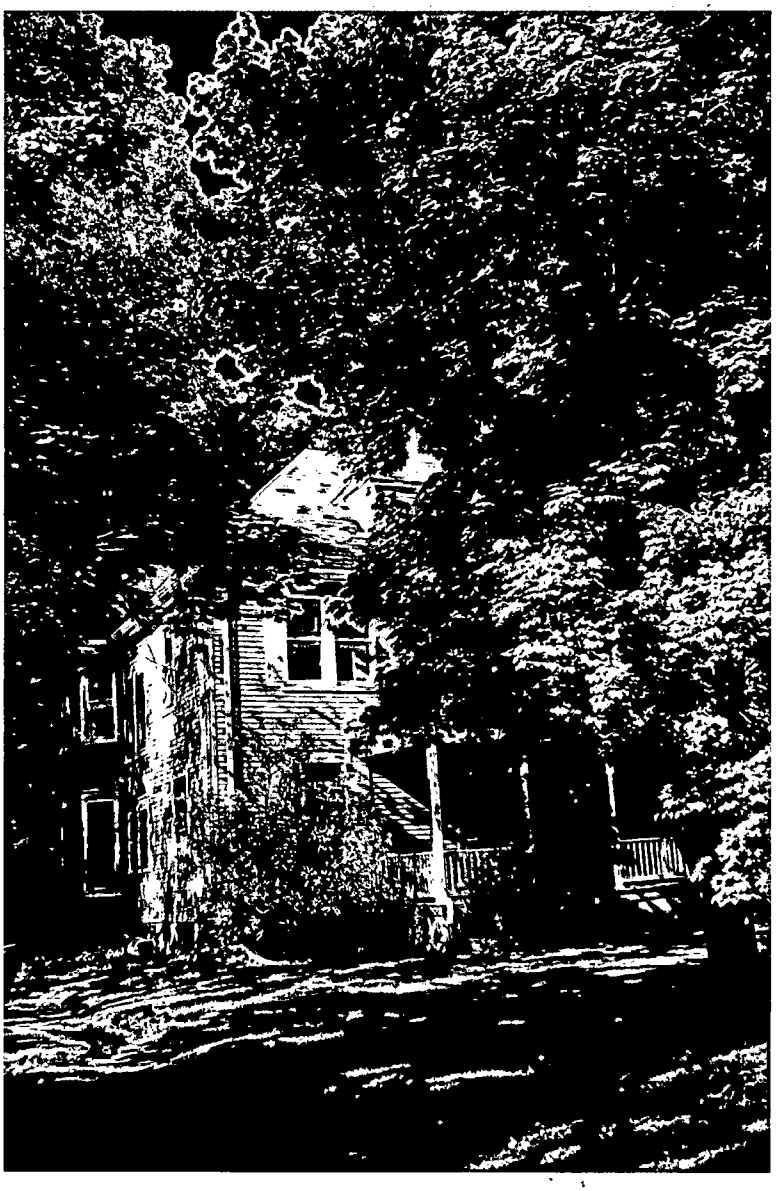




Technical Preservation Services

Building Exterior Roofs

Identify | Protect | Repair | Replace | Missing Feature | Alterations/Additions

SEARCH | LINKS | E-MAIL

Standards
Guidelines

Masonry
Wood
Metals

Roofs
Windows
Entrances/Porches
Storefronts

Structural Systems
Spaces/Features/Finishes
Mechanical Systems

Site
Setting

Energy
New Additions
Accessibility
Health/Safety

The roof--with its shape; features such as cresting, dormers, cupolas, and chimneys; and the size, color, and patterning of the roofing material--is an important design element of many historic buildings.

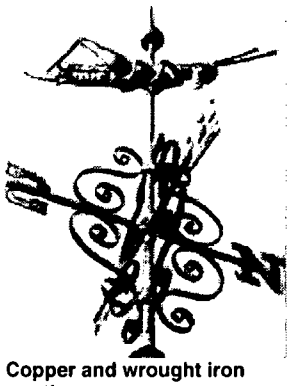
Slate and copper mansard roofs in an urban canyon.

In addition a weathertight roof is essential to the longterm preservation of the entire structure. Historic roofing reflects availability of materials, levels of construction technology, weather, and cost.

For example, throughout the country in all periods of history, **wood shingles** have been used--their size, shape, and detailing differing according to regional craft practices. European settlers used **clay tile** for roofing as early as the mid-17th century. In some cities, such as New York and Boston, clay was popularly used as a precaution against fire. The Spanish influence in the use of clay tile is found in the southern, southwestern and western states. In the mid-19th century, tile roofs were often replaced by **sheet metal**, which is lighter and easier to maintain. Evidence of the use of **slate** for roofing dates from the mid-17th century. Slate has remained popular for its durability, fireproof qualities, and its decorative applications. The use of metals for roofing and roof features dates from the 18th century, and includes the use of **sheet iron, corrugated iron, galvanized metal, tin-plate, copper, lead and zinc.** Awareness of these and other traditions of roofing materials and their detailing will contribute to more sensitive treatment.

Roofs **....Identify, retain, and preserve**

recommended.....



Copper and wrought iron weathervane.

Identifying, retaining, and preserving roofs--and their functional and decorative features--that are important in defining the overall historic character of the building.

This includes the roof's shape, such as hipped, gambrel, and mansard; decorative features, such as cupolas, cresting chimneys, and weathervanes; and roofing material such as slate, wood, clay tile, and metal, as well as its size, color, and patterning.

not recommended.....

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Radically changing, damaging, or destroying roofs which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Removing a major portion of the roof or roofing material that is repairable, then reconstructing it with new material in order to create a uniform, or "improved" appearance.

Changing the configuration of a roof by adding new features such as dormer windows, vents, or skylights so that the historic character is diminished.

Stripping the roof of sound historic material such as slate, clay tile, wood, and architectural metal.

Applying paint or other coatings to roofing material which has been historically uncoated.

Roofs **....Protect and Maintain**

recommended.....

Protecting and maintaining a roof by cleaning the gutters and downspouts and replacing deteriorated flashing.

Roof sheathing should also be checked for proper venting to prevent moisture condensation and water penetration; and to insure that materials are free from insect infestation.

Gable and pent roof in excellent condition.

Providing adequate anchorage for roofing material to guard against wind damage and moisture penetration.

Protecting a leaking roof with plywood and building paper until it can be properly repaired.

not recommended.....

Failing to clean and maintain gutters and downspouts properly so that water and debris collect and cause damage to roof fasteners, sheathing, and the underlying structure.

Allowing roof fasteners, such as nails and clips to corrode so that roofing material is subject to accelerated deterioration.

Permitting a leaking roof to remain unprotected so that accelerated deterioration of historic building materials--masonry, wood, plaster, paint and structural members--occurs.

Roofs **....Repair**

recommended.....

Repairing a roof by reinforcing the historic materials which comprise roof

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18

features.

Repairs will also generally include the limited replacement in kind--or with compatible substitute material--of those extensively deteriorated or missing parts of features when there are surviving prototypes such as cupola louvers, dentils, dormer roofing; or slates, tiles, or wood shingles on a main roof.

Repairing slate roof using traditional methods.

not recommended.....

Replacing an entire roof feature such as a cupola or dormer when repair of the historic materials and limited replacement of deteriorated or missing parts are appropriate.

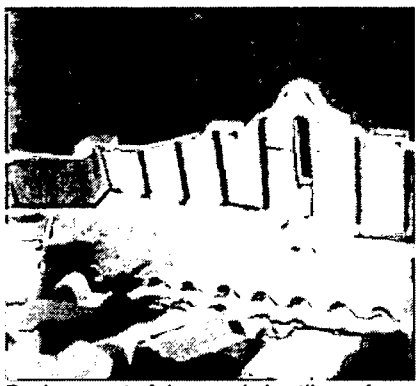
Failing to reuse intact slate or tile when only the roofing substrate needs replacement.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the roof or that is physically or chemically incompatible.

Roofs **....Replace**

recommended.....

Replacing in kind an entire feature of the roof that is to deteriorated to repair--if the overall form and detailing are still evident--using the physical evidence as a model to reproduce the feature.



Replacement of damaged clay tile roof.

Examples can include a large section of roofing, or a dormer or chimney.

If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

not recommended.....

Removing a feature of the roof that is unrepairable, such as a chimney or dormer, and not replacing it; or replacing it with a new feature that does not convey the same visual appearance

Design for Missing Historic Features

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The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

recommended.....

Designing and constructing a new feature when the historic feature is completely missing, such as a chimney or cupola. It may be an accurate restoration using historical, pictorial, and physical documentation; or be a new design that is compatible with the size, scale, material, and color of the historic building.

not recommended.....

Creating a false historical appearance because the replaced feature is based on insufficient historical, pictorial, and physical documentation.

Introducing a new roof feature that is incompatible in size, scale, material and color.

Alterations/Additions for the New Use

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

recommended.....

Installing mechanical and service equipment on the roof, such as air conditioning, transformers, or solar collectors when required for the new use so that they are inconspicuous from the public right-of-way and do not damage or obscure character-defining features.

Non-obtrusive skylights on rear of residence.

Designing additions to roofs such as residential, office, or storage spaces; elevator housing; decks and terraces; or dormers or skylights when required by the new use so that they are inconspicuous from the public right-of-way and do not damage or obscure character-defining features.

not recommended.....

Installing mechanical or service equipment so that it damages or obscures character-defining features; or is conspicuous from the public right-of-way.

Radically changing a character-defining roof shape or damaging or destroying character-defining roofing material as a result of incompatible design or improper installation techniques.

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29 Preservation Briefs

Technical Preservation Services
National Park Service
U.S. Department of the Interior

The Repair, Replacement & Maintenance of Historic Slate Roofs

Jeffrey S. Levine

A NOTE TO OUR USERS: The web versions of the **Preservation Briefs** differ somewhat from the printed versions. Many illustrations are new, captions are simplified, illustrations are typically in color rather than black and white, and some complex charts have been omitted.

