

WASANT VIEW KIAN 2344-07A
2100 KENNEDY
BETHVILLE

Fothergill, Anne

From: Fothergill, Anne
Sent: Wednesday, October 24, 2007 3:11 PM
To: 'Lucas, Gail'
Subject: HAWP to void

Please void/purge HAWP # 461878 at 21000 Georgia Avenue, Brookeville. Mr. Lessig informed our office today that they have withdrawn their application.

Thanks,
Anne

Anne Fothergill
Senior Planner
Montgomery County Planning Department
Countywide Planning--Historic Preservation Section
1109 Spring Street, Suite 801
Silver Spring, MD 20910
301-563-3400 phone
301-563-3412 fax
<http://www.mc-mncppc.org/historic/>



RETURN TO: DEPARTMENT OF PERMITTING SERVICES
255 ROCKVILLE PIKE, 2ND FLOOR, ROCKVILLE, MD 20850
240-777-6376

DPS - #8

A

HISTORIC PRESERVATION COMMISSION
301/563-3400

**APPLICATION FOR
HISTORIC AREA WORK PERMIT**

Contact Person: James B. Lessig

Daytime Phone No.: 301-924-2293

Tax Account No.: 00712150

Name of Property Owner: James B. and Barbara M. Lessig Daytime Phone No.: 301-924-2293

Address: 21000 Georgia Avenue Brookeville Georgia Avenue 20833
Street Number City Street Zip Code

Contractor: Banner Home Solutions Phone No.: 301-829-9820

Contractor Registration No.: 93508 (MHIC)

Agent for Owner: Joseph Tecar Daytime Phone No.: 301-829-9820

LOCATION OF BUILDING/PREMISE

House Number: 21000 Street: Georgia Avenue

Town/City: Brookeville Nearest Cross Street: Gregg Road

Lot: _____ Block: _____ Subdivision: 502

Liber: _____ Folio: _____ Parcel: PT PAPA Pleasant

PART ONE: TYPE OF PERMIT ACTION AND USE

- 1A. CHECK ALL APPLICABLE:
- | | | | | | | | | |
|------------------------------------|---|---|--|------------------------------------|--|---|-------------------------------|-------------------------------|
| <input type="checkbox"/> Construct | <input type="checkbox"/> Extend | <input type="checkbox"/> Alter/Renovate | <input type="checkbox"/> A/C | <input type="checkbox"/> Slab | <input type="checkbox"/> Roof Addition | <input type="checkbox"/> Porch | <input type="checkbox"/> Deck | <input type="checkbox"/> Shed |
| <input type="checkbox"/> Move | <input checked="" type="checkbox"/> Install | <input type="checkbox"/> Rreck/Raze | <input type="checkbox"/> Solar | <input type="checkbox"/> Fireplace | <input type="checkbox"/> Woodburning Stove | <input checked="" type="checkbox"/> Single Family | | |
| <input type="checkbox"/> Revision | <input checked="" type="checkbox"/> Repair | <input type="checkbox"/> Relocable | <input type="checkbox"/> Fence/Wall (concrete Section 4) | <input type="checkbox"/> Other: | | | | |

1B. Construction cost estimate: \$ 10,500

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

PART TWO: COMPLETE FOR NEW CONSTRUCTION AND EXTENSION

2A. Type of sewage disposal: 01 WSSC 02 Septic 03 Other: N/A

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 B. Lessig
Signature of owner or authorized agent 1 AUG 07
Date

Approved: _____ For Chairperson, Historic Preservation Commission

Disapproved: _____ Signature: _____ Date: _____

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

Edit 6/21/99

SEE REVERSE SIDE FOR INSTRUCTIONS

461878

Handwritten: WITHDRAWN WM
APPL. 10-24-07

**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:

House, 4 bedrooms, 2 1/2 baths, living room, dining room, kitchen, no basement, utility room, attached woodshed

Detached two-car garage, antique store, 4-stall barn on property. Country setting, 7 1/2 acres. House

is described as vernacular, circa 1850, overseer's residence for nearby Greenwood Plantation.

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

Replace wood lap siding and trim on house with James Hardie HardiePlank lap siding, Arctic White (6.25"width - same width as existing siding). Replace trim boards with Hardie Trim boards. Literature on product enclosed.

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:	21000 Georgia Avenue, Brookeville	Meeting Date:	10/24/2007
Resource:	<i>Master Plan</i> Site #23/47 Pleasant View	Report Date:	10/17/2007
Applicant:	James and Barbara Lessig	Public Notice:	10/10/2007
Review:	HAWP	Tax Credit:	None
Case Number:	23/47-07A	Staff:	Anne Fothergill
PROPOSAL:	Wood siding replacement		

STAFF RECOMMENDATION

Staff recommends that the HPC deny this application.

ARCHITECTURAL DESCRIPTION

SIGNIFICANCE: Individually Designated *Master Plan* Site #23/47
STYLE: Vernacular
DATE: c. 1885

Excerpt from Places in the Past:

23/47 Pleasant View (by 1878; c1885)

21000 Georgia Avenue

This modest dwelling was part of Greenwood Plantation, the huge estate owned by Allen Bowie Davis who served in the Maryland Senate. Research indicates that the structure served as the overseer's house for Davis' plantation. In addition, the dwelling is said to have housed the tollgate keeper for the Washington-Westminster Turnpike (present-day Georgia Avenue). The main block is a three-bay frame structure facing north. The date of 1740 is said to be carved into a fireplace stone later covered with plaster board. The dwelling represents the post-Civil War downsizing of slave-supported Greenwood, as Davis sold off property to former slaves and workers. The west wing was added about 1885 when Davis sold the house and 17 acres to a former worker, Lafayette Dwyer. In the 1940s, a bay window was added to the west wing, which was expanded to incorporate a milk house. The property retains a notable collection of outbuildings including a springhouse.

PROPOSAL

The applicants propose to replace all of the wood siding on the house with HardiePlank siding and the wood trim with HardieTrim.

APPLICABLE GUIDELINES

When reviewing alterations to a *Master Plan* site two documents are to be utilized as guidelines to assist the Commission in developing their decision. These documents are *Montgomery County Code Chapter 24A (Chapter 24A)* and the *Secretary of the Interior's Standards for Rehabilitation (Standards)*. The pertinent information in these documents is outlined below.

Montgomery County Code; Chapter 24A

A HAWP permit should be issued if the Commission finds that:

1. The proposal will not substantially alter the exterior features of a historic site or historic resource within a historic district.
2. The proposal is compatible in character and nature with the historical archaeological, architectural or cultural features of the historic site or the historic district in which a historic resource is located and would not be detrimental thereto of to the achievement of the purposes of this chapter.

A HAWP should be denied if the Commission 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.

Secretary of the Interior's Standards for Rehabilitation:

Standard #2 The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.

#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.

Standard #9: New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.

Standard #10: New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environments would be unimpaired.

STAFF DISCUSSION

This is a very important *Master Plan* site and any proposed changes will receive the highest level of scrutiny from staff and the Commission. The applicants are good stewards of this property and supported the *Master Plan* listing of the house and all the outbuildings on the property's five acres.

The applicants are having continual maintenance problems with the wood siding and staff discussed the existing water and moisture infiltration issues with the applicant. The applicant has been advised that the wood is the problem and that it needs to be removed and replaced with HardiePlank. Staff would recommend that then applicant consult with a preservation expert for guidance specifically relating to the rehabilitation of historic houses.

Staff does not support the replacement of the wood on the house with HardiePlank and HardieTrim. When reviewing alterations to a *Master Plan* site the HPC uses the *Secretary of the Interior's Standards for Rehabilitation (Standards)*. The *Standards* advise retention of wood siding and in-kind replacement when certain sections cannot be repaired (see Circles 21-25). The installation of a composite siding on the historic massing is not an approvable change.

The applicant noted that the original section (two story section at left) was originally log, but staff finds that wood is the most appropriate siding material and it should remain wood. This house has had numerous additions over the years including major alterations in 1946 and it is possible all of the wood siding was replaced in the 1940s. Staff is concerned that the composite siding may actually worsen any moisture issues on the log section since it may not allow the building to breathe. Staff has included technical information on exterior paint problems on historic woodwork.

Staff is recommending that the HPC deny the proposed change to HardiePlank and HardieTrim.

STAFF RECOMMENDATION

Staff recommends that the Commission deny the HAWP application as being consistent with Chapter 24A-8(a):

A HAWP should be denied if the Commission 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.

and inconsistent with the *Secretary of the Interior's Standards for Rehabilitation*.



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246-874-6376

DPS - #8

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Agent for Owner: Joseph Tecar Daytime Phone No.: 301-829-9820

LOCATION OF BUILDING/PREMISE

House Number: 21000 Street: Georgia Avenue

Town/City: Brookeville Nearest Cross Street: Gregg Road

Lot: _____ Block: _____ Subdivision: 502

Liber: _____ Folio: _____ Parcel: PT PAR A Pleasant

PART ONE: TYPE OF PERMIT ACTION AND USE

1A. CHECK ALL APPLICABLE:

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

CHECK ALL APPLICABLE:

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

1B. Construction cost estimate: \$ 10,560

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: N.A.

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

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3A. Height _____ feet _____ inches N.A.

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

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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 B. Lessig
Signature of owner or authorized agent

1 AUG 07
Date

Approved: _____ For Chairperson, Historic Preservation Commission

Disapproved: _____ Signature: _____ Date: _____

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

Edit 6/21/99

SEE REVERSE SIDE FOR INSTRUCTIONS

#461878

4

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5

ADJOINING PROPERTIES

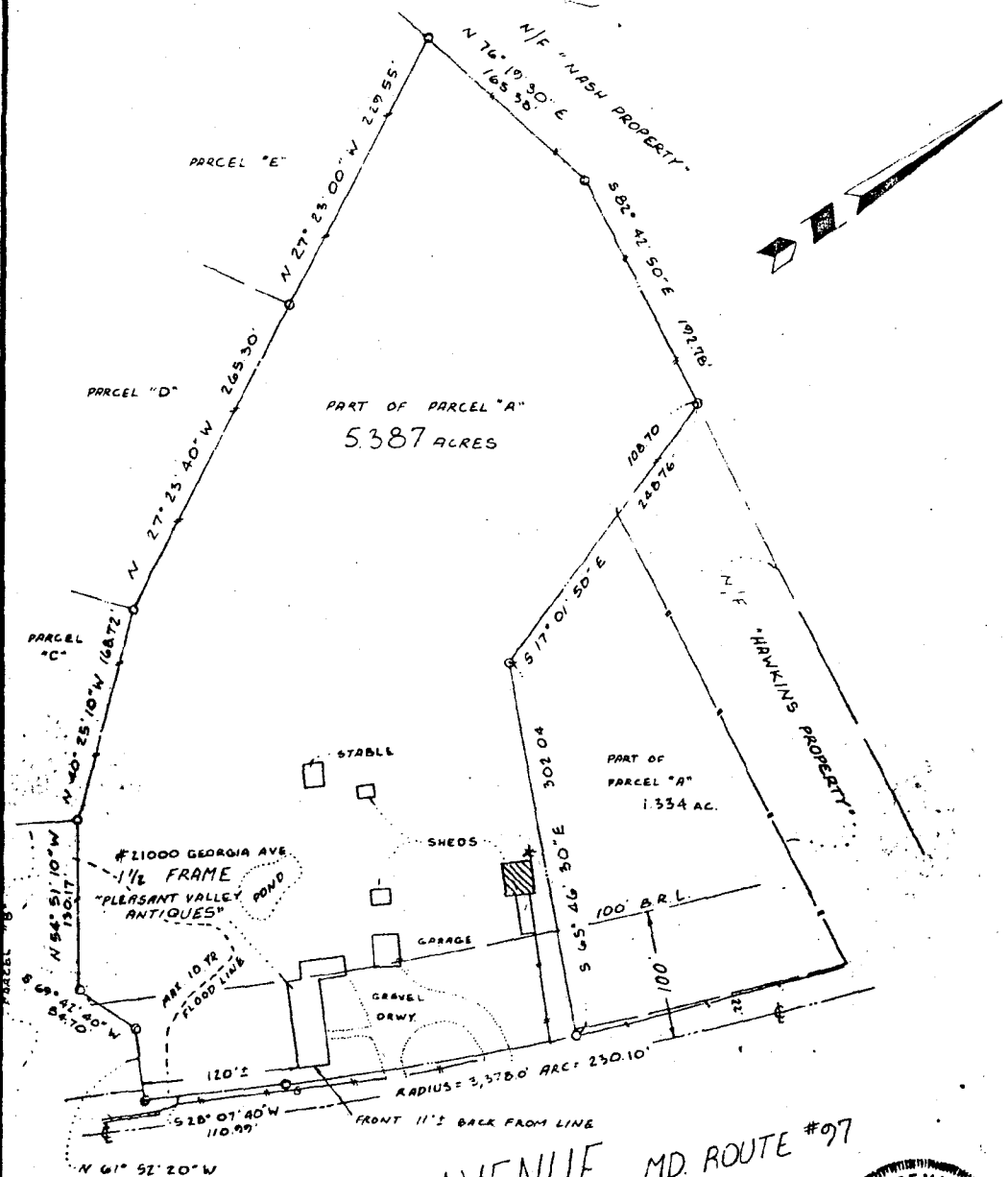
Greg and
~~SH~~ SHERYL ANDERSON
3301 Gregg Road
Brookeville, MD 20833

