

24/19-1-90A

15120 Turkey Foot Road,  
Gaitheersburg

Dr. Ray Shulman, Acting Chair of the Kensington LAP, came forward to state that there were concerns raised by two members of the LAP with regard to materials. One member, according to Dr. Shulman, felt that the board-on-board fence was better than stockade; but one member felt that the board-on-board was quite massive, and wondered if a better solution could be found with regard to style. Another member, he said, was concerned about the height of the fence, which would obstruct the view between residential properties.

Chairperson Taylor commented that the concerns of the LAP's with respect to fences are very important. He suggested that the LAP might explore with the community its thoughts on fencing, what type should be allowed, and in which situations and locations.

Mr. Martin McCoy, the property owner, came forward to state that his intention is to open up the entire back half of the lot by removing the stockade fence between this property and his residence, located next door. The reason for replacing a portion of the six foot fence, he said, is to provide some privacy for future tenants of the smaller house. Mr. McCoy also said that he hopes to eventually remove the fences completely between this house and his residence. In response to a question from the Commission, Mr. McCoy said he will probably stain the picket fence and the board-on-board fence white.

There being no further discussion, the Chair closed the public record.

Commissioner Miskin MOVED to approved the application on the basis of criterion 24A-8(b)(1) for construction of the board-on-board fence, and criteria 24A-8(b)(1) and (2) for construction of the picket fence, in that the proposal will not substantially alter the exterior features of an historic site or historic resource within an historic district, and is compatible in character and nature with the historical, archeological, architectural or cultural features of an historic site or the historic district in which an historic resource is located and would not be detrimental thereto or to the achievement of the purposes of Chapter 24A. As part of the motion, Commissioner Miskin recommended that the picket fence portion of the application be eligible for a tax credit at the appropriate time. Commissioner Cantelon requested that the motion be amended to state that the board-on-board fence may not extend more than three feet in front of the building line. Commissioner Miskin accepted the amendment, and Commissioner Brenneman seconded the motion, which passed 6-2, Commissioner Randall and Chairperson Taylor in dissent.

- E. Darnestown Presbyterian Church, at 15120 Turkey Foot Road, Darnestown (HPC Case No. 24/19-1-90A)

The Chairperson opened the public record on this application and asked for staff's report and recommendations. Ms. Vawter noted that the application was advertised in the Montgomery Journal on June 27, 1990. Mr. Cooper showed slides of the Church and explained that the applicant is proposing installation of vinyl siding on the entire church, including the original 1850's structure, an 1897 addition, and a 1951-53 ell. Also proposed, he

said, is the addition of a small enclosed elevator. Mr. Cooper explained that staff met with the pastor and members of the congregation at the site recently in order to discuss the proposed project and possible alternatives. The church representatives, according to staff, made it clear that they had thoroughly researched all options but that based on serious financial constraints, they had to choose what they determined to be the most cost-effective solution: vinyl siding. They also indicated to Mr. Cooper that the siding would be installed in the most sensitive manner, respecting all existing trim and decorative elements. Church representatives also indicated to staff that there has existed a chronic problem with peeling paint, and that the last several paint jobs, while thorough and expensive, have lasted an average of three years. It was also indicated to Mr. Cooper that the congregation had consulted with several expert painters, all of whom indicated that, in order to ensure a quality paint job, it would be necessary to remove the paint completely, down to the wood surface. This process, said Mr. Cooper, is extremely labor-intensive, and would be very costly, according to the preliminary estimates received by the church.

Having carefully considered the proposed project and its potential impact on the integrity of the site, Mr. Cooper said that the proposal to clad the entire structure in vinyl would significantly impact the architectural integrity of the structure.

Generally, Mr. Cooper said, he concurs with the analysis of the pros and cons of vinyl siding found in Preservation Briefs #8: "Aluminum and Vinyl Siding on Historic Buildings", published by the Department of the Interior, National Park Service, in 1979 and revised in 1984. That analysis, he said, finds that "aluminum or vinyl siding may be an acceptable alternative only if (1) "the existing siding is so deteriorated or damaged that it cannot be repaired; (2) the substitute material can be installed without irreversibly damaging or obscuring the architectural features and trim of the building; and (3) the substitute material can match the historic material in size, profile and finish so that there is no change in the character of the historic building."