Slate is one of the most aesthetically pleasing and durable of all roofing materials. It is indicative at once of the awesome powers of nature which have formed it and the expertise and skill of the craftsman in handshaping and laying it on the roof. Installed properly, slate roofs require relatively little maintenance and will last 60 to 125 years or longer depending on the type of slate employed, roof configuration, and the geographical location of the property. Some slates have been known to last over 200 years. Found on virtually every class of structure, slate roofs are perhaps most often associated with institutional, ecclesiastical, and government buildings, where longevity is an especially important consideration in material choices. In the slate quarrying regions of the country, where supply is abundant, slate was often used on farm and agricultural buildings as well.

Because the pattern, detailing, and craftsmanship of slate roofs are important design elements of historic buildings, they should be repaired rather than replaced whenever possible. The purpose of this Preservation Brief is to assist property owners, architects, preservationists, and building managers in understanding the causes of slate roof failures and undertaking the repair and replacement of slate roofs. Details contributing to the character of historic slate roofs are described and guidance is offered on maintenance and the

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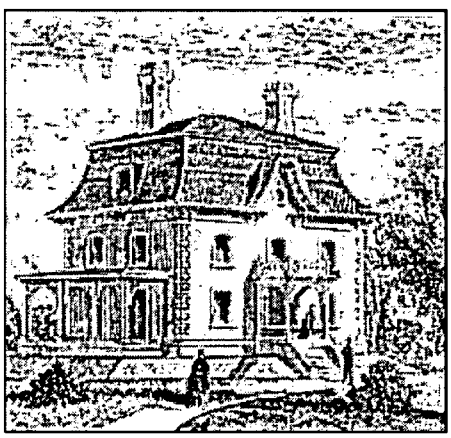
Although slate replacement roofs are expensive, the superiority of materials and craftsmanship will give years of continued service. If amortized over the life of the roof, the replacement cost can be very reasonable. Photo: NPS files.

degree of intervention required at various levels of deterioration.

The relatively large percentage of historic buildings roofed with slate during the late nineteenth and early twentieth centuries means that many slate roofs, and the 60 to 125 year life span of the slates most commonly used, may be nearing the end of their serviceable lives at the end of the twentieth century. Too often, these roofs are being improperly repaired or replaced with alternative roofing materials, to the detriment of the historic integrity and appearance of the structure. Increased knowledge of the characteristics of slate and its detailing and installation on the roof can lead to more sensitive interventions in which original material is preserved and the building's historic character maintained. Every effort should be made to replace deteriorated slate roofs with new slate and to develop an effective maintenance and repair program for slate roofs that can be retained.

History of Slate Use in the United States

Although slate quarrying was not common in the United States until the latter half of the nineteenth century, slate roofing is known to have been used prior to the Revolution. Archeological excavations at Jamestown, Virginia,have unearthed roofing slate in strata dating from 1625-1650 and 1640-1670. Slate roofs were introduced in Boston as early as 1654 and Philadelphia in 1699. Seventeenth century building ordinances of New York and Boston recommended the use of slate or tile roofs to ensure fireproof construction.



Architectural pattern books of the mid-19th century awakened Americans to the availability and quality of slate for roofing purposes. Drawing: Design XX, "A French Roof House," in A.J. Downing's Victorian Cottage Residences.

In the early years of the Colonies, nearly all roofing slate was imported from North Wales. It was not until 1785 that the first commercial slate quarry was opened in the United States, by William Docher in Peach Bottom Township, Pennsylvania. Production was limited to that which could be consumed in local markets until the middle of the nineteenth century. Knowledge of the nation's abundant stone resources was given commercial impetus at this time by several forces, including a rapidly growing population that demanded housing, advances in quarrying technology, and extension of the railroad system to previously inaccessible markets. Two additional factors helped push the slate industry to maturity: the immigration of Welsh slate workers to the United States and the introduction of architectural pattern and style books. Slate production increased dramatically in the years following the Civil War as quarries were opened in Vermont, New York, Virginia, and Lehigh and Northampton Counties, Pennsylvania. By 1876, roofing slate imports had all but dried up and the United States became a net exporter of the commodity.

The U.S. roofing slate industry reached its highest point in both quantity and value of output in the period from 1897 to 1914. In 1899, there were over 200 slate quarries operating in 13 states, Pennsylvania historically being the largest producer of all. The decline of the U.S. roofing slate industry began c.1915 and resulted from several factors,

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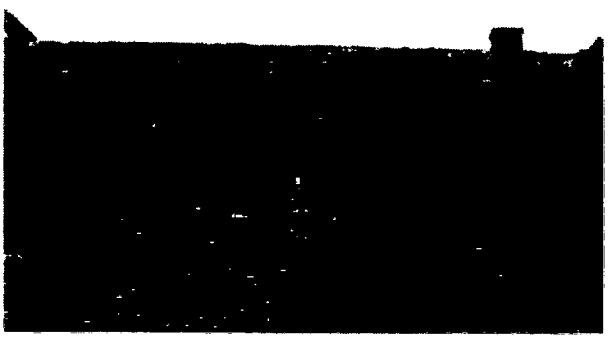
including a decline in skilled labor for both the fabrication and installation of slate and competition from substitute materials, such as asphalt shingles, which could be mass produced, transported and installed at a lower cost than slate. Only recently, with the increasing popularity of historic preservation and the recognition of the superiority of slate over other roofing materials, has slate usage begun to increase.

The Character and Detailing of Historic Slate Roofs

During some periods of architectural history, roof design has gone far beyond the merely functional and contributed much to the character of buildings. Roofs, by their compelling forms, have defined styles and, by their decorative patterns and colors, have imparted both dignity and beauty to buildings. The architectural styles prevalent during the latter half of the nineteenth and early twentieth centuries placed strong emphasis on prominent roof lines and greatly influenced the demand for slate. Slate, laid in multicolored decorative patterns, was particularly well suited to the Mansard roofs of the Second Empire style, the steeply pitch roofs of the Gothic Revival and High Victorian Gothic styles, and the many prominent roof planes and turrets associated with the Queen Anne style. The Tudor style imitated the quaint appearance of some English slates which, because of their granular cleavage, are thick and irregular. These slates were often laid in a graduated pattern, with the largest slates at the eaves and the courses diminishing in size up the roof slope, or a textural pattern. Collegiate Gothic style buildings, found on many university campuses, were often roofed with slate laid in a graduated pattern.

The configuration, massing, and style of historic slate roofs are important design elements that should be preserved. In addition, several types of historic detailing were often employed to add visual interest to the roof essentially elevating the roof to the level of an ornamental architectural element. When repairing or replacing a slate roof, original details affecting its visual character should be retained.



This graduated slate roof is composed of large, thick slates at the eave which are reduced in size and thickness as the slating progresses to the ridge. Photo: Jeffrey S. Levine.

Before repairing or replacing an existing slate roof, it is important to document the existing conditions and detailing of the roof using written, visual, and physical evidence so that original features can be identified and preserved. Documentation should continue through the repair or replacement process as significant details, long obscured, are often rediscovered while carrying out these activities. Local histories, building records, old receipts and ledgers, historic photographs, sketches, and paintings, shadow lines and nail hole patterns on the roof deck, and bits of historic material left over from previous interventions (often found in eave cavities) are all useful sources of information which can be of help in piecing together the original appearance of the roof. Size, shape, color, texture, exposure, and coursing are among the most important characteristics of the original slates which should be documented and matched when repairing or replacing an historic slate roof.

Historically, three types of slate roofing--**standard, textural, and graduated**-were available according to the architectural effect desired. Standard grade slate roofs were

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most common. These are characterized by their uniform appearance, being composed of slates approximately 3/16" (0.5cm) thick, of consistent length and width, and having a smooth cleavage surface. Thirty different standard sizes were available, ranging from 10" (25cm) x 6" to 24" x 14" (15cm x 61cm x 35cm). The slates were laid to break joints and typically had square ends and uniform color and exposure. Patterned and polychromatic roofs were created by laying standard slates of different colors and shapes on the roof in such a way as to create sunbursts, flowers, sawtooth and geometric designs, and even initials and dates. On utilitarian structures, such as barns and sheds, large gaps were sometimes left between each slate within a given course to reduce material and installation costs and provide added ventilation for the interior.

Textural slate roofs incorporate slates of different thicknesses, uneven tails, and a rougher texture than standard slates. Textural slate roofs are perhaps most often associated with Tudor style buildings where slates of different colors are used to enhance the effect.

Graduated slate roofs were frequently installed on large institutional and ecclesiastical structures. The slates were graduated according to thickness, size, and exposure, the thickest and largest slates being laid at the eaves and the thinnest and smallest at the ridge. Pleasing architectural effects were achieved by blending sizes and colors.

Valleys are formed at the internal angle of two roofing slopes. Flashing is often placed under the slate to increase moisture protection at this vulnerable joint. Photo: Jeffrey S. Levine.

Detailing at the hips, ridges and valleys provided added opportunity to ornament a slate roof. Hips and ridges can be fashioned out of slate according to various traditional schemes whereby the slates are cut and overlapped to produce a watertight joint of the desired artistic effect. Traditional slate ridge details are the saddle ridge, strip saddle rid~e and comb ridge, and for hips, the saddle hip, mitered hip Boston hip, and fantail hip. A more linear effect was achieved by covering the ridges and hips with flashing called "cresting" or "ridge roll" formed out of sheet metal, terra cotta, or even slate. Snow guards, snow boards, and various types of gutter and rake treatments also contributed to the character of historic slate roofs.

Two types of valleys were traditionally employed, the **open valley** and the **closed valley**. The open valley is lined with metal over which slates lap only at the sides. Closed valleys are covered with slate and have either a continuous metal lining or metal flashing built in with each course. Open valleys are easier to install and maintain, and are generally more watertight than closed valleys. Round valleys are a type of closed valley with a concave rather than Vshaped section. Given the broader sweep of the round valley, it was not uncommon for roofers to interweave asphalt saturated felts rather than copper sheet in the coursing in order to cut costs.