Peter and Sunny Ott
21001 GEORGIA AVENUE
BROOKEVILLE, MD 20833

John and Joyce Houser
21021 Georgia Avenue
Brookeville, MD 20833

David and Stacy Oberholzer
21020 Georgia Avenue
Brookeville, MD 20833

H. Sippilingiah
21030 Georgia Avenue
Brookeville MD 20833



21000 GEORGIA AVENUE MD. ROUTE #07
 Storage *

NOTE: FENCE LOCATION APPROXIMATE.
 STATE OF MARYLAND
 COUNTY LINE SURVEY

NO TITLE REPORT FURNISHED

LOCATION SURVEY OF
 #21000 GEORGIA AVENUE
 MONTGOMERY COUNTY, MARYLAND

LOT: PART OF PARCEL "A"
 PLAT BOOK: 60

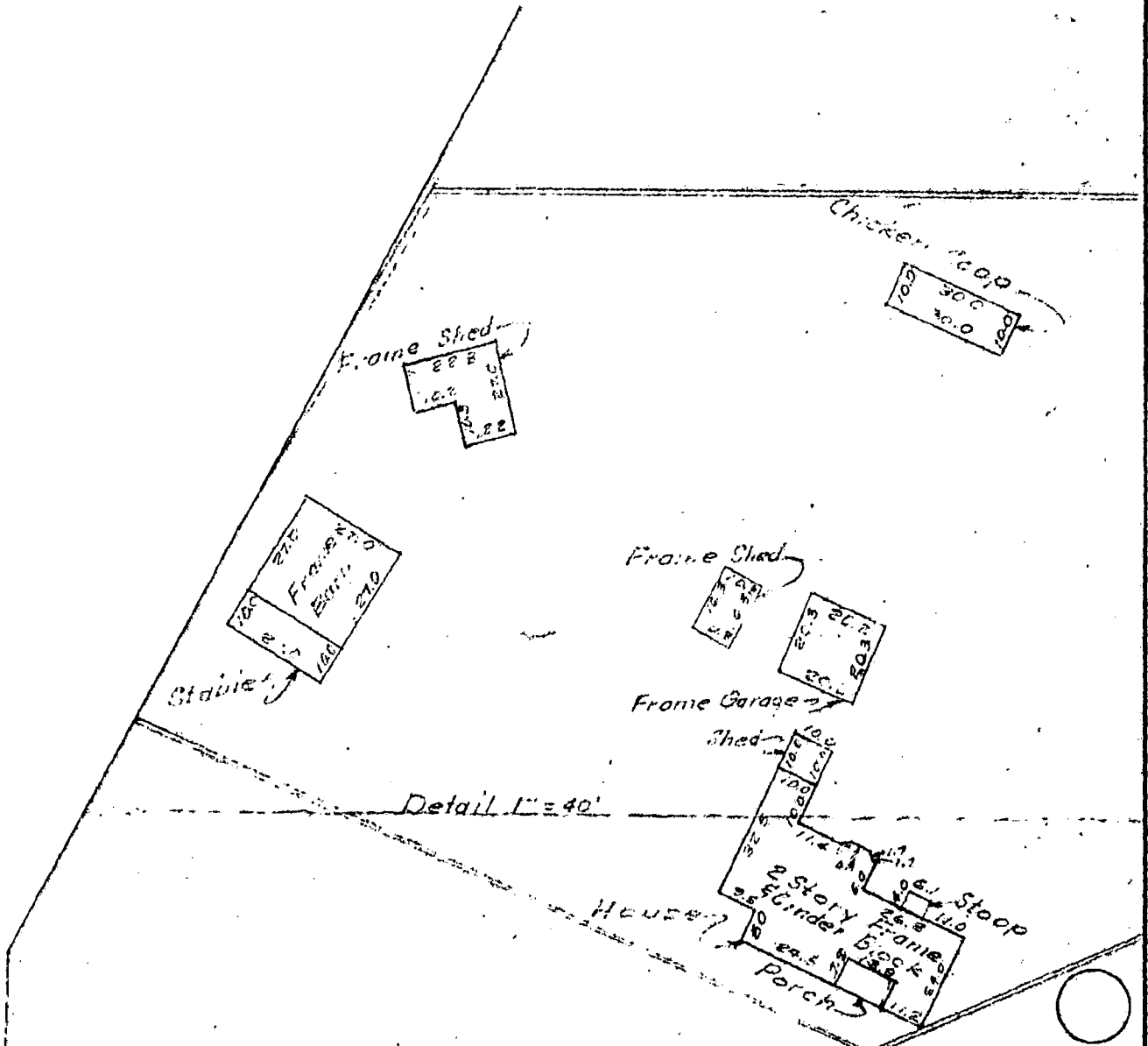
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MAY 22 2007

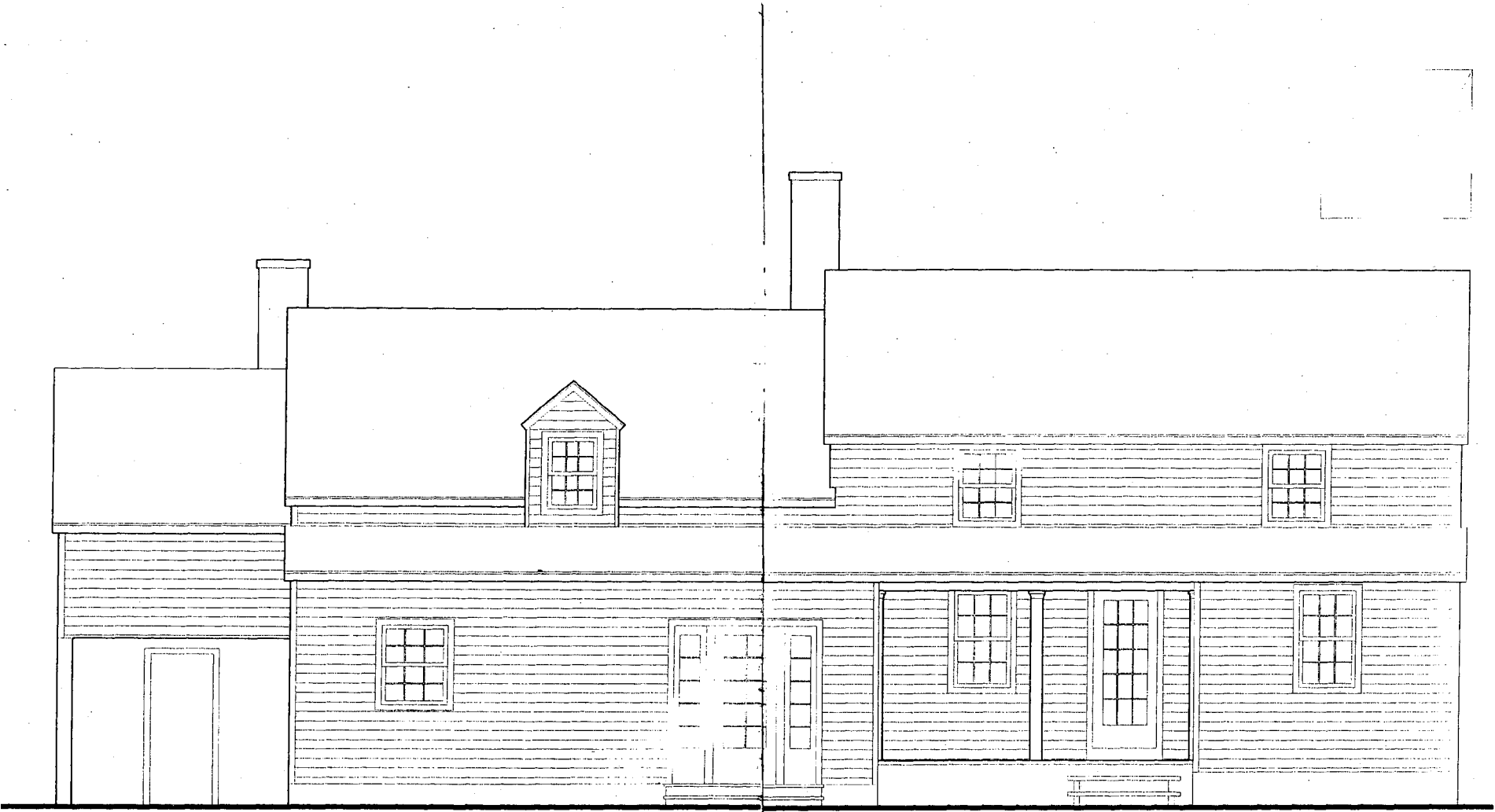
05-17-20

7

LOCATION OF BUILDINGS
PART OF PARCEL "A"
PLEASANT VIEW
MONTGOMERY COUNTY, MARYLAND



REVISIONS			4705 QUEENSBURY ROAD, RIVERDALE, MARYLAND 20840		
DATE	DESCRIPTION	BY	BEN DYER ASSOCIATES, INC. ENGINEERS, SURVEYORS, PLANNERS TELEPHONE: 779-8500		
			DRAWN BY	CHECKED BY	RECORD NO
			L.F.D.		M-468
			SCALE		DRWG. NO
			1" = 100'		
			DATE		
			11-19-68		



1
3

EXISTING BACK ELEVATION

1/4" = 1'-0"

Existing Property Condition Photographs (duplicate as needed)



Detail: FRONT (FACING NORTH) - SIDING AND TRIM REPLACEMENT



Detail: BACK (FACING SOUTH) - SIDING AND TRIM REPLACEMENT

Existing Property Condition Photographs (duplicate as needed)



Detail: SIDE (FACING EAST) - SIDING AND TRIM REPLACEMENT
↳ GEORGIA AVENUE



Detail: SIDE (FACING WEST) - SIDING AND TRIM REPLACEMENT

Applicant: JAMES B. LESSIG

Page: 2 of 2

(11)



James Hardie® offers a complete building solution including trim and soffit which is available with our ColorPlus® technology, providing one of the most visually appealing, low-maintenance exteriors available today.

HardieTrim™ boards

With HardieTrim™ boards, you get superior weatherability and durability to reduce the problems associated with wood trim.

HardieTrim™ Boards Smooth

Thickness: 5/4 (1" actual)
Weight: 4.45 lbs./sq. ft.
Length: 10' boards
Widths: 4", 5", 6", 8", 12"

Available in all colors identified on color palette

Product Shown: 1" Trim Boards – Smooth

Color shown: Arctic White



Product Shown: 1" Trim Boards – Smooth

Color shown: Khaki Brown



HardieSoffit™ panels

HardieSoffit™ panels are pre-cut and eliminate the need for separate box or strip vents.

HardieSoffit™ Panels Non-vented – Select Cedarmill®

Thickness: 1/4"
Weight: 1.9 lbs./sq. ft.
Sizes: 12" x 12'
16" x 12'

Available in all colors identified on color palette

Product Shown: Non-Vented Select Cedarmill®

Color shown: Arctic White



Product Shown: Non-Vented Select Cedarmill®

Color shown: Navajo Beige



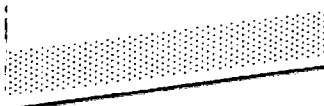
Vented – Select Cedarmill®

Thickness: 1/4"
Weight: 1.8 lbs./sq. ft.
Sizes: 12" x 12'
16" x 12'
24" x 8'

Available in all colors identified on color palette

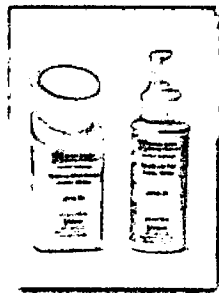
Product Shown: Vented Select Cedarmill®

Color shown: Arctic White



Product Shown: Vented Select Cedarmill®

Color shown: Cobble Stone



James Hardie offers color-matched accessories to ensure a finished home

ColorPlus Touch-up Kit:

Edge coater – Used to coat exposed edges

Touch-up pen – For nail heads and scratches

Caulk – Ensures a complete color-matched finish



1-866-4-HARDIE (1-866-442-7343) www.jameshardie.com

JH93700B-POD 2/07

Please visit www.jameshardie.com for additional product information and availability, installation information, warnings and warranties.

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James Hardie® siding products with ColorPlus® technology offer beauty, durability and low maintenance in a wide range of professionally developed colors.

HardiePlank™ lap siding

HardiePlank™ lap siding offers enormous advantages over conventional lap siding, combining strength and durability with the beauty and charm of wood.

HardiePlank™ lap siding Select Cedarmill® and Smooth

Thickness: 5/16"
Weight: 2.3 lbs./sq. ft.
Length: 12' planks
Widths: 6.25" (5" exposure)
7.25" (6" exposure)
8.25" (7" exposure)

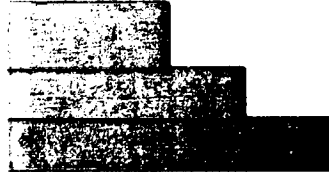
Available in all colors

Beaded Select Cedarmill® and Beaded Smooth

Widths: 8.25" (7" exposure)

Available in all colors

Product Shown: Select Cedarmill®



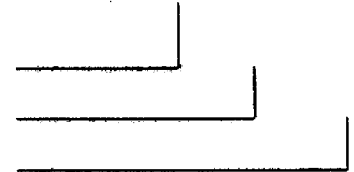
Color shown: Heathered Moss

Product Shown: Beaded Select Cedarmill®



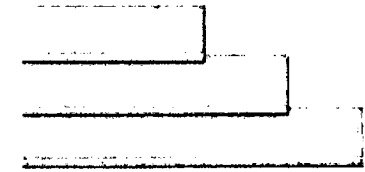
Color shown: Woodland Cream

Product Shown: Smooth



Color shown: Cobble Stone

Product Shown: Beaded Smooth



Color shown: Sandstone Beige

HardiePanel™ vertical siding

HardiePanel™ vertical siding's structural strength allows its use as a shear panel and when combined with HardieTrim™ boards you can achieve a board and batten look.