Although principally associated with graduated and textural slate roofs, round valleys were infrequently employed due to the difficulty and expense of their installation.

Common types of sheathing used include **wood boards, wood battens**, and, for fireproof construction on institutional and government buildings, **concrete or steel**. Solid wood sheathing was typically constructed of tongue and groove, square edged, or shiplapped pine boards of 1" (2.5 cm) or 1-1/4" (3 cm) nominal thickness. Boards from

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6" (15 cm) to 8" (20 cm) wide and tongue and groove boards were generally preferred as they were less likely to warp and curl.

Wood battens, or open wood sheathing, consisted of wood strips, measuring from 2" (5 cm) to 3" (7.5 cm) in width, nailed to the roof rafters. Spacing of the battens depended on the length of the slate and equaled the exposure. Slates were nailed to the batten that transected its midsection. The upper end of the slate rested at least ½" (1.25 cm) on the batten next above. Open wood sheathing was employed primarily on utilitarian, farm, and agricultural structures in the North and on residential buildings in the South where the insulating value of solid wood sheathing was not a strict requirement. To help keep out dust and wind driven rain on residential buildings, mortar was often placed along the top and bottom edge of each batten, a practice sometimes referred to as torching.

Steel angles substituted for the wood battens in fireproof construction. The slates were secured using wire wrapped around the steel angle, where it was twistedoff tight. Alternately, any of a variety of special fasteners patented over the years could have been used to attach the slate to the steel angle. On roofs with concrete decks, slates were typically nailed to wood nailing strips embedded in the concrete.

Eave details include snow guards, snow boards, and gutter treatments. Snow guards are generally used in areas where the ice and snow accumulate to avoid dangerous slides from the roof. Photo: Jeffrey S. Levine.

Beginning in the late nineteenth century, asphalt saturated roofing felt was installed atop solid wood sheathing. The felt provided a temporary, watertight roof until the slate could be installed atop it. Felt also served to cushion the slates, exclude wind driven rain and dust, and ease slight unevenness between the sheathing boards.

Slate was typically laid in horizontal courses starting at the eaves with a standard headlap of 3" (7.5 cm) (Figure 10). Headlap was generally reduced to 2" (5 cm) on Mansard roofs and on particularly steep slopes with more than 20" (50 cm) of rise per 12" (30 cm) of run. Conversely, headlap was increased to 4" (10 cm) or more on low pitched roofs with a rise of 8" (20 cm) or less per 12" (30 cm) of horizontal run. The minimum roof slope necessary for a slate roof was 4" (10 cm) of rise per 12" (30 cm) of run.

Where Does Slate Come From?

Slate is a fine grained, crystalline rock derived from sediments of clay and fine silt which were deposited on ancient sea bottoms. Superimposed materials gradually consolidated the sedimentary particles into bedded deposits of shale. Mountain building forces subsequently folded, crumpled, and compressed the shale. At the same time, intense heat and pressure changed the original clays into new minerals such as mica, chlorite, and quartz. By such mechanical and chemical processes bedded clays were transformed, or metamorphosed, into slate, whole geologic ages being consumed in the process. Slates vary in composition, structure, and durability because the degree to which their determinant minerals have been altered is neither uniform nor consistent.

The adaptation of slate for roofing purposes

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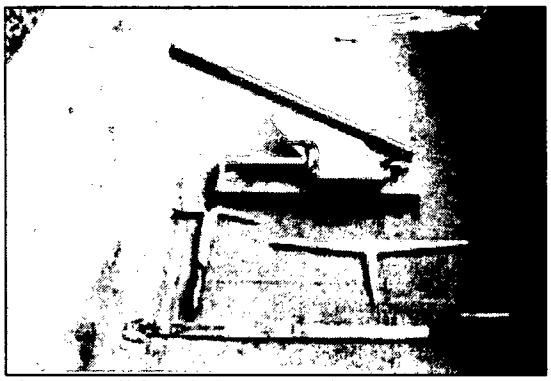
is inextricably linked to its genesis. The manufacturing processes of nature have endowed slate with certain commercially amenable properties which have had a profound influence on the methods by which slate is quarried and fabricated, as well as its suitability for use as a roofing tile.



These traditional slater's tools are used to cut and trim, hammer, measure, and rip out nails. Photo: Jeffrey S. Levine.

Slate roofing tiles are still manufactured by hand using traditional methods in a five step process: **cutting, sculping, splitting, trimming, and hole punching.** In the manufacturing process, large, irregular blocks taken from the quarry are first cut with a saw across the grain in sections slightly longer than the length of the finished roofing slate. The blocks are next sculped, or split along the grain of the slate, to widths slightly larger than the widths of finished slates. Sculping is generally accomplished with a mallet and a broadfaced chisel, although some types of slate must be cut along their grain. In the splitting area, the slightly oversized blocks are split along their cleavage planes to the desired shingle thickness. The splitter's tools consist of a wooden mallet and two splitting chisels used for prying the block into halves and repeating this process until the desired thinness is reached. The last two steps involve trimming the tile to the desired size and then punching two nail holes toward the top of the slate using a formula based on the size and exposure of the slate.

Minerals, the building blocks of rocks, through their characteristic crystalline structures define the physical properties of the rocks which they compose. Slate consists of minerals that are stable and resistant to weathering and is, therefore, generally of high strength, low porosity, and low absorption. The low porosity and low absorption of slate mitigate the deleterious action of frost on the stone and make it well adapted for roofing purposes. The two most important structural properties of slate are cleavage and grain.

The metamorphic processes of geologic change necessary to produce slate are dependent upon movements in the earth's crust and the heat and pressure generated thereby. For this reason, slate is found only in certain mountainous regions. The most economically important slate deposits in this country lie in the Mid-Atlantic and Northeastern states transversed by or bordering on the Appalachian Mountain chain. Variations in local chemistry and conditions under which the slate was formed have produced a wide range of colors and qualities and ultimately determine the character of the slate found in these areas.

Slate is available in a variety of colors. The most common are **grey, blue-grey, black, various shades of green, deep purple, brick red, and mottled varieties.** The presence of carbonaceous matter, derived from the decay of marine organisms on ancient sea floors, gives rise to the black colored slates. Compounds of iron generate the red, purple, and green colored slates.

Generally, the slates of Maine, Virginia, and the Peach Bottom district of York County, Pennsylvania are deep blue-black in color. Those of Virginia have a distinctive lustrous appearance as well due to their high mica content. The slates of Lehigh and Northampton Counties, Pennsylvania, are grayish-black in color. Green, red, purple, and mottled slates derive from the New York-Vermont district. The slate producing region of New York, which centers around Granville and Middle Granville, is particularly important because it contains one of the few commercial deposits of red slate in the world.

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Slates are also classified as fading or unfading according to their color stability. Fading slates change to new shades or may streak within a short time after exposure to the atmosphere due to the presence of finegrained disseminated pyrite. For example, the "weathering green" or "seagreen" slates of New York and Vermont are grayish green when freshly quarried. Upon exposure, from 20% to 60% of the slates typically weather to soft tones of orange-brown, buff, and gray while the others retain their original shade. Slates designated as unfading maintain their original colors for many years.

Color permanence generally provides no indication of the durability of slate. Rather, time has shown that the Vermont and New York slates will last about 125 years; Buckingham Virginia slates 175 years or more; and Pennsylvania SoftVein slates in excess of 60 years; Pennsylvania HardVein slates and Peach Bottom slates, neither of which is still quarried, had life spans of roughly 100 and at least 200 years respectively. The life spans provided should be used only as a general guide in determining whether or not an existing slate roof is nearing the end of its serviceable life.

Ribbons are visible as bands on the cleavage face of slate and represent geologic periods during which greater amounts of carbonaceous matter, calcite, or coarse quartz particles were present in the sediment from which the slate was formed. Ribbons typically weather more and were most common in Pennsylvania slate quarries. As they were not as durable as clear slates, ribbon slate is no longer manufactured for roofing purposes. Mottled grey slates from Vermont are the closest match for Pennsylvania ribbon slate available today.

In recent years, slates from China, Africa, Spain and other countries have begun to be imported into the United States, primarily for distribution on the West Coast. The use of imported slates should probably be limited to new construction since their colors and textures often do not match those of U.S. slate.

Deterioration of Slate and Slate Roofs

The white blotches on these Pennsylvania Soft-Vein slates indicate areas where gypsum is leaching out onto the surfaces of the slates. Photo: Jeffrey S. Levine.

The durability of a slate roof depends primarily on four factors: the physical and mineralogical properties of the slate; the way in which it is fabricated; installation techniques employed; and, regular and timely maintenance. The first three of these factors are examined below. The maintenance and repair of slate roofs are discussed in later sections of this Brief.

The natural weathering of roofing slate manifests itself as a slow process of chipping and scaling along the cleavage planes. Paper thin laminations flake off the surface of the slate and the slate becomes soft and spongy as the inner layers begin to come apart, or delaminate. The nature of the sound given off by a slate when tapped with one's knuckles or slating hammer is a fair indication of its condition. Highgrade slate, when poised upon the fingertips and struck, will emit a clear, solid sound. Severely weathered slates are much less sonorous, and give off a dull thud when tapped.