HardiePanel™ vertical siding Select Sierra 8, Cedarmill® Smooth and Stucco*

Thickness: 5/16"
Weight: 2.3 lbs./sq. ft.
Sizes: 4' x 8'
4' x 10'

Available in all colors
*4' x 8' only

Product Shown: Select Sierra 8



Color shown: Boothbay Blue

Product Shown: Cedarmill®



Color shown: Woodstock Brown

Product Shown: Stucco



Color shown: Navajo Beige

HardieShingle™ siding

For sidewall applications, HardieShingle™ siding offers the distinctive look of wood shingles with the low maintenance and durability of fiber-cement.

HardieShingle™ siding Straight-edge Notched Panel

Thickness: 1/4"
Weight: 1.9 lbs./sq. ft.
Sheet Size: 48" w x 16" h
Exposure: 7"

Staggered-edge Notched Panel

Sheet Size: 48" w x 16" h
Exposure: 6"

Available in all colors

Product Shown:
Straight-edge Notched Panel

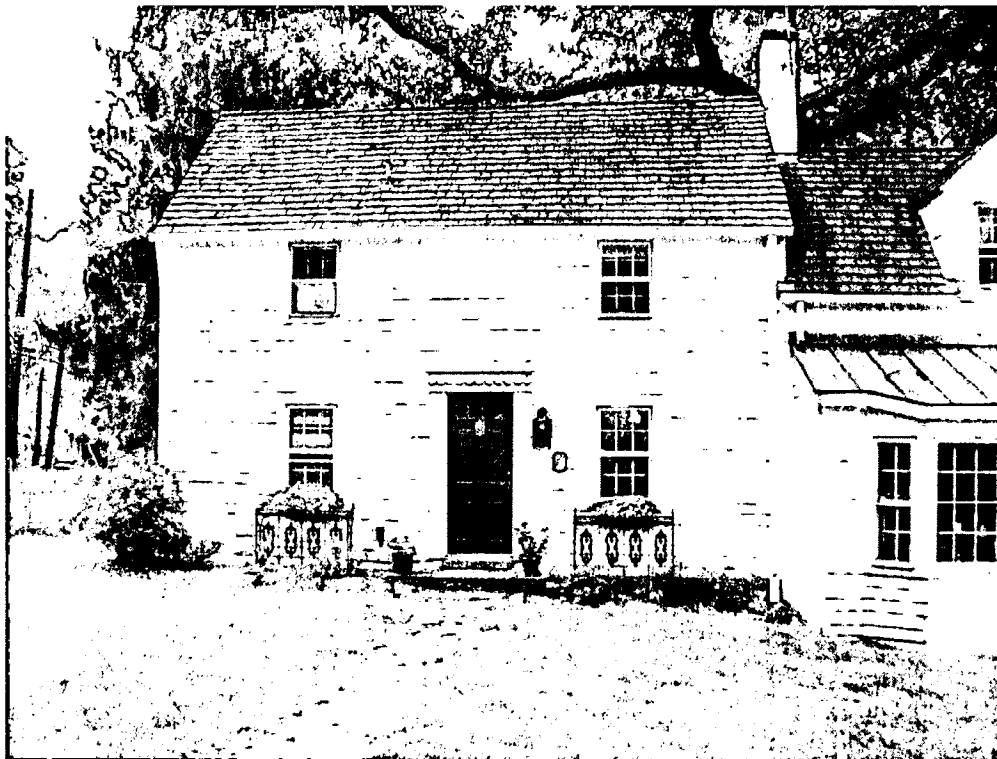


Color shown: Khaki Brown

Product Shown:
Staggered-edge Notched Panel

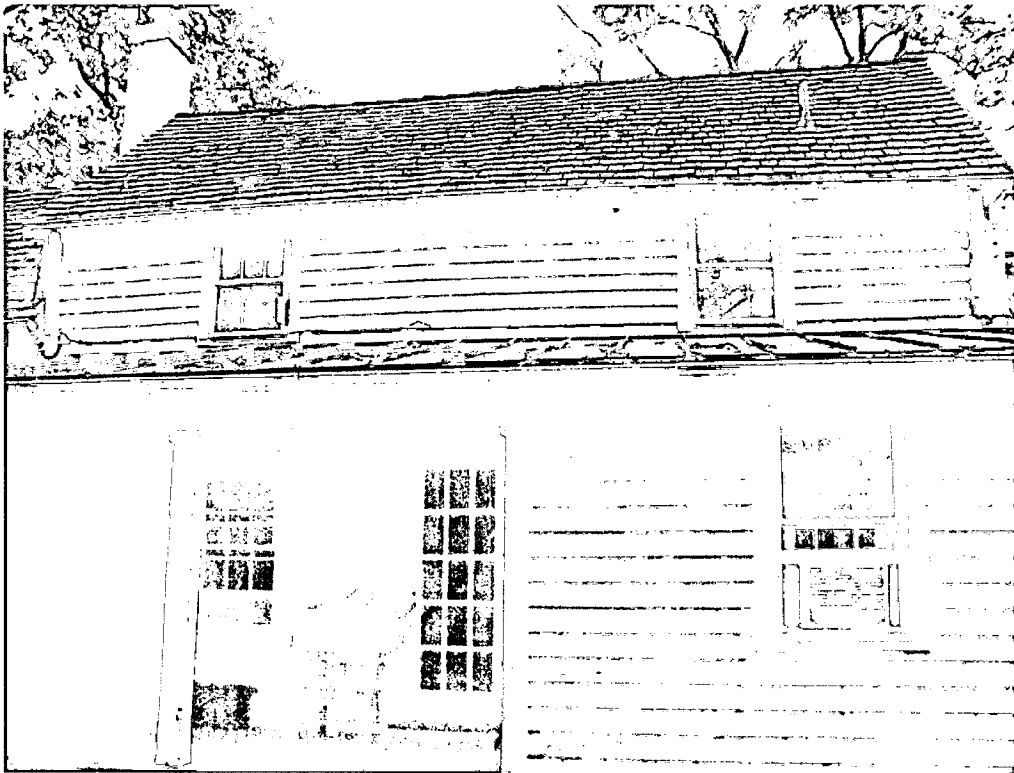


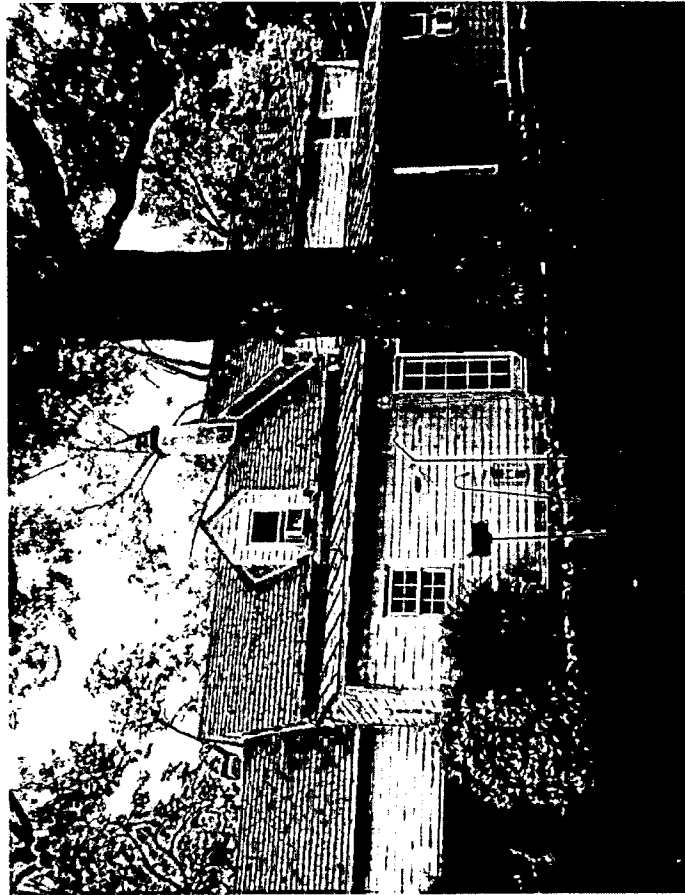
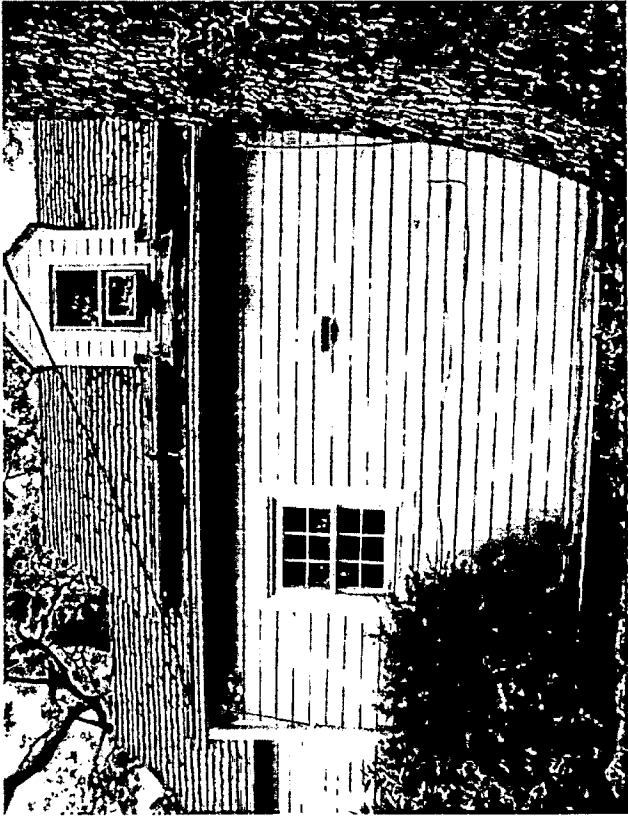
Color shown: Monterey Taupe



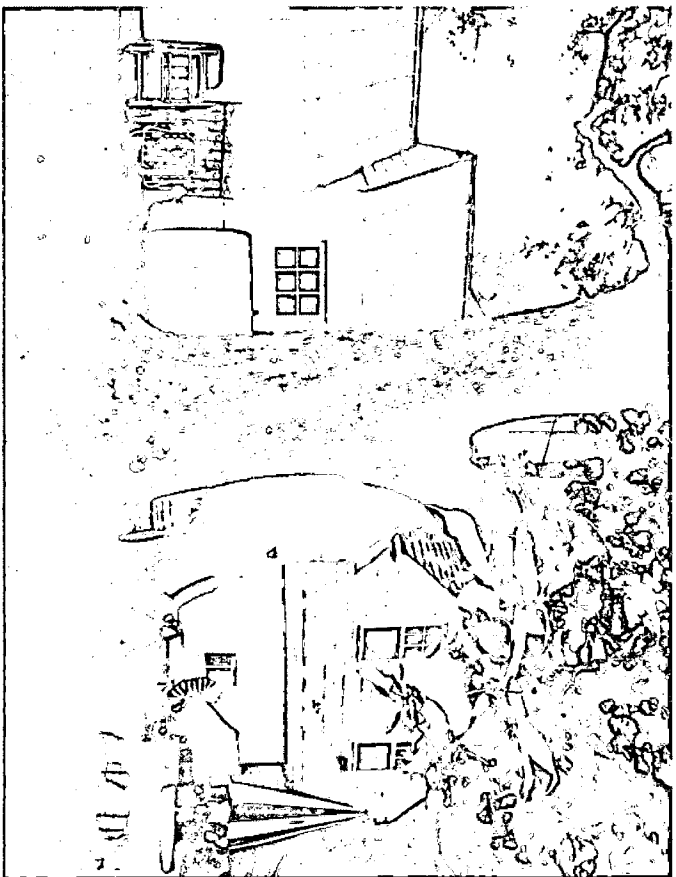
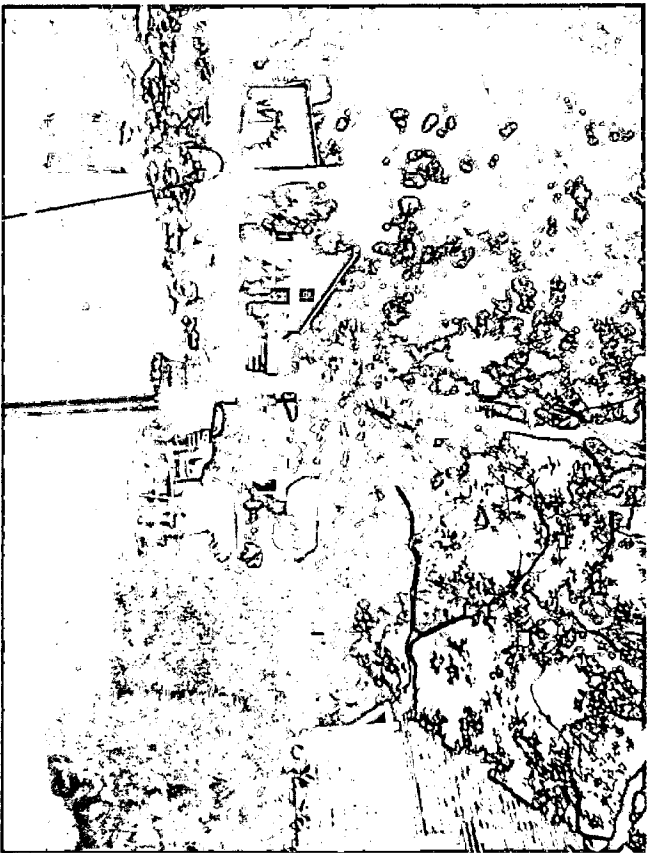












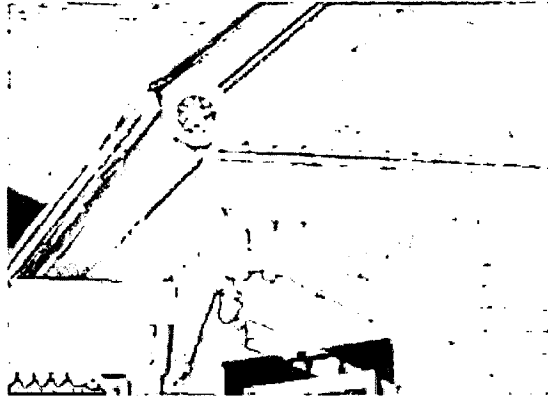
Technical Preservation Services

Building Exterior **Wood**

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

- SEARCH | LINKS | E-MAIL
- < HOME >
- 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

Because it can be easily shaped by sawing, planing, carving, and gouging, wood is used for architectural features such as clapboard, cornices, brackets, entablatures, shutters, columns and balustrades.



Decorative exterior wood trim and siding.

These wooden features, both functional and decorative, may be important in defining the historic character of the building and thus their retention, protection, and repair are important in rehabilitation projects. Wood has played a central role in American building during every period and in every style.

Whether as structural membering, exterior cladding, roofing, interior finishes, or decorative features, wood is frequently an essential component of historic and older buildings.

Wood

....Identify, retain, and preserve



recommended.....



Wood features on porch repaired and preserved during rehabilitation.

Identifying, retaining, and preserving wood features that are important in defining the overall historic character of the building such as siding, cornices, brackets, window architraves, and doorway pediments; and their paints, finishes, and colors.

not recommended...

Removing or radically changing wood features which are important in defining

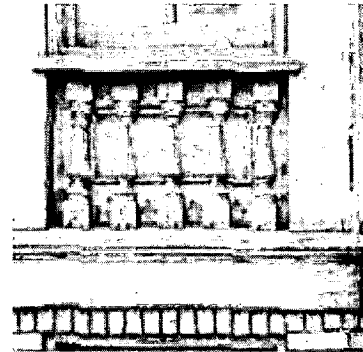
the overall historic character of the building so that, as a result, the character is diminished.

Removing a major portion of the historic wood from a facade instead of repairing or replacing only the deteriorated wood, then reconstructing the facade with new material in order to achieve a uniform or "improved" appearance.

Radically changing the type of finish or its color or accent scheme so that the historic character of the exterior is diminished.

Stripping historically painted surfaces to bare wood, then applying clear finishes or stains in order to create a "natural look."

Stripping paint or varnish to bare wood rather than repairing or reapplying a special finish, i.e., a grain finish to an exterior wood feature such as a front door.



Wood features inappropriately stripped of traditional painted finish.

Wood

....Protect and Maintain



recommended.....

Protecting and maintaining wood features by providing proper drainage so that water is not allowed to stand on flat, horizontal surfaces or accumulate in decorative features.

Applying chemical preservatives to wood features such as beam ends or outriggers that are exposed to decay hazards and are traditionally unpainted.

Retaining coatings such as paint that help protect the wood from moisture and ultraviolet light. Paint removal should be considered only where there is paint surface deterioration and as part of an overall maintenance program which involves repainting or applying other appropriate protective coatings.

Inspecting painted wood surfaces to determine whether repainting is necessary or if cleaning is all that is required.

Removing damaged or deteriorated paint to the next sound layer using the gentlest method possible (handscraping and handsanding), then repainting.

Using with care electric hot-air guns on decorative wood features and electric heat plates on flat wood surfaces when paint is so deteriorated that total removal is necessary prior to repainting.

Using chemical strippers primarily to



supplement other methods such as handscraping, handsanding and the above-recommended thermal devices. Detachable wooden elements such as shutters, doors, and columns may--with the proper safeguards--be chemically dip-stripped.

Applying compatible paint coating systems following proper surface preparation.

Repainting with colors that are appropriate to the historic building and district.

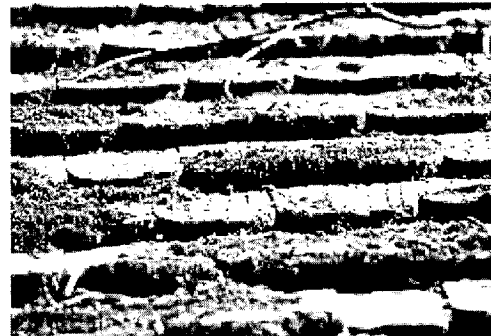
Evaluating the overall condition of the wood to determine whether more than protection and maintenance are required, that is, if repairs to wood features will be necessary.



Hand scraping wood column prior to repainting.

not recommended.....

Failing to identify, evaluate, and treat the causes of wood deterioration, including faulty flashing, leaking gutters, cracks and holes in siding, deteriorated caulking in joints and seams, plant material growing too close to wood surfaces, or insect or fungus infestation.



Moss on wood shingles indicative of damaging moisture retention.

Using chemical preservatives such as creosote which can change the appearance of wood features unless they were used historically.

Stripping paint or other coatings to reveal bare wood, thus exposing historically coated surfaces to the effects of accelerated weathering.

Removing paint that is firmly adhering to, and thus, protecting wood surfaces.

Using destructive paint removal methods such as a propane or butane torches, sandblasting or waterblasting. These methods can irreversibly damage historic woodwork.

Using thermal devices improperly so that the historic woodwork is scorched.

Failing to neutralize the wood thoroughly after using chemicals so that new paint does not adhere.

Allowing detachable wood features to soak too long in a caustic solution so that the wood grain is raised and the surface roughened.

Failing to follow manufacturers' product and application instructions when repainting exterior woodwork.

Using new colors that are inappropriate to the historic building or district.

Failing to undertake adequate measures to assure the protection of wood features.

WoodRepair

recommended....

Repairing wood features by patching, piecing-in, consolidating, or otherwise reinforcing the wood using recognized preservation methods.



Limited replacement-in-kind of deteriorated wood clapboards.

Repair may also include the limited replacement in kind-- or with compatible substitute material--of those extensively deteriorated or missing parts of features where there are surviving prototypes such as brackets, molding, or sections of siding.

not recommended....

Replacing an entire wood feature such as a cornice or wall when repair of the wood and limited replacement of deteriorated or missing parts are appropriate.

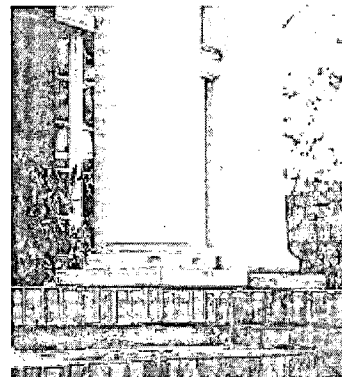
Using substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the wood feature or that is physically or chemically incompatible.

WoodReplace

recommended....

Replacing in kind an entire wood feature that is too deteriorated to repair--if the overall form and detailing are still evident--using the physical evidence as a model to reproduce the feature. Examples of wood features include a cornice, entablature or balustrade.

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



Replacing rotted wood column base with new wood.

not recommended....

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Removing a feature that is unrepairable and not replacing it; or replacing it with a new feature that does not convey the same visual appearance.

Design for Missing Historic Features

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 installing a new wood feature such as a cornice or doorway when the historic feature is completely missing. 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 wood feature is based on insufficient historical, pictorial, and physical documentation.

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



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10 Preservation Briefs

Technical Preservation Services

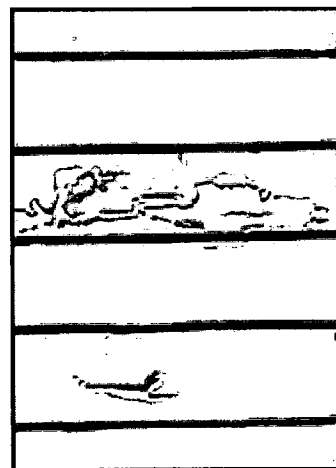
National Park Service
U.S. Department of the Interior



Exterior Paint Problems on Historic Woodwork

Kay D. Weeks and David W. Look, AIA

- » Purposes of Exterior Paint
- » Treating Paint Problems
- » Justification for Paint Removal
- » Paint Removal Precautions
- » Repainting Historic Buildings for Cosmetic Reasons
- » Conditions/Recommended Treatments
- » Selecting the Safest Method to Remove Paint
- » General Paint Type Recommendations
- » Conclusion
- » Reading List



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.

A cautionary approach to paint removal is included in the guidelines to the Secretary of the Interior Standards for Rehabilitation. Removing paints down to bare wood surfaces using harsh methods can permanently damage those surfaces; therefore such methods are not recommended. Also, total removal obliterates evidence of the historical paints and their sequence and architectural context.

This Brief expands on that advice for the architect, building manager, contractor, or homeowner by identifying and describing common types of paint surface conditions and failures, then recommending appropriate treatments for preparing exterior wood surfaces for repainting to assure the best adhesion and greatest durability of the new paint.

Although the Brief focuses on responsible methods of "paint removal," several paint surface conditions will be described which do not require any paint removal, and still others which can be successfully handled by limited paint removal. In all cases, the information is intended to address the concerns related to exterior wood. It will also be generally assumed that, because houses built before 1950 involve one or more layers of lead-based paint, the majority of conditions warranting paint removal will mean dealing with this toxic substance along with the dangers of the paint removal tools and chemical strippers themselves.

Purposes of Exterior Paint



The paint on this exterior decorative feature is sound.
Photo: NPS files.

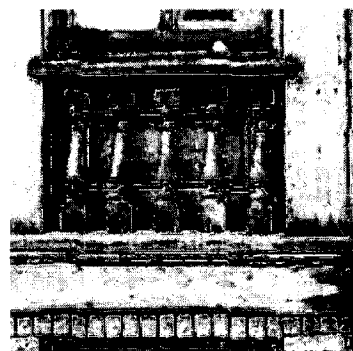
Paint applied to exterior wood must withstand yearly extremes of both temperature and humidity. While never expected to be more than a temporary physical shield--requiring reapplication every 5 to 8 years--its importance should not be minimized. Because one of the main causes of wood deterioration is moisture penetration, a primary purpose for painting wood is to exclude such moisture, thereby slowing deterioration not only of a building's exterior siding and decorative features but, ultimately, its underlying structural members. Another important purpose for painting wood is, of course, to define and accent architectural features and to improve appearance.

Treating Paint Problems in Historic Buildings

Exterior paint is constantly deteriorating through the processes of weathering, but in a program of regular maintenance--assuming all other building systems are functioning properly--surfaces can be cleaned, lightly scraped, and hand sanded in preparation for a new finish coat. Unfortunately, these are ideal conditions. More often, complex maintenance problems are inherited by owners of historic buildings, including areas of paint that have failed beyond the point of mere cleaning, scraping, and hand sanding (although much so-called "paint failure" is attributable to interior or exterior moisture problems or surface preparation and application mistakes with previous coats).

Although paint problems are by no means unique to historic buildings, treating multiple layers of hardened, brittle paint on complex, ornamental--and possibly fragile--exterior wood surfaces necessarily requires an extremely cautious approach. In the case of recent construction, this level of concern is not needed because the wood is generally less detailed and, in addition, retention of the sequence of paint layers as a partial record of the building's history is not an issue.

When historic buildings are involved, however, a special set of problems arises--varying in complexity depending upon their age, architectural style, historical importance, and physical soundness of the wood--which must be carefully evaluated so that decisions can be made that are sensitive to the longevity of the resource.



When the protective and decorative paint finish was removed and an inappropriate clear finish applied, the exterior character of the building was altered. Photo: NPS files.

Justification for Paint Removal

At the outset of this Brief, it must be emphasized that removing paint from historic buildings--with the exception of cleaning, light scraping, and hand sanding as part of routine maintenance--should be avoided unless absolutely essential. **Once conditions warranting removal have been identified the general approach should be to**

remove paint to the next sound layer using the gentlest means possible, then to repaint. Practically speaking as well, paint can adhere just as effectively to existing paint as to bare wood, providing the previous coats of paint are also adhering uniformly and tightly to the wood and the surface is properly prepared for repainting-- cleaned of dirt and chalk and dulled by sanding.

But, if painted exterior wood surfaces display continuous patterns of deep cracks or if they are extensively blistering and peeling so that bare wood is visible, then the old paint should be completely removed before repainting. The only other justification for removing all previous layers of paint is if doors, shutters, or windows have literally been "painted shut," or if new wood is being pieced-in adjacent to old painted wood and a smooth transition is desired.

Paint Removal Precautions

Because paint removal is a difficult and painstaking process, a number of costly, regrettable experiences have occurred--and continue to occur--for both the historic building and the building owner. Historic buildings have been set on fire with blow torches; wood irreversibly scarred by sandblasting or by harsh mechanical devices such as rotary sanders and rotary wire strippers; and layers of historic paint inadvertently and unnecessarily removed. In addition, property owners, using techniques that substitute speed for safety, have been injured by toxic lead vapors or dust from the paint they were trying to remove or by misuse of the paint removers themselves.