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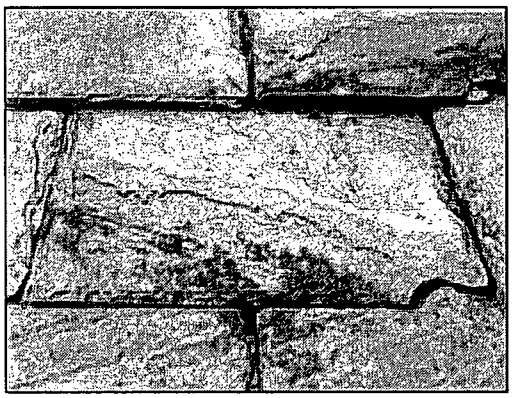
The weathering of slate is chiefly due to mineral impurities (primarily calcite and iron sulfides) in the slate which, in concert with alternating wet/dry and hot/cold cycles, react to form gypsum. Because gypsum molecules take up about twice as much volume as calcite molecules, internal stresses result from the reaction, causing the slate to delaminate. This type of deterioration is as prominent on the underside of the roof as on the exposed surface due to the leaching and subsequent concentration of gypsum in this area. Consequently, deteriorated roofing slates typically cannot be flipped over and reused.

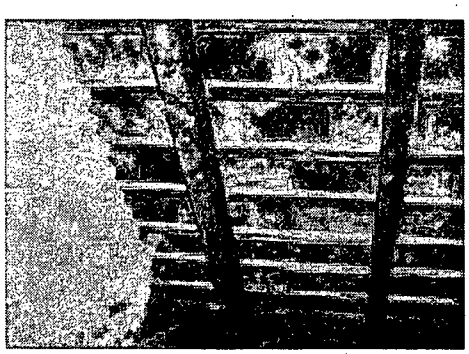


Paper thin lamination can be seen flaking off this weathered, 120 year piece of Pennsylvania Hard-Vein slate. Photo: Jeffrey S. Levine.

The chemical and physical changes which accompany slate weathering cause an increase in absorption and a decrease in both strength and toughness. The tendency of old, weathered slates to absorb and hold moisture can lead to rot in underlying areas of wood sheathing. Such rot can go undetected for long periods of time since, often, there is no accompanying leak. Due to their loss of strength, weathered slates are more prone to breakage, loss of corners, and cracking.

Slates with low calcite content tend to weather slowly. Dense slates, with low porosity, likewise decay slower than slates with equal calcite, but with a greater porosity. The pitch of a roof can also affect its longevity. The steeper the pitch, the longer the slate can be expected to last as water will run off faster and will be less likely to be drawn under the slates by capillary action or driven under by wind forces. Spires and the steep slopes of Mansard roofs often retain their original slate long after other portions of the roof have been replaced. Areas of a roof subject to concentrated water flows and ice damming, such as along eaves and valleys, also tend to deteriorate more rapidly than other areas of the roof.

Mechanical agents, such as thermal expansion and contraction and the action of frost, are subordinate in the weathering of slate, coming into play only after the slate has been materially altered from its original state by the chemical transformation of calcite to gypsum. The more rapid deterioration of slates found on roof slopes with the most severe exposure to the sun, wind, and rain (typically, but not always, a southern exposure) may be attributable to the combined result of the deleterious effects of impurities in the slate and mechanical agents. Atmospheric acids produce only negligible deterioration in roofing slate.



View of these slates laid on open sheathing shows that delamination and flaking are just as bad or worse on the underside of slates as on the exposed surface. This is why most slates cannot be flipped over for reuse. Photo: Jeffrey S. Levine.

It is difficult to assess the procedures by which a piece of slate has been fabricated without visiting the quarry and observing the process first hand. The location and size of nail holes, grain orientation, the condition of corners, and the number of broken pieces are all things which may be observed in a shipment of slate to judge the quality of its fabrication. Nail holes should be clean and with a shallow countersink on the face of the slate for the nail head; grain oriented along the length of the slate; and, corners left whole. An allowance for 10% breakage in shipment is

typically provided for by the quarry.

Installation problems often involve the improper nailing and lapping of slates. The nailing of slates differs from that of other roofing materials. Slate nails should not be driven tight as is the case with asphalt and wood shingles. Rather, they should be set such that the slate is permitted to hang freely on the nail shank. Nails driven too far will crack the slate and those left projecting will puncture the overlying slate. Nail heads left exposed accelerate roof deterioration by providing a point for water entry. Non-ferrous slater's nails, such as solid copper or stainless steel, should always be used since plain steel and galvanized nails will usually rust out long before the slate itself begins to deteriorate. The rusting of nineteenth century cut nails is a common cause of slate loss on historic roofs.

When joints are improperly broken (i.e., when slates lap the joints in the course below by less than 3" [7.5 cm]), it is possible for water to pass between the joints, through the nail holes and ultimately to the underlying felt, where it will cause deterioration and leaks to develop. Insufficient headlap can also result in leaks as water entering the joints between slates may have a greater tendency to be wind blown beyond the heads of the slates in the course below.

Occasionally, individual slates are damaged. This may be caused by falling tree limbs, ice dams in gutters, valleys, and chimney crickets, the weight of a workman walking on the roof, or a naturally occurring fault in the slate unit. Whatever the form of damage, if it is caught soon enough, the roof can usually be repaired or selectively replaced and deterioration mitigated.

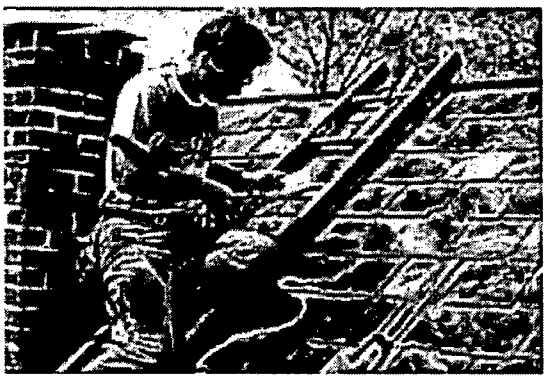
The ability to lay slate properly so as to produce a watertight and aesthetically pleasing roof requires training, much practice, and the right tools. The installation and repair of slate roofs should be entrusted only to experienced slaters.

Repairing Slate Roofs

Broken, cracked, and missing slates should be repaired promptly by an experienced slater in order to prevent water damage to interior finishes, accelerated deterioration of the roof and roof sheathing, and possible structural degradation to framing members.

The damaged slate is first removed by cutting or pulling out its nails with a ripper. If steel cut nails, rather than copper nails, were used in laying the roof, adjacent slates may be inadvertently damaged or displaced in the ripping process, and these, too, will have to be repaired. If the slate does not slide out by itself, the pointed end of the ,slate hammer can be punched into the slate and the slate dragged out. A new slate, or salvaged slate, which should match the size, shape, texture, and weathered color of the old slate, is then slid into place and held in position by one nail inserted through the vertical joint between the slates in the course above and approximately one inch below the tail of the slate two courses above.

To prevent water penetration through the newly created nail hole, a piece of copper with a friction fit, measuring roughly 3" (7.5 cm) in width and 8" (20 cm) in length, is slid lengthwise under the joint between the two slates located directly above the new slate



After removing the deteriorated slate and sliding the new slate into place, it is secured with a copper nail. A copper bib (shown here) is formed to protect the newly created nail hole. Finally, a slate hammer is used to push the bib in place over the nail head. Photo: Jeffrey S. Levine.

and over the nail. Alternate methods for securing the replacement slate include the use of metal hooks, clips, and straps that are bent over the tail end of the slate. The application of roofing mastic or sealants to damaged slates should not be considered a viable repair alternative because these materials, though effective at first, will eventually harden and crack, thereby allowing water to enter.

Mastic also makes future repairs more difficult to execute, is unsightly, and, when applied to metal flashings, accelerates their corrosion.

When two or more broken slates lie adjacent to each other in the same course, or when replacing leaky valley flashings, it is best to form pyramids (i.e., to remove a diminishing number of slates from higher courses) to keep the number of bibs required to a minimum. When reinstalling the slates, only the top slate in each pyramid will need a bib. Slates along the sides of the pyramid will receive two nails, one above the other, along the upper part of its exposed edge.

When many slates must be removed to effect a repair, the sheathing should be checked for rotted areas and projecting nails. Plywood is generally not a good replacement material for deteriorated wood sheathing due to the relative difficulty of driving a nail through it (the bounce produced can loosen adjacent slates). Instead, new wood boards of similar width and thickness to those being replaced should be used. Because the nominal thickness of today's dimension lumber is slightly thinner than that produced in the past, it may be necessary to shim the new wood boards so that they lie flush with the top surface of adjacent existing sheathing boards. Pressure treated lumber is not recommended due to its tendency to shrink. This can cause the slates to crack and become displaced.

To permit proper re-laying of the slate, the new roof sheathing must be of smooth and solid construction. At least two nails should be placed through the new boards at every rafter and joints between the ends of the boards should occur over rafters. Insufficient nailing will cause the boards to be springy, making nailing of the slates difficult and causing adjacent slates to loosen in the process. Unevenness in the sheathing will show in the finished roof surface and may cause premature cracking of the slate. Roof sheathing in valleys and along hips, ridges, and eaves may be covered with waterproof membrane underlayment rather than roofing felt for added protection against leakage.

In emergency situations, such as when severe hurricanes or tornadoes blow numerous slates off the roof, a temporary roof covering should be installed immediately after the storm to prevent further water damage to the interior of the building and to permit the drying out process to begin. Heavy gauge plastic and vinyl tarpaulins are often used for this purpose, though they are difficult to secure in place and can be blown off in high winds. Roll roofing, carefully stitched in to areas of the remaining roof, is a somewhat more functional solution

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that will allow sufficient time to document the existing roof conditions, plan repairs, and order materials.

After a hurricane or other natural disaster, it may be necessary to stabilize a roof temporarily until materials can be obtained and a qualified roofing contractor hired. Significant slate roofs should not be stripped off and replaced with asphalt shingles. Photo: NPS files.