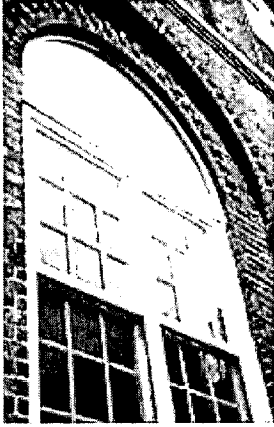
Owners of historic properties considering paint removal should also be aware of the amount of time and labor involved. While removing damaged layers of paint from a door or porch railing might be readily accomplished within a reasonable period of time by one or two people, removing paint from larger areas of a building can, without professional assistance, easily become unmanageable and produce less than satisfactory results. The amount of work involved in any paint removal project must therefore be analyzed on a case-by-case basis. Hiring qualified professionals will often be a cost-effective decision due to the expense of materials, the special equipment required, and the amount of time involved. Further, paint removal companies experienced in dealing with the inherent health and safety dangers of paint removal should have purchased such protective devices as are needed to mitigate any dangers and should also be aware of State or local environmental and/or health regulations for hazardous waste disposal.

All in all, paint removal is a messy, expensive, and potentially dangerous aspect of rehabilitating or restoring historic buildings and should not be undertaken without careful thought concerning first, its necessity, and second, which of the available recommended methods is the safest and most appropriate for the job at hand.

Re-painting Historic Buildings for Cosmetic Reasons

If existing exterior paint on wood siding, eaves, window sills, sash, and shutters, doors, and decorative features shows no evidence of paint deterioration such as chalking, blistering, peeling, or cracking, then there is no physical reason to repaint, much less remove paint! Nor is color fading, of itself, sufficient justification to repaint a historic building.

The decision to repaint may not be based altogether on paint failure. Where there is a new owner, or even where ownership has remained constant through the years, taste in colors often changes. Therefore, if repainting is primarily to alter a building's primary and accent colors, a technical factor of paint accumulation should be taken into consideration.



When the paint on the wood windows became too thick, it was removed and the window repainted.
Photo: NPS files.

When paint builds up to a thickness of approximately 1/16" (approximately 16 to 30 layers), one or more extra coats of paint may be enough to trigger cracking and peeling in limited or even widespread areas of the building's surface. This results because excessively thick paint is less able to withstand the shrinkage or pull of an additional coat as it dries and is also less able to tolerate thermal stresses. Thick paint invariably fails at the weakest point of adhesion--the oldest layers next to the wood. Cracking and peeling follow. Therefore, if there are no signs of paint failure, it may be somewhat risky to add still another layer of unneeded paint simply for color's sake (extreme changes in color may also require more than one coat to provide proper hiding power and full color). When paint appears to be nearing the critical thickness, a change of accent colors (that is, just to limited portions of the trim) might be an acceptable compromise without chancing cracking and peeling of paint on wooden siding.

If the decision to repaint is nonetheless made, the "new" color or colors should, at a minimum, be appropriate to the style and setting of the building. On the other hand, where the intent is to restore or accurately reproduce the colors originally used or those from a significant period in the building's evolution, they should be based on the results of a paint analysis.

Identification of Exterior Paint Surface Conditions/Recommended Treatments

It is assumed that a preliminary check will already have been made to determine, first, that the painted exterior surfaces are indeed wood--and not stucco, metal, or other wood substitutes--and second, that the wood has not decayed so that repainting would be superfluous. For example, if any area of bare wood such as window sills has been exposed for a long period of time to standing water, wood rot is a strong possibility. Repair or replacement of deteriorated wood should take place before repainting. After these two basic issues have been resolved, the surface condition identification process may commence.

The historic building will undoubtedly exhibit a variety of exterior paint surface conditions. For example, paint on the wooden siding and doors may be adhering firmly; paint on the eaves peeling; and paint on the porch balusters and window sills cracking and alligating. The accurate identification of each paint problem is therefore the first step in planning an appropriate overall solution.

Paint surface conditions can be grouped according to their relative severity: CLASS I conditions include minor

blemishes or dirt collection and generally require no paint removal; CLASS II conditions include failure of the top layer or layers of paint and generally require limited paint removal; and CLASS III conditions include substantial or multiple-layer failure and generally require total paint removal. It is precisely because conditions will vary at different points on the building that a careful inspection is critical. Each item of painted exterior woodwork (i.e., siding, doors, windows, eaves, shutters, and decorative elements) should be examined early in the planning phase and surface conditions noted.

CLASS I Exterior Surface Conditions Generally Requiring No Paint Removal

Dirt, Soot, Pollution, Cobwebs, Insect Cocoons, etc.

Cause of Condition

Environmental "grime" or organic matter that tends to cling to painted exterior surfaces and, in particular, protected surfaces such as eaves, do not constitute a paint problem unless painted over rather than removed prior to repainting. If not removed, the surface deposits can be a barrier to proper adhesion and cause peeling.

Recommended Treatment

Most surface matter can be loosened by a strong, direct stream of water from the nozzle of a garden hose. Stubborn dirt and soot will need to be scrubbed off using 1/2 cup of household detergent in a gallon of water with a medium soft bristle brush. The cleaned surface should then be rinsed thoroughly, and permitted to dry before further inspection to determine if repainting is necessary. Quite often, cleaning provides a satisfactory enough result to postpone repainting.

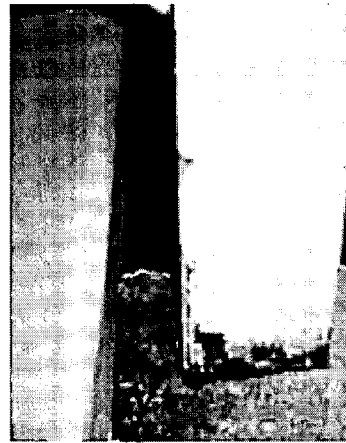
Mildew

Cause of Condition

Mildew is caused by fungi feeding on nutrients contained in the paint film or on dirt adhering to any surface. Because moisture is the single most important factor in its growth, mildew tends to thrive in areas where dampness and lack of sunshine are problems such as window sills, under eaves, around gutters and downspouts, on the north side of buildings, or in shaded areas near shrubbery. It may sometimes be difficult to distinguish mildew from dirt, but there is a simple test to differentiate: if a drop of household bleach is placed on the suspected surface, mildew will immediately turn white whereas dirt will continue to look like dirt.

Recommended Treatment

Because mildew can only exist in shady, warm, moist areas, attention should be given to altering the environment that is conducive to fungal growth. The area in question may be shaded by trees which need to be pruned back to allow sunlight to strike the building; or may lack rain gutters or proper drainage at the base of the building. If the



The problem evidenced here by mossy growth and deteriorated wood must be resolved and the wood allowed to dry out before the wood is repainted. Photo: NPS files.

shady or moist conditions can be altered, the mildew is less likely to reappear. A recommend solution for removing mildew consists of one cup non-ammoniated detergent, one quart household bleach, and one gallon water. When the surface is scrubbed with this solution using a medium soft brush, the mildew should disappear; however, for particularly stubborn spots, an additional quart of bleach may be added. After the area is mildew-free, it should then be rinsed with a direct stream of water from the nozzle of a garden hose, and permitted to dry thoroughly. When repainting, specially formulated "mildew-resistant" primer and finish coats should be used.

Excessive Chalking

Cause of Condition

Chalking--or powdering of the paint surface--is caused by the gradual disintegration of the resin in the paint film. (The amount of chalking is determined both by the formulation of the paint and the amount of ultraviolet light to which the paint is exposed.) In moderation, chalking is the ideal way for a paint to "age," because the chalk, when rinsed by rainwater, carries discoloration and dirt away with it and thus provides an ideal surface for repainting. In excess, however, it is not desirable because the chalk can wash down onto a surface of a different color beneath the painted area and cause streaking as well as rapid disintegration of the paint film itself. Also, if a paint contains too much pigment for the amount of binder (as the old white lead carbonate/oil paints often did), excessive chalking can result.

Recommended Treatment

The chalk should be cleaned off with a solution of 1/2 cup household detergent to one gallon water, using a medium soft bristle brush. After scrubbing to remove the chalk, the surface should be rinsed with a direct stream of water from the nozzle of a garden hose, allowed to dry thoroughly, (but not long enough for the chalking process to recur) and repainted, using a non-chalking paint.

Staining

Cause of Condition

Staining of paint coatings usually results from excess moisture reacting with materials within the wood substrate. There are two common types of staining, neither of which requires paint removal. The most prevalent type of stain is due to the oxidation or rusting of iron nails or metal (iron, steel, or copper) anchorage devices. A second type of stain is caused by a chemical reaction between moisture and natural extractives in certain woods (red cedar or redwood) which results in a surface deposit of colored matter. This is most apt to occur in new replacement wood within the first 10-15 years.

Recommended Treatment

In both cases, the source of the stain should first be located and the moisture problem corrected.

When stains are caused by rusting of the heads of nails used to attach shingles or siding to an exterior wall or by rusting or oxidizing iron, steel, or copper anchorage devices adjacent to a painted surface, the metal objects themselves should be hand sanded and coated with a rust-inhibitive primer followed by two finish coats. (Exposed nail heads

should ideally be countersunk, spot primed, and the holes filled with a high quality wood filler except where exposure of the nail head was part of the original construction system or the wood is too fragile to withstand the countersinking procedure.)

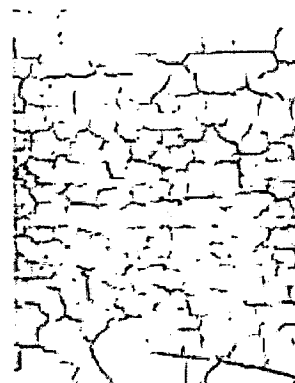
Discoloration due to color extractives in replacement wood can usually be cleaned with a solution of equal parts denatured alcohol and water. After the affected area has been rinsed and permitted to dry, a "stainblocking primer" especially developed for preventing this type of stain should be applied (two primer coats are recommended for severe cases of bleeding prior to the finish coat). Each primer coat should be allowed to dry at least 48 hours.

CLASS II Exterior Surface Conditions Generally Requiring Limited Paint Removal

Crazing

Cause of Condition

Crazing--fine, jagged interconnected breaks in the top layer of paint--results when paint that is several layers thick becomes excessively hard and brittle with age and is consequently no longer able to expand and contract with the wood in response to changes in temperature and humidity. As the wood swells, the bond between paint layers is broken and hairline cracks appear. Although somewhat more difficult to detect as opposed to other more obvious paint problems, it is well worth the time to scrutinize all surfaces for crazing. If not corrected, exterior moisture will enter the crazed surface, resulting in further swelling of the wood and, eventually, deep cracking and alligating, a Class III condition which requires total paint removal.



Crazing--or surface cracking--is an exterior surface condition which can be successfully treated by sanding and painting. Photo: Courtesy, National Decorating Products Association.

Recommended Treatment

Crazing can be treated by hand or mechanically sanding the surface, then repainting. Although the hairline cracks may tend to show through the new paint, the surface will be protected against exterior moisture penetration.

Intercoat Peeling

Cause of Condition

Intercoat peeling can be the result of improper surface preparation prior to the last repainting. This most often occurs in protected areas such as eaves and covered porches because these surfaces do not receive a regular rinsing from rainfall, and salts from airborne pollutants thus accumulate on the surface. If not cleaned off, the new paint coat will not adhere properly and that layer will peel.

Another common cause of intercoat peeling is incompatibility between paint types. For example, if oil paint is applied over latex paint, peeling of the top coat can sometimes result since, upon aging, the oil paint



Here, a latex top coat was applied directly over old oil paint, resulting in intercoat peeling. The latex was unable to adhere. If latex is used over oil, an oil-base primer should be applied first. Photo: Mary L. Oehrlein, AIA.

becomes harder and less elastic than the latex paint. If latex paint is applied over old, chalking oil paint, peeling can also occur because the latex paint is unable to penetrate the chalky surface and adhere.

Recommended Treatment

First, where salts or impurities have caused the peeling, the affected area should be washed down thoroughly after scraping, then wiped dry. Finally, the surface should be hand or mechanically sanded, then repainted.

Where peeling was the result of using incompatible paints, the peeling top coat should be scraped and hand or mechanically sanded. Application of a high quality oil type exterior primer will provide a surface over which either an oil or a latex topcoat can be successfully used.

Solvent Blistering

Cause of Condition

Solvent blistering, the result of a less common application error, is not caused by moisture, but by the action of ambient heat on paint solvent or thinners in the paint film. If solvent-rich paint is applied in direct sunlight, the top surface can dry too quickly and, as a result, solvents become trapped beneath the dried paint film. When the solvent vaporizes, it forces its way through the paint film, resulting in surface blisters. This problem occurs more often with dark colored paints because darker colors absorb more heat than lighter ones. To distinguish between solvent blistering and blistering caused by moisture, a blister should be cut open. If another layer of paint is visible, then solvent blistering is likely the problem whereas if bare wood is revealed, moisture is probably to blame. Solvent blisters are generally small.

Recommended Treatment

Solvent-blistered areas can be scraped, hand or mechanically sanded to the next sound layer, then repainted. In order to prevent blistering of painted surfaces, paint should not be applied in direct sunlight.

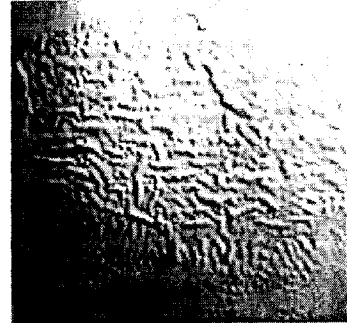
Wrinkling

Cause of Condition

Another error in application that can easily be avoided is wrinkling. This occurs when the top layer of paint dries before the layer underneath. The top layer of paint actually moves as the paint underneath (a primer, for example) is drying. Specific causes of wrinkling include: (1) applying paint too thick; (2) applying a second coat before the first one dries; (3) inadequate brushing out; and (4) painting in temperatures higher than recommended by the manufacturer.

Recommended Treatment

The wrinkled layer can be removed by scraping followed by hand or mechanical sanding to provide as even a surface as possible, then repainted following manufacturer's application instructions.



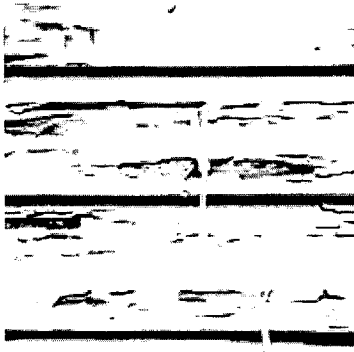
Wrinkled layers can generally be removed by scraping and sanding as opposed to total paint removal. Photo: Courtesy, National Decorating Products Association.

CLASS III Exterior Surface Conditions Generally Requiring Total Paint Removal

If surface conditions are such that the majority of paint will have to be removed prior to repainting, it is suggested that a small sample of intact paint be left in an inconspicuous area either by covering the area with a metal plate, or by marking the area and identifying it in some way. (When repainting does take place, the sample should not be painted over). This will enable future investigators to have a record of the building's paint history.

Peeling

Cause of Condition



Extensively deteriorated paint needs to be removed to bare wood, then primed and repainted. Photo: NPS files.

Peeling to bare wood is most often caused by excess interior or exterior moisture that collects behind the paint film, thus impairing adhesion. Generally beginning as blisters, cracking and peeling occur as moisture causes the wood to swell, breaking the adhesion of the bottom layer.

Recommended Treatment

There is no sense in repainting before dealing with the moisture problems because new paint will simply fail. Therefore, the first step in treating peeling is to locate and remove the source or sources of the moisture, not only because moisture will jeopardize the protective coating of paint but because, if left unattended, it can ultimately cause permanent damage to the wood. Excess interior moisture should be removed from the building through installation of exhaust fans and vents. Exterior moisture should be eliminated by correcting the following conditions prior to repainting: faulty flashing; leaking gutters; defective roof shingles; cracks and holes in siding and trim; deteriorated caulking in joints and seams; and shrubbery growing too close to painted wood. After the moisture problems have been solved, the wood must be permitted to dry out thoroughly. The damaged paint can then be scraped off with a putty knife, hand or mechanically sanded, primed, and repainted.

Cracking/Alligatoring

Cause of Condition

Cracking and alligatoring are advanced stages of crazing. Once the bond between layers has been broken due to intercoat paint failure, exterior moisture is able to penetrate the surface cracks, causing the wood to swell and deeper cracking to take place.

This process continues until cracking, which forms parallel to grain, extends to bare wood. Ultimately, the cracking becomes an overall pattern of horizontal and vertical breaks in the paint layers that looks like reptile skin; hence, "alligatoring." In advanced stages of cracking and alligatoring, the surfaces will also flake badly.

Recommended Treatment

If cracking and alligatoring are present only in the top layers they can probably be scraped, hand or mechanically sanded to the next sound layer, then repainted. However, if cracking and/or alligatoring have progressed to bare wood and the paint has begun to flake, it will need to be totally removed. Methods include scraping or paint removal with the electric heat plate, electric heat gun, or chemical strippers, depending on the particular area involved. Bare wood should be primed within 48 hours then repainted.

Selecting the Appropriate/Safest Method to Remove Paint

After having presented the "hierarchy" of exterior paint surface conditions--from a mild condition such as mildewing which simply requires cleaning prior to repainting to serious conditions such as peeling and alligatoring which require total paint removal--one important thought bears repeating: if a paint problem has been identified that warrants either limited or total paint removal, the gentlest method possible for the particular wooden element of the historic building should be selected from the many available methods.

The treatments recommended--based upon field testing as well as onsite monitoring of Department of Interior grant-in-aid and certification of rehabilitation projects--are therefore those which take three overriding issues into consideration (1) the continued protection and preservation of the historic exterior woodwork; (2) the retention of the sequence of historic paint layers; and (3) the health and safety of those individuals performing the paint removal. By applying these criteria, it will be seen that no paint removal method is without its drawbacks and all recommendations are qualified in varying degrees.

Methods for Removing Paint

After a particular exterior paint surface condition has been identified, the next step in planning for repainting--if paint removal is required--is selecting an appropriate method for such removal.

The method or methods selected should be suitable for the specific paint problem as well as the particular wooden element of the building. Methods for paint removal can be divided into three categories (frequently, however, a combination of the three methods is used). Each method is defined below, then discussed further and specific recommendations made:

Abrasive--"Abrading" the painted surface by manual and/or mechanical means such as scraping and sanding. Generally used for surface preparation and limited paint removal.

Thermal--Softening and raising the paint layers by applying heat followed by scraping and sanding. Generally used for total paint removal.

Chemical--Softening of the paint layers with chemical strippers followed by scraping and sanding. Generally used for total paint removal.

Abrasive Methods (Manual)

If conditions have been identified that require limited paint removal such as crazing, intercoat peeling, solvent blistering, and wrinkling, scraping and hand sanding should be the first methods employed before using mechanical means. Even in the case of more serious conditions such as peeling--where the damaged paint is weak and already sufficiently loosened from the wood surface --scraping and hand sanding may be all that is needed prior to repainting.

Recommended Abrasive Methods (Manual)

Putty Knife/Paint Scraper: Scraping is usually accomplished with either a putty knife or a paint scraper, or both. Putty knives range in width from one to six inches and have a beveled edge. A putty knife is used in a pushing motion going under the paint and working from an area of loose paint toward the edge where the paint is still firmly adhered and, in effect, "beveling" the remaining layers so that as smooth a transition as possible is made between damaged and undamaged areas.

Paint scrapers are commonly available in 1-5/16, 2-1/2, and 3-1/2 inch widths and have replaceable blades. In addition, profiled scrapers can be made specifically for use on moldings. As opposed to the putty knife, the paint scraper is used in a pulling motion and works by raking the damaged areas of paint away.

The obvious goal in using the putty knife or the paint scraper is to selectively remove the affected layer or layers of paint; however, both of these tools, particularly the paint scraper with its hooked edge, must be used with care to properly prepare the surface and to avoid gouging the wood.

Sandpaper/Sanding Block/Sanding sponge: After manually removing the damaged layer or layers by scraping, the uneven surface (due to the almost inevitable removal of varying numbers of paint layers in a given area) will need to be smoothed or "feathered out" prior to repainting. As stated before, hand sanding, as opposed to harsher mechanical sanding, is recommended if the area is relatively limited. A coarse grit, open-coat flint sandpaper--the least expensive kind--is useful for this purpose because, as the sandpaper clogs with paint it must be discarded and this process repeated until all layers adhere uniformly.

Blocks made of wood or hard rubber and covered with sandpaper are useful for handsanding flat surfaces. Sanding sponges--rectangular sponges with an abrasive aggregate on their surfaces--are also available for detail work that requires reaching into grooves because the sponge easily conforms to curves and irregular surfaces. All sanding should be done with the grain.

Summary of Abrasive Methods (Manual)

Recommended: Putty knife, paint scraper, sandpaper, sanding block, sanding sponge.

Applicable areas of building: All areas. For use on: Class I, Class II, and Class III conditions.

Health/Safety factors: Take precautions against lead dust, eye damage; dispose of lead paint residue properly.

Abrasive Methods (Mechanical)

If hand sanding for purposes of surface preparation has not been productive or if the affected area is too large to consider hand sanding by itself, mechanical abrasive methods, i.e., power-operated tools may need to be employed; however, it should be noted that the majority of tools available for paint removal can cause damage to fragile wood and must be used with great care.

Recommended Abrasive Methods (Mechanical)

Orbital sander: Designed as a finishing or smoothing tool--not for the removal of multiple layers of paint--the orbital sander is thus recommended when limited paint removal is required prior to repainting. Because it sands in a small diameter circular motion (some models can also be switched to a back-and-forth vibrating action), this tool is particularly effective for "feathering" areas where paint has first been scraped. The abrasive surface varies from about 3x7 inches to 4x9 inches and sandpaper is attached either by clamps or sliding clips. A medium grit, open-coat aluminum oxide sandpaper should be used; fine sandpaper clogs up so quickly that it is ineffective for smoothing paint.

Belt sander: A second type of power tool--the belt sander--can also be used for removing limited layers of paint but, in this case, the abrasive surface is a continuous belt of sandpaper that travels at high speeds and consequently offers much less control than the orbital sander. Because of the potential for more damage to the paint or the wood, use of the belt sander (also with a medium grit sandpaper) should be limited to flat surfaces and only skilled operators should be permitted to operate it within a historic preservation project.

Not Recommended

Rotary Drill Attachments: Rotary drill attachments such as the rotary sanding disc and the rotary wire stripper should be avoided. The disc sander--usually a disc of sandpaper about 5 inches in diameter secured to a rubber based attachment which in turn connected to an electric drill or other motorized housing--can easily leave visible circular depressions in the wood which are difficult to hide, even with repainting. The rotary wire stripper--clusters of metals wires similarly attached to an electric drill-type unit--can actually shred a wooden surface and is thus to be used exclusively for removing corrosion and paint from metals.

Waterblasting: Waterblasting above 600 p.s.i. to remove paint is not recommended because it can force water into the woodwork rather than cleaning loose paint and grime from the surface; at worst, high pressure waterblasting causes the water to penetrate exterior sheathing and damages interior finishes. A detergent solution, a medium soft bristle brush, and a garden hose for purposes of rinsing, is the gentlest method involving water and is recommended when cleaning exterior surfaces prior to repainting.

Sandblasting: Finally--and undoubtedly most vehemently "not recommended"--sandblasting painted exterior woodwork will indeed remove paint, but at the same time can scar wooden elements beyond recognition. As with rotary wire strippers, sandblasting erodes the soft porous fibers (spring wood) faster than the hard, dense fibers (summer wood), leaving a pitted surface with ridges and valleys. Sandblasting will

also erode projecting areas of carvings and moldings before it removes paint from concave areas. Hence, this abrasive method is potentially the most damaging of all possibilities, even if a contractor promises that blast pressure can be controlled so that the paint is removed without harming the historic exterior woodwork. (For Additional Information, See Preservation Briefs 6, "Dangers of Abrasive Cleaning to Historic Buildings".)

Summary of Abrasive Methods (Mechanical)

Recommended: Orbital sander, belt sander (skilled operator only).

Applicable areas of building: Flat surfaces, i.e., siding, eaves, doors, window sills.

For use on: Class II and Class III conditions.

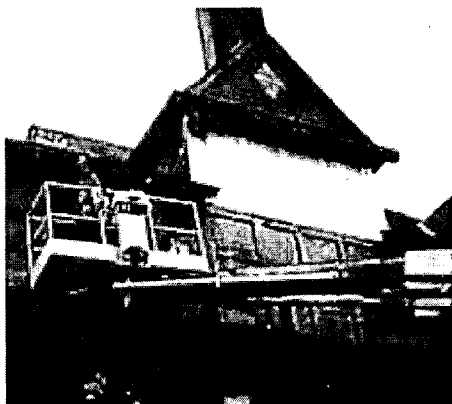
Health/Safety factors: Take precautions against lead dust and eye damage; dispose of lead paint residue properly.

Not Recommended: Rotary drill attachments, high pressure waterblasting, sandblasting.

Thermal Methods

Where exterior surface conditions have been identified that warrant total paint removal such as peeling, cracking, or alligating, two thermal devices--the electric heat plate and the electric heat gun--have proven to be quite successful for use on different wooden elements of the historic building. One thermal method--the blow torch--is not recommended because it can scorch the wood or even burn the building down!

Recommended Thermal Methods



A heat plate was used on the cornice to remove paint. Photo: NPS files.

Electric heat plate: The electric heat plate operates between 500 and 800 degrees Fahrenheit (not hot enough to vaporize lead paint), using about 15 amps of power. The plate is held close to the painted exterior surface until the layers of paint begin to soften and blister, then moved to an adjacent location on the wood while the softened paint is scraped off with a putty knife (it should be noted that the heat plate is most successful when the paint is very thick!). With practice, the operator can successfully move the heat plate evenly across a flat surface such as wooden siding or a window sill or door in a continuous motion, thus lessening the risk of scorching the wood in an attempt to reheat the edge of the paint sufficiently for effective

removal. Since the electric heat plate's coil is "red hot," extreme caution should be taken to avoid igniting clothing or burning the skin. If an extension cord is used, it should be a heavy-duty cord (with 3-prong grounded plugs). A heat plate could overload a circuit or, even worse, cause an electrical fire; therefore, it is recommended that this implement be used with a single circuit and that a fire extinguisher always be kept close at hand.