Slate roof repair is viable for localized problems and damaged roofs with reasonably long serviceable lives remaining. If 20% or more of the slates on a roof or roof slope are broken, cracked, missing, or sliding out of position, it is usually less expensive to replace the roof than to execute individual repairs. This is especially true of older roofs nearing the end of their serviceable lives because even the most experienced slater will likely damage additional slates while attempting repairs. Depending on the age of the slate, its expected serviceable life, and the cause(s) of deterioration, it may or may not be cost effective to salvage slates. Where deteriorated nails or flashings are the cause of the roof failure, salvage of at least some slates should be possible for use in repairs. When salvaging slates, each must be sounded to discover cracks and faults and the degree to which it has weathered. It is usually wise to salvage slates when only a portion of the roof is to be replaced. In this way, the salvaged slates may be used for future repairs to the remaining sections of the roof.

The Replacement of Deteriorated Roofs

Historic slate roofs should be repaired rather than replaced whenever possible. Before replacing a slate roof, check for isolated damage, corroded and worn flashings, leaky gutters, poor ventilation in the attic, and other possible sources of moisture. All too often slate roofs are mistakenly replaced when, in fact, they could have been effectively repaired. Deciding whether an historic slate roof should be repaired or replaced can be difficult and each roof must be judged separately.

If repair is not possible and a new slate roof must be installed, it is important to remember that more than just the replacement of the slate is involved. The old slate should be removed to prevent overloading of the roof timbers. Stripping should be done in sections, with felt installed, to avoid exposing the entire subroof to the weather. In the process, rotted wood sheathing should be replaced and the roof timbers checked for signs of stress including deflection, cracking, and twisting. If such conditions are found, a structural engineer experienced in working with older buildings should be consulted. Other repairs, such as chimney repointing, which may require access to the roof should be completed before the new roof is put on.

Drawings and specifications for a new slate roof should be prepared by a restoration architect, especially if the project is going to be competitively bid or if the roof is particularly complex. Standard specifications, like those published in 1926 by the National Slate Association may be used as a basis for developing specifications appropriate for a particular project. The specifications and drawings should contain all the information necessary to replicate the original appearance of the roof as closely as possible. Certain changes may have to be accepted, however, since several types of slate once prominent in this country, such as ribbon slate, are no longer quarried. It is wise to anticipate the replacement of older roofs so that proper planning can be undertaken and financial resources set aside, thereby, reducing the likelihood of rash last minute decisions.

Roofing slate is sold by the square in the United States. One square is enough to cover 100 square

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Prior to a replacing a roof, historical documentation is gathered (such as photo documentation) to determine the roof configuration. Photo: NPS files.

feet (13.3 square meters) of plain roof surface when laid with a standard headlap of 3" (7.5cm). When ordering slate, considerable lead time should be allowed as delivery may take anywhere from 4 to 12 weeks and even as long as 1 year for special orders. Orders for random widths of a particular slate can generally be filled more quickly than orders for fixed widths. Once on site, slates should be stored on edge, under cover on pallets.

A roof and its associated flashings, gutters, and downspouts function as a system to shed water. Material choices should be made with this in mind. For example, use a single type of metal for all flashings and the rainwater conductor system to avoid galvanic action. Choose materials with life spans comparable to that of the slate, such as nonferrous nails. Use heavier gauge flashings or sacrificial flashings in areas that are difficult to access or subject to concentrated water flows.

Flashings are the weakest point in any roof. Given the permanence of slate, it is poor economy to use anything but the most durable of metals and the best workmanship for installing flashings. Copper is one of the best flashing materials, and along with terne, is most often associated with historic slate roofs. Copper is extremely durable, easily worked and soldered, and requires little maintenance. Sixteen ounce copper sheet is the minimum weight recommended for flashings. Lighter weights will not endure the erosive action of dust and grit carried over the roof by rain water. Heavier weight, 20 oz. (565 grams) or 24 oz. (680 grams), copper should be used in gutters, valleys, and areas with limited accessibility. Lead coated copper has properties similar to copper and is even more durable due to its additional lead coating. Lead coated copper is often used in restoration work.

Terne is a less desirable flashing material since it must be painted periodically. Terne coated stainless steel (TCS) is a modernday substitute for terne. Although more difficult to work than terne, TCS will not corrode if left unpainted; a great advantage, especially in areas that are difficult to access.

Once a metal is chosen, it is important to use it throughout for all flashings, gutters, downspouts, and metal roofs. Mixing of dissimilar metals can lead to rapid corrosion of the more electronegative metal by galvanic action. Where flashings turn up a vertical surface, they should be covered with a cap flashing. Slates which overlap metal flashings should be nailed in such a manner as to avoid puncturing the metal. This may be accomplished by punching a second hole about 2" (5cm) above the existing hole on the side of the slate not overlapping the metal flashing. It is important that holes be punched from the back side of the slate. In this way, a shallow countersink is created on the face of the slate in which the head of the nail may sit.

The use of artificial, mineral fiber slate is not recommended for restoration work since its rigid appearance is that of a manmade material and not one of nature. Artificial slates may also have a tendency to fade over time. And, although artificial slate costs less than natural slate, the total initial cost of an artificial slate roof is only marginally less than a natural slate roof. This is because all the other costs associated with replacing a slate roof, such as the cost of labor, flashings, and tearingoff the old roof, are equal in both cases. Over the long term, natural slate tends to be a better investment because several

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artificial slate roofs will have to be installed during the life span of one natural slate roof.

Clear roof expanses can be covered by an experienced slater and one helper at the rate of about two to three squares per day. More complex roofs and the presence of chimneys, dormers, and valleys can bring this rate down to below one square per day. One square per day is a good average rate to use in figuring how long a job will take to complete. This takes into account the installation of flashings and gutters and the setup and breakdown of scaffolding. Tear-off of the existing roof will require additional time.

Roofing felt is being installed over the decking; a rubberized membrane is used selctively at the eaves and under some flashing. Photo: NPS files.

Repair/Replacement Guideline

The following guideline is provided to assist in the repair/replace decision making process:

1. Consider the age and condition of the roof versus its expected serviceable life given the type of slate employed.

2. Calculate the number of damaged and missing slates. Is the number less than about 20%? Is the roof generally in good condition? If so, the roof should be evaluated for repair rather than replacement. Also, keep in mind that the older a roof becomes, the more maintenance it will likely require.

3. Determine if there are active leaks and what their source may be. Do not assume the slates are leaking. Gutters, valleys and flashings are more likely candidates. "False leaks" can be caused by moisture condensation in the attic due to improper ventilation.

4. Check the roof rafters and sheathing for moisture stains. Poke an awl into the wood to determine if it is rotted. Remember that very old, delaminating slates will hold moisture and cause adjacent wood members to deteriorate even if there are no apparent leaks.

5. Are many slates sliding out of position? If so, it may be that ferrous metal fasteners were used and that these are corroding, while the slates are still in good condition. Salvage the slates and relay them on the roof. If the slates have worn around the nails holes, it may be necessary to punch new holes before relaying them.

6. Consider the condition of the roof's flashings. Because slate is so durable, metal flashings often wear out before the slate does. Examine the flashings carefully. Even the smallest pinhole can permit large quantities of water to enter the building. Is the deterioration of the slate uniform? Often this is not the case. It may be that only one slope needs replacement and the other slopes can be repaired. In this way, the cost of replacement can be spread over many years.

7. Press down hard on the slates with your hand. Sound slates will be unaffected by the pressure. Deteriorated slates will feel brittle and will crack. Tap on slates that have fallen

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out or been removed. A full, deep sound indicates a slate in good condition, while a dull thud suggests a slate in poor condition.

8. Are new slates readily available? Even if replacement is determined to be necessary, the existing roof may have to be repaired to allow time for documentation and the ordering of appropriate replacement slates.

Note: measurements in this publication are given in both U.S. Customary System and International (Metric) System for comparative purposes. Metric conversions are in some cases approximate and should not be relied upon in preparing technical specifications.

Maintenance

Given the relatively high initial cost of installing a new slate roof, it pays to inspect its overall condition annually and after several storms. For safety reasons, it is recommended that building owners and maintenance personnel carry out roof surveys from the ground using binoculars or from a cherry picker. Cracked, broken, misaligned, and missing slates and the degree to which delamination has occurred should be noted, along with failed flashings (pin holes, open seams, loose and misaligned elements, etc.) and broken or clogged downspouts. A roof plan or sketch and a camera can aid in recording problems and discussing them with contractors. In the attic, wood rafters and sheathing should be checked for water stains and rot. Critical areas are typically near the roof plate and at the intersection of roof planes, such as at valleys and hips. Regular maintenance should include cleaning gutters at least twice during the fall and once in early spring, and replacing damaged slates promptly. Every five to seven years inspections should be conducted by professionals experienced in working with slate and steep slopes. Good record keeping, in the form of a log book and the systematic filing of all bills and samples, can help in piecing together a roof's repair history and is an important part of maintenance.

As part of regular maintenance, an attempt should be made to keep foot traffic off the roof. If maintenance personnel, chimney sweeps, painters, or others must walk on the roof, it is recommended that ladders be hooked over the ridge and that the workmen walk on the ladders to better distribute their weight. If slates are to be walked on, it is best to wear soft soled shoes and to step on the lowermiddle of the exposed portion of the slate unit.

Conclusion

Slate roofs are a critical design feature of many historic buildings that cannot be duplicated using substitute materials. Slate roofs can, and should be, maintained and repaired to effectively extend their serviceable lives. When replacement is necessary, details contributing to the appearance of the roof should be retained. High quality slate is still available from reputable quarries and, while a significant investment, can be a cost effective solution over the long term.

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Further Reading

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Washington, D.C. September, 1992

Home page logo: Slate roof repair. Photo: Jeffrey S. Levine.

This publication has been prepared pursuant to the National Historic Preservation Act of 1966, as amended, which directs the Secretary of the Interior to develop and make available information concerning historic properties. Technical Preservation Services (TPS), Heritage Preservation Services Division, National Park Service prepares standards, guidelines, and other educational materials on responsible historic preservation treatments to a broad public.