Electric heat gun: The electric heat gun (electric hot-air gun) looks like a hand-held hairdryer with a heavy-duty metal case. It has an electrical resistance coil that typically

heats between 500 and 750 degrees Fahrenheit and, again, uses about 15 amps of power which requires a heavy-duty extension cord. There are some heat guns that operate at higher temperatures but they should not be purchased for removing old paint because of the danger of lead paint vapors. The temperature is controlled by a vent on the side of the heat gun. When the vent is closed, the heat increases. A fan forces a stream of hot air against the painted woodwork, causing a blister to form. At that point, the softened paint can be peeled back with a putty knife. It can be used to best advantage when a paneled door was originally varnished, then painted a number of times. In this case, the paint will come off quite easily, often leaving an almost pristine varnished surface behind. Like the heat plate, the heat gun works best on a heavy paint buildup. (It is, however, not very successful on only one or two layers of paint or on surfaces that have only been varnished. The varnish simply becomes sticky and the wood scorches.)



The nozzle on the electric heat gun permits hot air to be aimed into cavities on solid decorative surfaces, such as this carriage house door. After the paint has been sufficiently softened, it can be carefully removed with a scraper. Photo: NPS files.

Although the heat gun is heavier and more tiring to use than the heat plate, it is particularly effective for removing paint from detail work because the nozzle can be directed at curved and intricate surfaces. Its use is thus more limited than the heat plate, and most successfully used in conjunction with the heat plate. For example, it takes about two to three hours to strip a paneled door with a heat gun, but if used in combination with a heat plate for the large, flat area, the time can usually be cut in half. Although a heat gun seldom scorches wood, it can cause fires (like the blow torch) if aimed at the dusty cavity between the exterior sheathing and siding and interior lath and plaster. A fire may smolder for hours before flames break through to the surface. Therefore, this thermal device is best suited for use on solid decorative elements, such as molding, balusters, fretwork, or "gingerbread."

Not Recommended

Blow Torch: Blow torches, such as hand-held propane or butane torches, were widely used in the past for paint removal because other thermal devices were not available. With this technique, the flame is directed toward the paint until it begins to bubble and loosen from the surface. Then the paint is scraped off with a putty knife. Although this is a relatively fast process, at temperatures between 3200 and 3800 degrees Fahrenheit the open flame is not only capable of burning a careless operator and causing severe damage to eyes or skin, it can easily scorch or ignite the wood. The other fire hazard is more insidious. Most frame buildings have an air space between the exterior sheathing and siding and interior lath and plaster. This cavity usually has an accumulation of dust which is also easily ignited by the open flame of a blow torch. Finally, leadbase paints will vaporize at high temperatures, releasing toxic fumes that can be unknowingly inhaled. Therefore, because both the heat plate and the heat gun are generally safer to use--that is, the risks are much more controllable--the blow torch should definitely be avoided!

Summary of Thermal Methods

Recommended: Electric heat plate, electric heat gun.

Applicable areas of building: Electric heat plate--flat surfaces such as siding, eaves,

sash, sills, doors. Electric heat gun--solid decorative molding, balusters, fretwork, or "gingerbread."

For use on: Class III conditions.

Health/Safety factors: Take precautions against eye damage and fire. Dispose of lead paint residue properly.

Not Recommended: Blow torch.

Chemical Methods

With the availability of effective thermal methods for total paint removal, the need for chemical methods--in the context of preparing historic exterior woodwork for repainting--becomes quite limited. Solvent-base or caustic strippers may, however, play a supplemental role in a number of situations, including:

- Removing paint residue from intricate decorative features, or in cracks or hard to reach areas if a heat gun has not been completely effective;
- Removing paint on window muntins because heat devices can easily break the glass;
- Removing varnish on exterior doors after all layers of paint have been removed by a heat plate/heat gun if the original varnish finish is being restored;
- Removing paint from detachable wooden elements such as exterior shutters, balusters, columns, and doors by dip stripping when other methods are too laborious.

Recommended Chemical Methods

(Use With Extreme Caution)

Because all chemical paint removers can involve potential health and safety hazards, no wholehearted recommendations can be made from that standpoint. Commonly known as "paint removers" or "strippers," both solvent-base or caustic products are commercially available that, when poured, brushed, or sprayed on painted exterior woodwork are capable of softening several layers of paint at a time so that the resulting "sludge"--which should be remembered is nothing less than the sequence of historic paint layers--can be removed with a putty knife. Detachable wood elements such as exterior shutters can also be "dip-stripped."

Solvent-base Strippers: The formulas tend to vary, but generally consist of combinations of organic solvents such as methylene chloride, isopropanol, toluol, xylol, and methanol; thickeners such as methyl cellulose; and various additives such as paraffin wax used to prevent the volatile solvents from evaporating before they have time to soak through multiple layers of paint. Thus, while some solvent-base strippers are quite thin and therefore unsuitable for use on vertical surfaces, others, called "semi-paste" strippers, are formulated for use on vertical surfaces or the underside of horizontal surfaces.

However, whether liquid or semi-paste, there are two important points to stress when

using any solvent-base stripper: First, the vapors from the organic chemicals can be highly toxic if inhaled; skin contact is equally dangerous because the solvents can be absorbed; second, many solvent-base strippers are flammable. Even though application out-of-doors may somewhat mitigate health and safety hazards, a respirator with special filters for organic solvents is recommended and, of course, solvent-base strippers should never be used around open flames, lighted cigarettes, or with steel wool around electrical outlets.

Although appearing to be the simplest for exterior use, a particular type of solvent-base stripper needs to be mentioned here because it can actually cause the most problems. Known as "water-rinsable," such products have a high proportion of methylene chloride together with emulsifiers. Although the dissolved paint can be rinsed off with water with a minimum of scraping, this ultimately creates more of a problem in cleaning up and properly disposing of the sludge. In addition, these strippers can leave a gummy residue on the wood that requires removal with solvents. Finally, water-rinsable strippers tend to raise the grain of the wood more than regular strippers.

On balance, then, the regular strippers would seem to work just as well for exterior purposes and are perhaps even better from the standpoint of proper lead sludge disposal because they must be hand 'scraped as opposed to rinsed off (a coffee-can with a wire stretched across the top is one effective way to collect the sludge; when the putty knife is run across the wire, the sludge simply falls into the can. Then, when the can is filled, the wire is removed, the can capped, and the lead paint sludge disposed of according to local health regulations).

Caustic strippers: Until the advent of solvent-base strippers, caustic strippers were used exclusively when a chemical method was deemed appropriate for total paint removal prior to repainting or refinishing. Now, it is more difficult to find commercially prepared caustic solutions in hardware and paint stores for homeowner use with the exception of lye (caustic soda) because solvent-base strippers packaged in small quantities tend to dominate the market.

Most commercial dip stripping companies, however, continue to use variations of the caustic bath process because it is still the cheapest method available for removing paint. Generally, dip stripping should be left to professional companies because caustic solutions can dissolve skin and permanently damage eyes as well as present serious disposal problems in large quantities.

If exterior shutters or other detachable elements are being sent out for stripping in a caustic solution, it is wise to see samples of the company's finished work. While some companies do a first-rate job, others can leave a residue of paint in carvings and grooves. Wooden elements may also be soaked too long so that the wood grain is raised and roughened, requiring extensive hand sanding later. In addition, assurances should be given by these companies that caustic paint removers will be neutralized with a mild acid solution or at least thoroughly rinsed with water after dipping (a caustic residue makes the wood feel slippery). If this is not done, the lye residue will cause new paint to fail.

Summary of Chemical Methods

Recommended, with extreme caution: Solvent-base strippers, caustic strippers.

Applicable areas of buildings: decorative features, window muntins, doors, exterior shutters, columns, balusters, and railings.

For use on: Class III Conditions.

Health/Safety factors: Take precautions against inhaling toxic vapors; fire; eye damage; and chemical poisoning from skin contact. Dispose of lead residue properly

General Paint Type Recommendations



Decorative features were painted with a traditional oil-based paint as a part of the rehabilitation. Photo: NPS files.

Based on the assumption that the exterior wood has been painted with oil paint many times in the past and the existing top coat is therefore also an oil paint, it is recommended that for CLASS I and CLASS II paint surface conditions, a top coat of high quality oil paint be applied when repainting. The reason for recommending oil rather than latex paints is that a coat of latex paint applied directly over old oil paint is more apt to fail. The considerations are twofold. First, because oil paints continue to harden with age, the old surface is sensitive to the added stress of shrinkage which occurs as a new coat of paint dries. Oil paints shrink less upon drying than latex paints and thus do not have as great a tendency to pull the old paint loose. Second, when exterior oil paints age, the binder

releases pigment particles, causing a chalky surface. Although for best results, the chalk (or dirt, etc.) should always be cleaned off prior to repainting, a coat of new oil paint is more able to penetrate a chalky residue and adhere than is latex paint. Therefore, unless it is possible to thoroughly clean a heavily chalked surface, oil paints--on balance--give better adhesion.

If however, a latex top coat is going to be applied over several layers of old oil paint, an oil primer should be applied first (the oil primer creates a flat, porous surface to which the latex can adhere). After the primer has thoroughly dried, a latex top coat may be applied. In the long run, changing paint types is more time consuming and expensive. An application of a new oil-type top coat on the old oil paint is, thus, the preferred course of action.

If CLASS III conditions have necessitated total paint removal, there are two options, both of which assure protection of the exterior wood: (1) an oil primer may be applied followed by an oil-type top coat, preferably by the same manufacturer; or (2) an oil primer may be applied followed by a latex top coat, again using the same brand of paint. It should also be noted that primers were never intended to withstand the effects of weathering; therefore, the top coat should be applied as soon as possible after the primer has dried.

CONCLUSION

The recommendations outlined in this Brief are cautious because at present there is no completely safe and effective method of removing old paint from exterior woodwork. This has necessarily eliminated descriptions of several methods still in a developmental

or experimental stage, which can therefore neither be recommended nor precluded from future recommendation. With the ever-increasing number of buildings being rehabilitated, however, paint removal technology should be stimulated and, in consequence, existing methods refined and new methods developed which will respect both the historic wood and the health and safety of the operator.

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Acknowledgements

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Washington, D.C. September, 1982

Home page logo: Peeling paint on historic wood siding. Photo: ©John Leeke, 2002.

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10/10/07

MONTGOMERY COUNTY HISTORIC PRESERVATION COMMISSION
STAFF REPORT

Address:	21000 Georgia Avenue, Brookeville	Meeting Date:	9/26/2007
Resource:	Master Plan Site #23/47 Pleasant View	Report Date:	9/19/2007
Applicant:	James and Barbara Lessig	Public Notice:	9/12/2007
Review:	HAWP	Tax Credit:	None
Case Number:	23/47-07A	Staff:	Anne Fothergill

PROPOSAL: Wood siding replacement

STAFF RECOMMENDATION

Staff recommends that the HPC deny this application.

ARCHITECTURAL DESCRIPTION

SIGNIFICANCE: Individually Designated *Master Plan* Site #23/47
STYLE: Vernacular
DATE: c. 1885

Excerpt from Places in the Past:

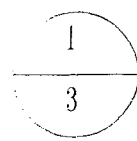
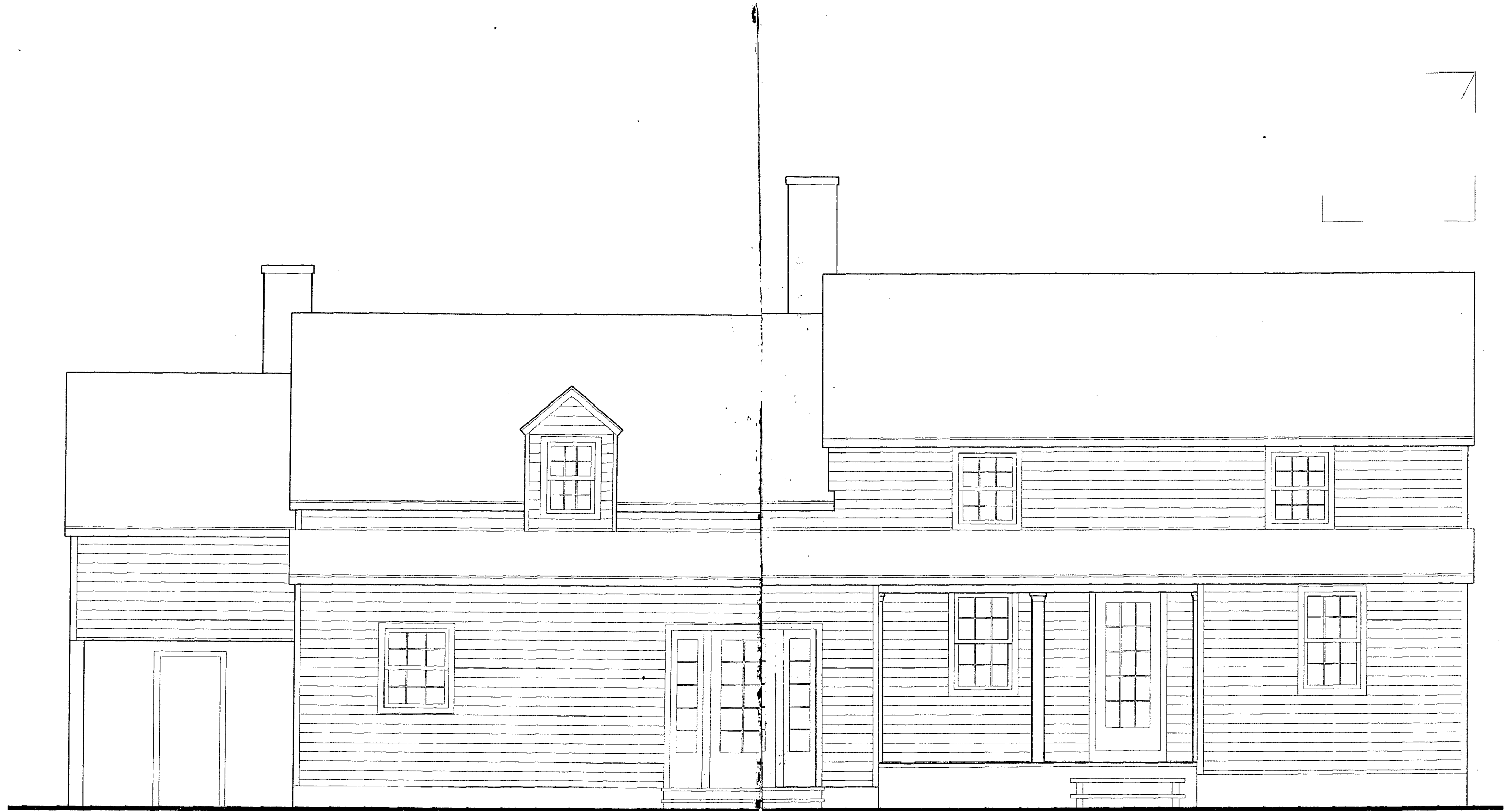
23/47 Pleasant View (by 1878; c1885)

21000 Georgia Avenue

This modest dwelling was part of Greenwood Plantation, the huge estate owned by Allen Bowie Davis who served in the Maryland Senate. Research indicates that the structure served as the overseer's house for Davis' plantation. In addition, the dwelling is said to have housed the tollgate keeper for the Washington-Westminster Turnpike (present-day Georgia Avenue). The main block is a three-bay frame structure facing north. The date of 1740 is said to be carved into a fireplace stone later covered with plaster board. The dwelling represents the post-Civil War downsizing of slave-supported Greenwood, as Davis sold off property to former slaves and workers. The west wing was added about 1885 when Davis sold the house and 17 acres to a former worker, Lafayette Dwyer. In the 1940s, a bay window was added to the west wing, which was expanded to incorporate a milk house. The property retains a notable collection of outbuildings including a springhouse.

PROPOSAL

The applicants propose to replace all of the wood siding on the house with HardiePlank siding and the wood trim with HardieTrim.



EXISTING BACK ELEVATION

1/4" = 1'-0"

Existing Property Condition Photographs (duplicate as needed)



Detail: FRONT (FACING NORTH) - SIDING AND TRIM REPLACEMENT



Detail: BACK (FACING SOUTH) - SIDING AND TRIM REPLACEMENT

Existing Property Condition Photographs (duplicate as needed)



Detail: SIDE (FACING EAST) - SIDING AND TRIM REPLACEMENT
↳ GEORGIA AVENUE



Detail: _____
SIDE (FACING WEST) - SIDING AND TRIM REPLACEMENT

Applicant: JAMES D. LESSIG

Existing Property Condition Photographs (duplicate as needed)



Detail: FRONT (FACING NORTH) - SIDING AND TRIM REPLACEMENT



Detail: BACK (FACING SOUTH) - SIDING AND TRIM REPLACEMENT

Existing Property Condition Photographs (duplicate as needed)



Detail: SIDE (FACING EAST) - SIDING AND TRIM REPLACEMENT
↳ GEORGIA AVENUE



Detail: _____
SIDE (FACING WEST) - SIDING AND TRIM REPLACEMENT



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JH93795SL 12/06

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HardieTrim™ Boards Smooth

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Length: 10' boards
Widths: 4", 5", 6", 8", 12"

Available in all colors identified on color palette

Product Shown: 1" Trim Boards – Smooth



Color shown: Arctic White

Product Shown: 1" Trim Boards – Smooth



Color shown: Khaki Brown

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HardieSoffit™ Panels Non-vented – Select Cedarmill®

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Weight: 1.9 lbs./sq. ft.
Sizes: 12" x 12'
16" x 12'

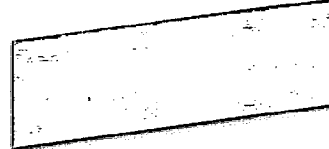
Available in all colors identified on color palette

Vented – Select Cedarmill®

Thickness: 1/4"
Weight: 1.8 lbs./sq. ft.
Sizes: 12" x 12'
16" x 12'
24" x 8'

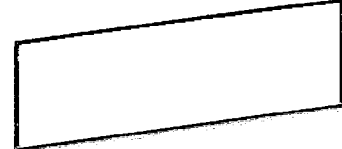
Available in all colors identified on color palette

Product Shown: Non-Vented Select Cedarmill®



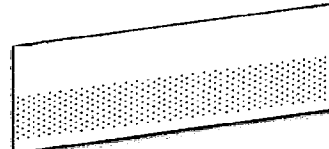
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Product Shown: Non-Vented Select Cedarmill®



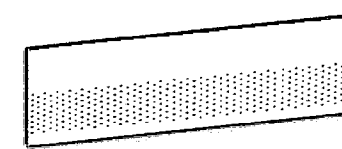
Color shown: Navajo Beige

Product Shown: Vented Select Cedarmill®

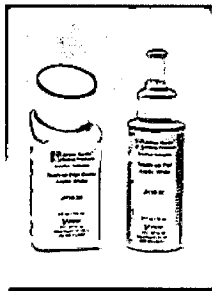


Color shown: Arctic White

Product Shown: Vented Select Cedarmill®



Color shown: Cobble Stone



James Hardie offers color-matched accessories to ensure a finished home

ColorPlus Touch-up Kit:

Edge coater – Used to coat exposed edges

Touch-up pen – For nail heads and scratches

Caulk – Ensures a complete color-matched finish



1-866-4-HARDIE (1-866-442-7343) www.jameshardie.com

James Hardie® siding products with ColorPlus® technology offer beauty, durability, and low maintenance in a wide range of professionally developed colors.

HardiePlank™ lap siding

HardiePlank™ lap siding offers enormous advantages over conventional lap siding, combining strength and durability with the beauty and charm of wood.

HardiePlank™ lap siding Select Cedarmill® and Smooth

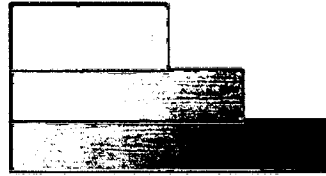
Thickness: 5/16"
Weight: 2.3 lbs./sq. ft.
Length: 12' planks
Widths: 6.25" (5" exposure)
7.25" (6" exposure)
8.25" (7" exposure)

Available in all colors

Beaded Select Cedarmill® and Beaded Smooth

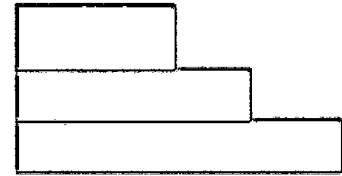
Widths: 8.25" (7" exposure)
Available in all colors

Product Shown: Select Cedarmill®



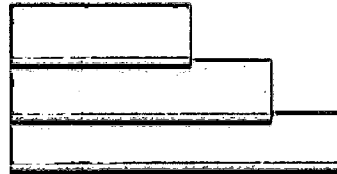
Color shown: Heathered Moss

Product Shown: Smooth



Color shown: Cobble Stone

Product Shown: Beaded Select Cedarmill®



Color shown: Woodland Cream

Product Shown: Beaded Smooth



Color shown: Sandstone Beige

HardiePanel™ vertical siding

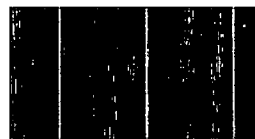
HardiePanel™ vertical siding's structural strength allows its use as a shear panel and when combined with HardieTrim™ boards you can achieve a board and batten look.

HardiePanel™ vertical siding Select Sierra 8, Cedarmill® Smooth and Stucco*

Thickness: 5/16"
Weight: 2.3 lbs./sq. ft.
Sizes: 4' x 8'
4' x 10'

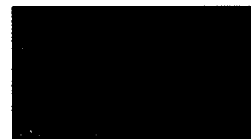
Available in all colors
*4' x 8' only

Product Shown: Select Sierra 8



Color shown: Boothbay Blue

Product Shown: Cedarmill®



Color shown: Woodstock Brown

Product Shown: Stucco



Color shown: Navajo Beige

HardieShingle™ siding

For sidewall applications, HardieShingle™ siding offers the distinctive look of wood shingles with the low maintenance and durability of fiber-cement.

HardieShingle™ siding Straight-edge Notched Panel

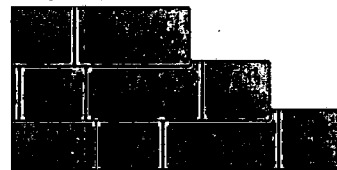
Thickness: 1/4"
Weight: 1.9 lbs./sq. ft.
Sheet Size: 48" w x 16" h
Exposure: 7"

Staggered-edge Notched Panel

Sheet Size: 48" w x 16" h
Exposure: 6"

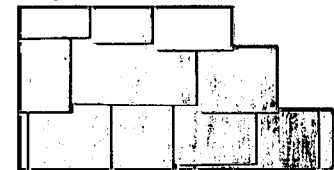
Available in all colors

Product Shown:
Straight-edge Notched Panel



Color shown: Khaki Brown

Product Shown:
Staggered-edge Notched Panel



Color shown: Monterey Taupe

James Hardie® Products with ColorPlus® Technology Helping Build Better Homes



All the products you need

Along with the aesthetic appeal of traditional lap siding, James Hardie® offers a full product line of lap exposures, shingle, soffit and trim for a low-maintenance exterior of exceptional beauty and durability.

Professionally developed colors for you

The ColorPlus® collection features a wide range of popular colors and color combinations—each selected to match consumer preferences in your area.

Coverage you can count on

An exclusive, fiber-cement-specific paint formulation with a multi-coat, baked-on color application process ensures a consistent full-paint coverage—one that cannot be duplicated by a third-party pre-finisher or on-site painting.

We protect you all the way

Our proprietary paint also includes a special coating for mar- and abrasion-resistance, while a factory-applied protective laminate protects your home's finish and color during shipping and installation.

Peace of mind you deserve

James Hardie backs its siding up with up to a 50-year product warranty and the ColorPlus finish with a 15-year warranty. All from a single source—the manufacturer of America's #1 brand of siding.

The Total Installed Value you—and your customers—are looking for

James Hardie siding products with ColorPlus technology help you build a home of enduring beauty and lasting value. From the unmatched durability of our fiber-cement material, to our proprietary ColorPlus finish and application process, we create a more valuable exterior every builder and homeowner can appreciate. A beautifully designed, truly distinctive home that will sell faster and bring you more profit. James Hardie—building better homes.

It's no contest. For long-lasting beauty and value—with less maintenance—James Hardie fiber-cement siding is your smartest investment. For more information, visit www.jameshardie.com.



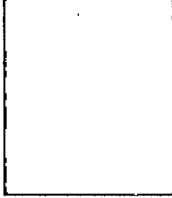






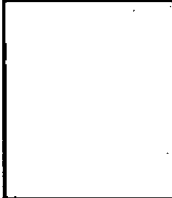
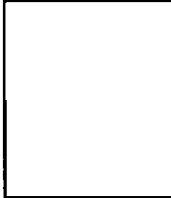
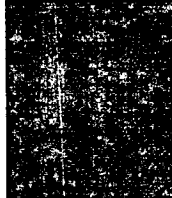










JamesHardie

1-866-4-HARDIE (1-866-442-7343)

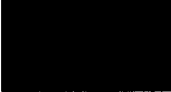



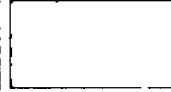



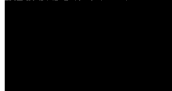
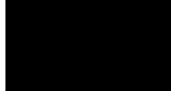
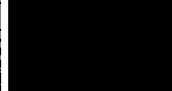
www.jameshardie.com

The complete James Hardie® ColorPlus® palette allows for multiple color combinations that expand your design options

Plank, Panel and Shingle Colors

						
Arctic White JH10-20*	Sail Cloth JH20-10	Navajo Beige JH30-10*	Cobble Stone JH40-10*	Soft Green JH60-10*	Light Mist JH70-10*	
						
Woodland Cream JH10-30	Autumn Tan JH20-20*	Sandstone Beige JH30-20*	Monterey Taupe JH40-20*	Heathered Moss JH50-20	Boothbay Blue JH70-20	Countrylane Red JH90-20
						
Tuscan Gold JH80-20	Khaki Brown JH20-30*	Woodstock Brown JH30-30	Timber Bark JH40-30*	Mountain Sage JH50-30	Evening Blue JH70-30	Iron Gray JH90-30

Trim Colors

						
Cobble Stone JH40-10	Light Mist JH70-10	Arctic White JH10-20	Woodland Cream JH10-30	Sail Cloth JH20-10	Autumn Tan JH20-20	Khaki Brown JH20-30
						
Navajo Beige JH30-10	Sandstone Beige JH30-20	Woodstock Brown JH30-30	Monterey Taupe JH40-20			

Soffit Colors

						
Cobble Stone JH40-10	Arctic White JH10-20	Sail Cloth JH20-10	Khaki Brown JH20-30	Navajo Beige JH30-10	Woodstock Brown JH30-30	Monterey Taupe JH40-20

*STANDARD COLORS

SCP27



Note: Colors shown are as accurate as printing methods will permit. Please see actual product sample for true color. Product and color availability vary by region and are subject to change. Check with your representative or call 1-866-4-HARDIE for availability in your area.