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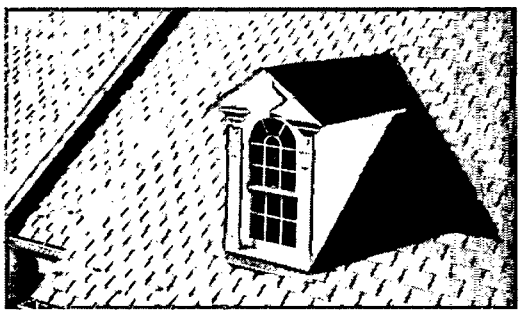

Due to variation in computer monitors and printers, the color samples seen here may not exactly match the corresponding color. To verify actual product color ask to see the actual product, available through a CertainTeed contractor or distributor. ***Read More »***

Overview | Technical Information | Installation | Warranty

Symphony Slate - technology in tune with the natural surroundings

Symphony composite slate shingles is a masterpiece of synthetic slate design with enduring qualities of tooled craftsmanship, natural beauty, and harmony. Symphony is a specially-engineered composite roofing shingle that mimics the look and feel of natural slate, but is lighter, more durable and a fraction of the price. The Symphony product line has earned the designation as an ENERGY STAR® Qualified Product, a label given to products that use less energy, save money and help protect the environment.

- Excellent weathering capabilities for long life, combined with exceptional UV fade-resistant surface technology for superior color stability
- Impact Resistant
- Available in either pre-blended 12" bundles or pre-blended multiple width bundles consisting of pre-sorted 6", 9" and 12" tiles (eliminating the need for on-site sorting thus easing the installation process)
- Available hip and ridge accessory to complement the shingles and enhance the slate-inspired look of the roofline
- Thicker nominal ½" profile for a richer, more beautiful appearance

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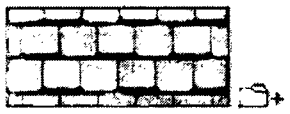
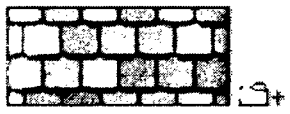
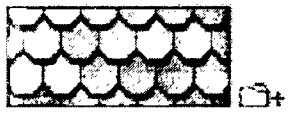
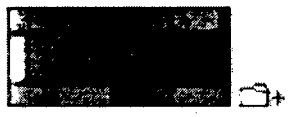
Image	Product	Colors	Warranty	Category
	**Symphony™**		50-years	Luxury
	**GrandManor™**		Lifetime	Luxury
	**Centennial Slate™**		Lifetime	Luxury
	**Carriage House™**		Lifetime	Luxury
	**Highland Slate™**		Lifetime	Premium Designer
	**Hatteras®**		40-years	Premium Designer
	**High-Performance Starter**			Accessories
	**Shangle Ridge®**		Concurrent with Field Shingle	Accessories
	**Hatteras® Accessory**		Concurrent with Field Shingle	Accessories

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EcoStar roofing for your lifestyle

Majestic Slate™

Majestic Slate tiles offer the natural beauty of slate while providing enhanced strength and durability. Featuring a 50-year Gold Star or Limited Materials Warranty and available with a 100 mph wind warranty, Majestic Slate tiles provide enhanced resistance to harsh weather conditions, including wind, driving rain and hail. Manufactured from 80% post-industrial recycled rubber and plastic, Majestic Slate tiles offer an environmentally friendly, lightweight alternative to traditional slate roofing products. Majestic Slate tiles are available in ten colors: Smoke Gray, Federal Gray, Midnight Gray, Black, Earth Green, Sage Green, Cedar Brown, Chestnut Brown, Stone Red, and Mountain Plum.

Majestic Slate Resources

- **Majestic Slate Cut Sheet**
- **Majestic Slate Designer Series Cut Sheet**
- **Majestic Slate Universal Hip & Ridge PDS**
- **Majestic Slate Traditional 10"PDS**
- **Majestic Slate Traditional PDS**
- **Color Samples**

Majestic Slate Spanish Translation

- **Majestic Slate Cut Sheet - Spanish**
- **Majestic Slate Traditional PDS - Spanish**

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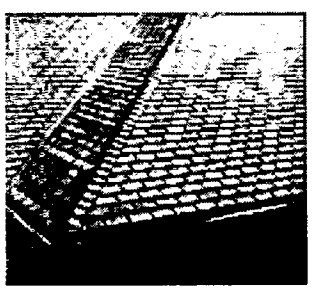
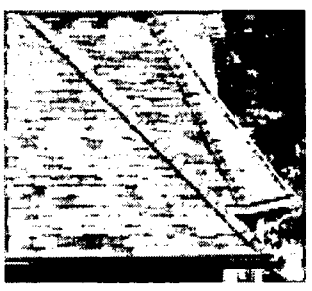
EcoStar LLC

Sustainable Roofing

Majestic Slate Traditional





Majestic Slate Traditional

Historically, natural slate is one of the most appealing roofing choices, combining unmatched durability with aesthetics. The cost of natural slate, as well as its weight, often makes this roofing choice prohibitive. EcoStar LLC, the leading manufacturer of premium steep-slope roofing products, combines historic appeal with modern technology to offer the lightweight and affordable alternative – Majestic Slate.

Created with recycled rubbers (EPDM) and plastics (TPO), Majestic Slate offers the same look and sustainability of natural slate, but adds significantly less weight to the roof. Easy application keeps the installation costs lower than natural slate, also making Majestic Slate an economical choice. Available in ten colors and two widths, Majestic Slate offers endless possibilities to enhance historic and new construction on both residential and commercial buildings.

Curb appeal is everything when it comes to the look of your home, but protection from the elements must be a priority. Majestic Slate offers both.

Majestic Slate Color Blends

Note: Sample pieces, photographs or color samples may not accurately represent the true color level or variations of color blends that will appear on the roof. Before installation, ten tiles or so should be laid out, and reviewed for conformity to desired color level. If color levels are unsatisfactory, advise your dealer before proceeding with installation. Colors and specifications subject to change without notice. EcoStar is not liable for color variations or shading. Tiles must be randomly blended for best results. Limited warranties carry terms and conditions.

P/N-602689 ECO-MAJESTIC SLATE CUT SHEETS

Architectural Flexibility

- Both Majestic Slate widths (10" and 12") can be blended together to create texture and depth
- Staggered and offset installations can also enhance roof texture and depth
- Available in ten different color choices
- Natural appearance of real slate roofing
- Enhance historical look in both residential and commercial buildings

Advantages

- Weighs significantly less than natural slate
- Easy application keeps installation costs down

Strength & Durability

- Recycled content provides improved flexibility, providing superior protection from the harshest weather conditions, including wind, hail and driving rain
- Significant life cycle savings

Warranty Coverage

- 50-Year Gold Star Labor & Material Warranty available

Environmental Sustainability

- Manufactured with post-industrial recycled rubber and plastics

Technical Information

- Two widths – 10" & 12"
- UL listed Class A fire resistance available (UL 790)
- UL listed Class C fire resistance (UL 790)
- Nail pull through ASTM D3163
- Class 4 impact resistance UL listed (UL 2218)
- Prolonged UV Exposure ASTM G26-95
- 110-mph wind warranty available

EcoStar LLC
42 Edgewood Drive | Holland, NY 14080
Tel: 800.211.7170 | www.ecostarllc.com

MONTGOMERY COUNTY HISTORIC PRESERVATION COMMISSION
STAFF REPORT

Address:	3940 Washington Street, Kensington	**Meeting Date:**	10/27/10
Applicant:	James Foy (Stephen Foy, Agent)	**Report Date:**	10/20/10
Resource:	Primary-One Resource Kensington Historic District	**Public Notice:**	10/13/10
Review:	HAWP	**Tax Credit:**	None
Case Number:	31/6-10G	**Staff:**	Anne Fothergill

PROPOSAL: Slate roof replacement

STAFF RECOMMENDATION

Staff recommends that the HPC continue the HAWP application until the applicant can provide more information on the condition of the slate roof.

PROPERTY DESCRIPTION

SIGNIFICANCE:	Primary One Resource within the Kensington Historic District
STYLE:	Vernacular
DATE:	1903

PROPOSAL

The applicants are proposing to remove the existing original slate roof on the house and replace it with asphalt shingles. The applicants have repaired the roof many times and there is water damage on the second floor (see exterior and interior photos in Circles 10-14).

APPLICABLE GUIDELINES

When reviewing alterations within the Kensington Historic District, the *Vision of Kensington: A Long-Range Preservation Plan* (*Vision*), *Montgomery County Code Chapter 24A* (*Chapter 24A*) and the *Secretary of the Interior's Standards for Rehabilitation (Standards)* are to be utilized as guidelines to assist the Commission in developing their decision. The pertinent information in these documents is outlined below.

Vision of Kensington: A Long-Range Preservation Plan

The HPC formally adopted the planning study, *Vision of Kensington: A Long-Range Preservation Plan*, and is directed by the Executive Regulations, which were approved by the County Council, to use this plan when considering changes and alterations to the Kensington Historic District. The goal of this preservation plan "was to establish a sound database of information from, which to produce a document that would serve the HPC, M-NCPPC, their staff and the community in wrestling with the protection of historic districts amidst the pressures of life in the 21st century." The plan provides a specific physical description

of the district as it is; an analysis of character-defining features of the district; a discussion of the challenges facing the district; and a discussion of proposed strategies for maintaining the character of the district while allowing for appropriate growth and change.

Montgomery County Code; Chapter 24A-8:

(a) The commission shall instruct the director to deny a permit if it finds, based on the evidence and information presented to or before the commission that the alteration for which the permit is sought would be inappropriate, inconsistent with or detrimental to the preservation, enhancement or ultimate protection of the historic site or historic resource within an historic district, and to the purposes of this chapter.

(b) The commission shall instruct the director to issue a permit, or issue a permit subject to such conditions as are found to be necessary to insure conformity with the purposes and requirements of this chapter, if it finds that:

(1) The proposal will not substantially alter the exterior features of an historic site or historic resource within an historic district; or

(2) The proposal is compatible in character and nature with the historical, archeological, architectural or cultural features of the historic site or the historic district in which an historic resource is located and would not be detrimental thereto or to the achievement of the purposes of this chapter; or

(3) The proposal would enhance or aid in the protection, preservation and public or private utilization of the historic site or historic resource located within an historic district in a manner compatible with the historical, archeological, architectural or cultural value of the historic site or historic district in which an historic resource is located; or

(4) The proposal is necessary in order that unsafe conditions or health hazards be remedied; or

(5) The proposal is necessary in order that the owner of the subject property not be deprived of reasonable use of the property or suffer undue hardship; or

(6) In balancing the interests of the public in preserving the historic site or historic resource located within an historic district, with the interests of the public from the use and benefit of the alternative proposal, the general public welfare is better served by granting the permit.

(c) It is not the intent of this chapter to limit new construction, alteration or repairs to any one period or architectural style.

(d) In the case of an application for work on an historic resource located within an historic district, the commission shall be lenient in its judgment of plans for structures of little historical or design significance or for plans involving new construction, unless such plans would seriously impair the historic or architectural value of surrounding historic resources or would impair the character of the historic district. (Ord. No. 9-4, § 1; Ord. No. 11-59.)

Secretary of the Interior's Standards for Rehabilitation:

Standard # 2: The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.

Standard #5: Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.

Standard # 6: Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color,

texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.

STAFF DISCUSSION

The *Vision of Kensington: A Long-Range Preservation Plan* states that within the Historic District, "the houses share a uniformity of scale, set backs and construction materials that contributes to the cohesiveness of the district's streetscapes." The *Vision* discusses specifically the Historic Residential Core, where the house at 3940 Washington is located, which "consists of most of the primary historic resources in the residential neighborhood. This includes historic resources built from 1890 to 1930 which exemplify the historic pattern of development characterized by expansive open spaces between homes. In this area it is important to preserve these patterns of open space, front yard setbacks, building scale, architectural character, and the streetscape qualities." As part of the research for the *Vision*, roof form and material "were identified as helping to define the historic character of Kensington." The *Vision* notes that "The majority of buildings have received replacement roof cladding."

The *Design Guidelines for Historic Sites and Districts in Montgomery County, Maryland* state:

> **5.0 ROOFS**
> Although the function of a roof is to protect a building from the elements, it also contributes to the overall character of the building. The roof is a defining feature for most historic structures. When repeated along the street or within a group of buildings, the repetition of similar roof forms contributes to a sense of visual continuity. In each case, the roof pitch, its materials, size and orientation are all distinct features that contribute to the character of a roof. Gabled and hip forms occur most frequently, although shed and flat roofs appear on some building types.
>
> A variety of roof materials exist. Roof materials are major elements in the street scene and contribute to the character of individual building styles. However, they are susceptible to deterioration, and their replacement may become necessary.
>
> Traditional roof materials include slate, wood shingle, standing seam metal, and tiles (and for 20th century resources, asphalt shingles). The use of traditional materials is recommended, as often the higher initial cost of these materials will be offset by the longevity and durability of the material.
>
> **Use roof materials in a manner similar to that seen historically.**
> 5.4 Preserve original roof materials.
> • Avoid removing roof material that is in good condition. Replace it with similar material only when necessary.
>
> 5.5 Replacement roof materials for a historic house should convey a scale and texture similar to those used traditionally.
> • Replacement in-kind is encouraged. A roof replacement material should be in keeping with the original architectural style of the structure.
> • New roof materials should match the original in scale, color and texture as closely as possible.

Staff requested that the applicants provide at least one roofer's professional assessment of the roof's condition, and more than one if possible. Additionally, staff recommended that the applicant provide

information on the roofer's experience working with slate roofs. The applicant has had the roof repaired many times and contractors have informed him that the roof should be replaced but they did not provide the applicant with a written assessment of the roof's condition. The applicant is currently contacting roofers to get an evaluation but was unable to provide this information at the time of the staff report.

When the applicant is able to provide a roof condition assessment to the HPC, the Commission will evaluate the slate roof's condition and determine whether the roof needs to be replaced, which is possible considering it is more than one hundred years old. At that time the HPC will need to determine what the appropriate replacement material would be. The Secretary of the Interior's *Standards for Rehabilitation*, the Montgomery County *Design Guidelines*, and the National Park Service Technical Preservation Services' *Preservation Brief* all recommend in-kind replacement of slate roofs with slate roofs (see Circles 17-35). However, it would be premature to begin that discussion without evaluating a thorough assessment of the roof's current condition.

Additionally, it should be noted, that if the applicant was to replace the slate roof in-kind, the work would be eligible for tax credits of possibly up to 30% of the expenses through state and county tax credits. Staff can provide the applicant more information on these tax credits.

The applicant is aware that the HPC may defer a decision on this application until more information can be provided. The HPC should inform the applicant of any additional information needed to make a decision other than what has been noted in this staff report.

STAFF RECOMMENDATION

Staff recommends that the Commission **continue** the HAWP application until more information is provided.

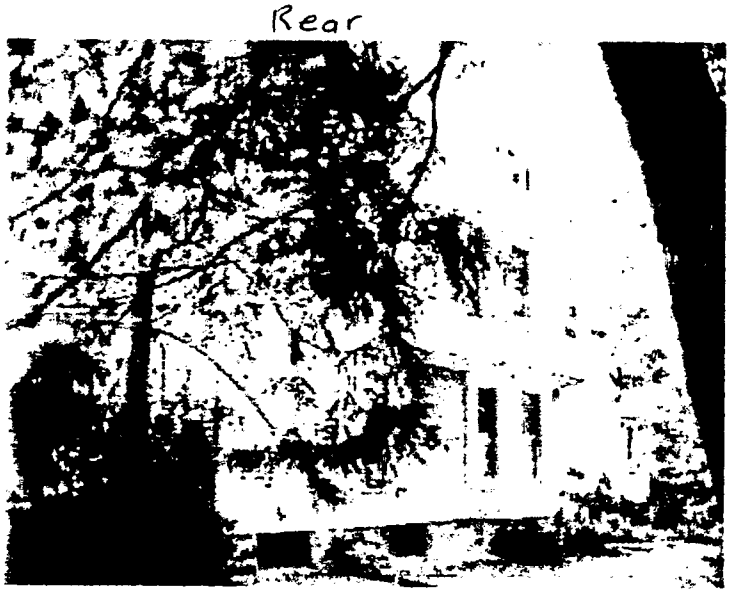
Front

Front Right

Rear Right

Rear

Rear Left



Front Left

(10)

Applicant: James L. Fay

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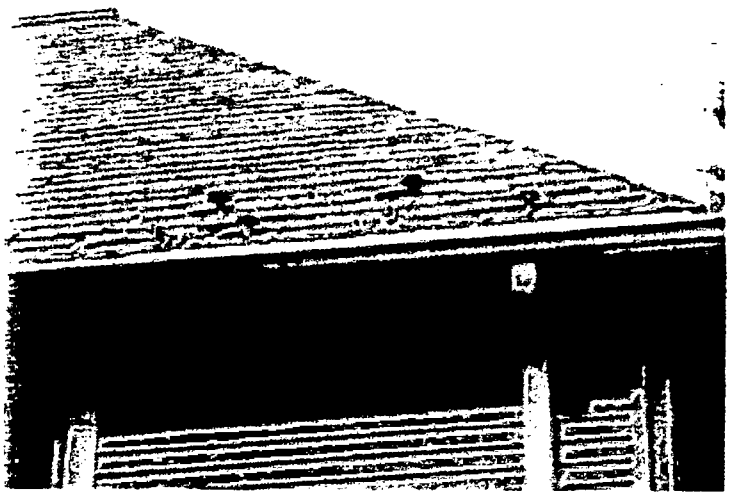
Rear Left

Front



Front Right

Front Right

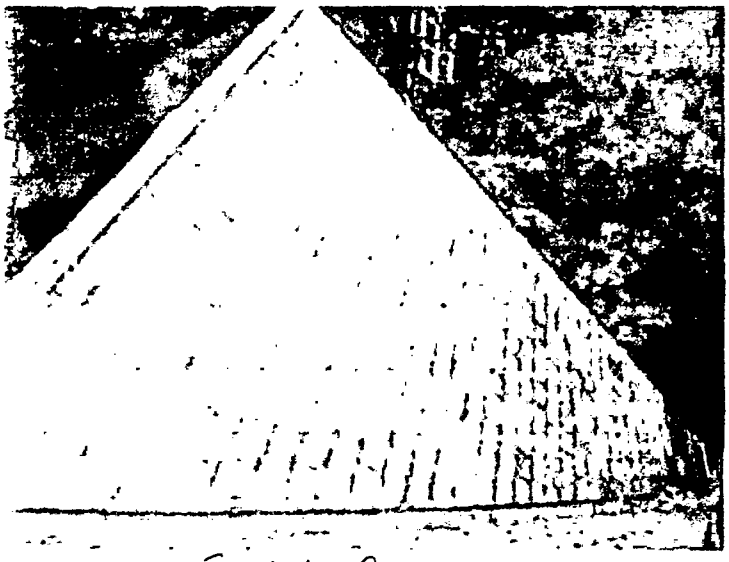
Front Right

Roofline

(11)

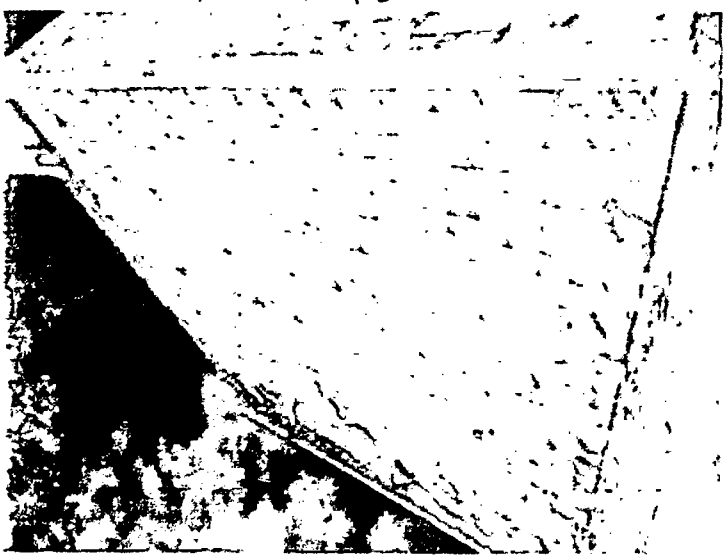
Applicant: James L. Foy

7/10



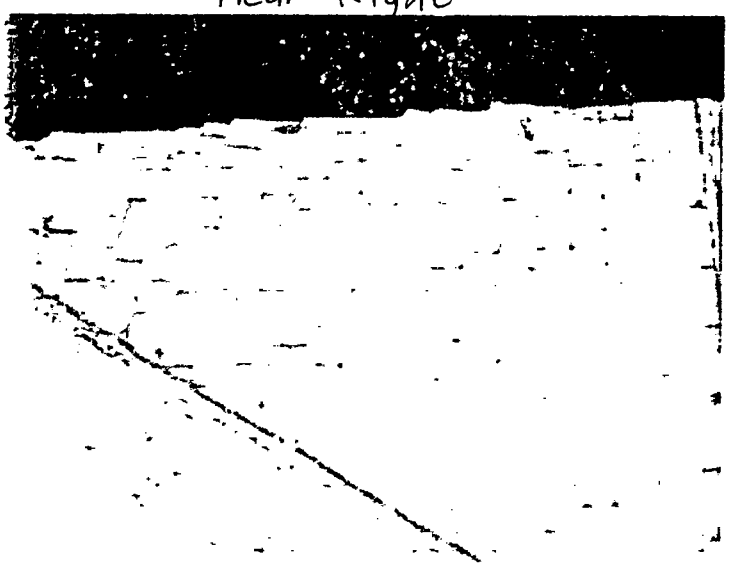
Front Left

Rear Left



Rear Right

Front



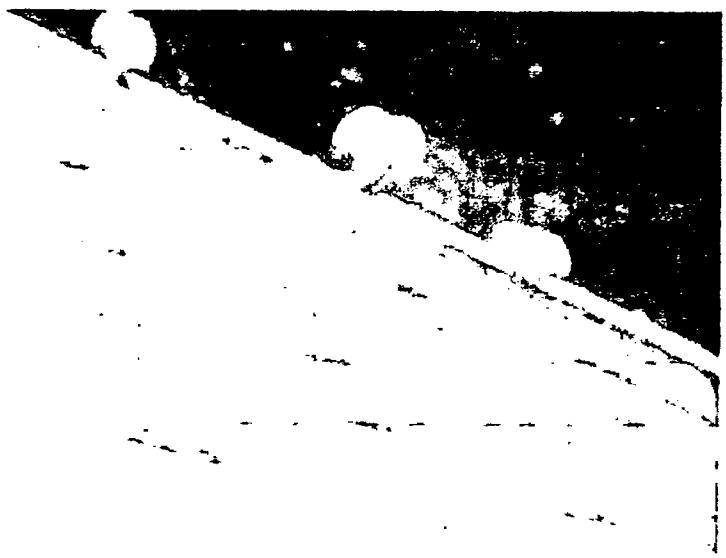
Front Right

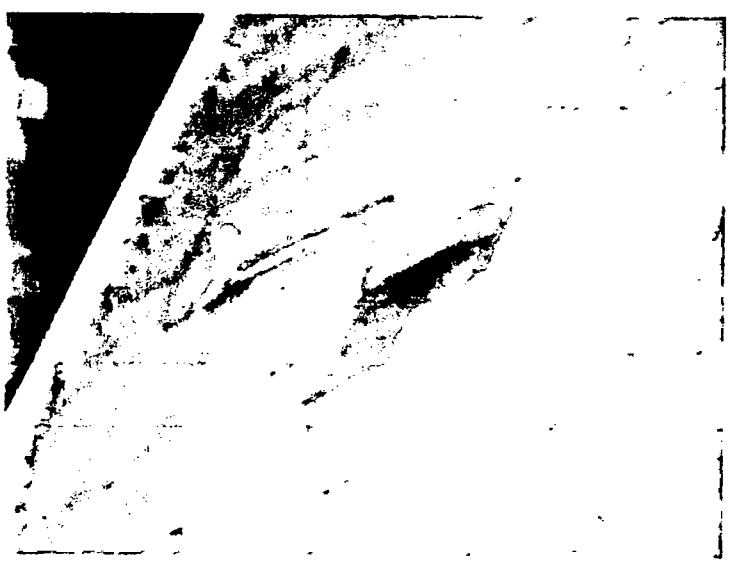
Roof

(12)

8/10

Applicant: James L. Foy



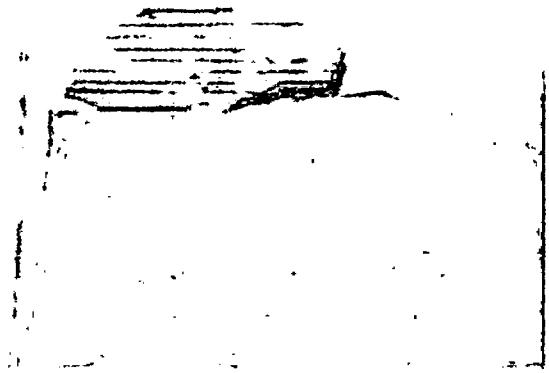


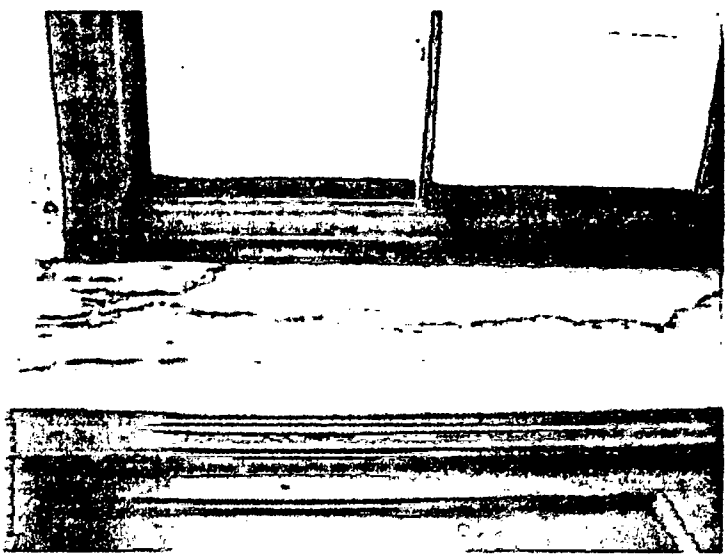
Slate Detail

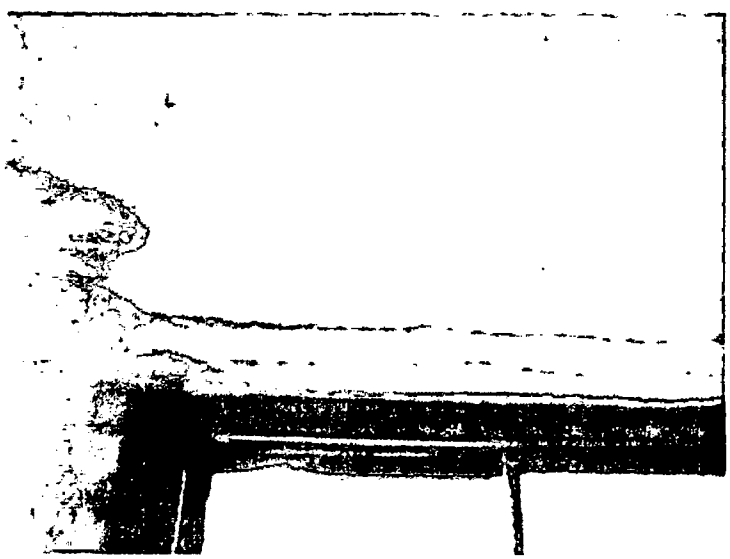
(13) 9/10

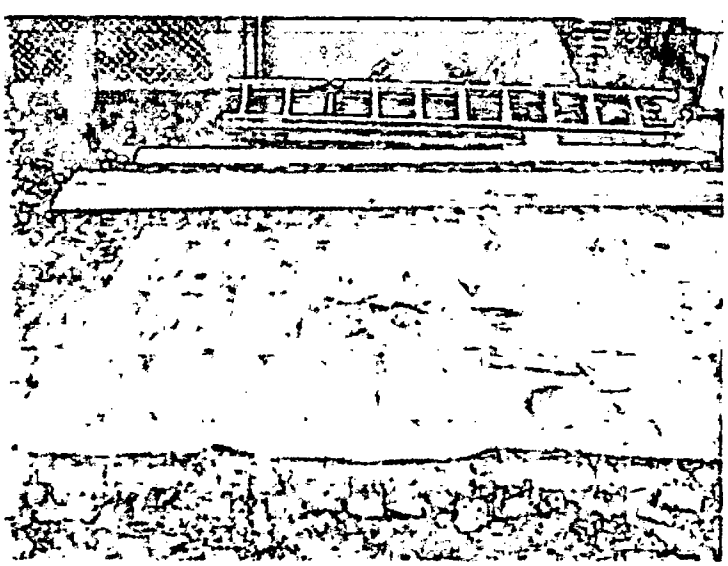
Applicant: James L. Foy

2nd Floor Water Damage









Debris From Roof

Applicant: James L. Foy

(14) 10/10