Mr. Cooper said that the current proposal meets condition #2, in that the proposed method of installation would not conceal existing trim and decorative elements. And, he said, staff finds that condition #3 is met in part, in that a portion of the building, that constructed in 1897, utilizing "drop" style siding, is proposed to be cladded in vinyl material of like size, profile and finish. However, he said, condition #3 is not fully met, in that the proposed "drop" siding does not match the original siding found on the remainder of the building, which is lapped in style.

Mr. Cooper said that he does not find that condition #1 is met. While the existing siding is weather damaged in limited areas, he said, it is not "so deteriorated or damaged that it cannot be repaired."

Mr. Cooper said that while staff sympathizes with the congregation in its continuing and costly efforts to "keep paint" on the church, he is not convinced that this portion of the proposed project meets any of the criteria for issuance of an HAWP, and thus recommends denial. He stated that

installation of vinyl siding on the 19th century portions of the structure, while sensitive in methodology, would serve to substantially alter the original exterior of the structure; and he finds that while vinyl siding could reasonably duplicate the size and shape of the original siding, it could not recreate the original material, texture, profile, and shadow reveals of the original.

Moreover, he said, while staff believes that vinyl siding may in certain instances be an acceptable solution, there is not compelling evidence in this case that the existing original siding would be inordinately difficult to repair and maintain.

If the applicant desired to clad the 20th century wing in vinyl, said Mr. Cooper, he would recommend approval of that portion of the project, based on criterion 24A-8(b)(1).

Mr. Cooper did recommend approval of the elevator addition to the 20th century wing, based on criteria 24A-8(b)(1) and (2). He said that the applicant examined a number of possible handicapped access locations and methods, and found the proposed solution to be the least intrusive.

Dr. Henry Postel, Pastor of the Darnestown Presbyterian Church, stepped forward to state that the Church has grown quite a bit in the last several years, and now needs to serve a much larger congregation. He stated that there are many expenses that the Church will have to fund in the coming years, aside from the question of how to treat the exterior of the building. He explained that the building was painted once in 1983, and again in 1987. In both cases, he said, the paint began to peel within a matter of a year. Dr. Postel stated that scraping and painting the church will cost between \$25,000 and \$30,000, and replacing the wood siding with new wood siding, in kind, would cost the Church approximately \$73,000, excluding charges for labor. He stated that the Church's concern is primarily financial, and that the Church's main responsibility should be to minister and engage in mission with the public.

Mr. Charles C. Carlson, a member of the Church and construction expert, came forward to explain to the HPC that the Church is very aware that this is an important resource in the County, and that the members are very desirous of protecting it. Economics, however, according to Mr. Carlson, dictate that vinyl siding be used. He passed around samples of the siding and an insulation material for the Commission to examine. The siding itself, he said, is not air-tight, and thus "breathes". Putting the siding on, Mr. Carlson explained, will also help the Church with its moisture problem, which currently exists due to poor insulation. Mr. Carlson testified that the wood siding on the center of the Church is 150 years old, and that a knife can be taken and inserted quite deep into the wood. For this reason, he said, burning the paint off the siding is not an option, for fear that the Church would catch on fire. Mr. Carlson also said that he steam-blasted a section of the siding, and not only paint, but wood and wood fiber came off. When a paint remover was applied, and the wood then scraped, the time involved is astronomical in terms of labor costs. The best price received for burning off and scraping the old paint, then applying two coats of paint was \$28,800.00.

Chairperson Taylor asked whether, in the course of the investigation, there was any indication as to why the last two paint jobs lasted just a year. Mr. Carlson replied that "paint is only as good as what's underneath it", and that if the wood is painted with partial layers of paint already extant, the new paint is bound to pop and peel. Mr. Carlson said that the contractor who proposed to do the work for \$28,800.00 would only guarantee the job for a year, and would not guarantee that the paint wouldn't pop and peel after that year. Mr. Carlson said that the siding is so old that it "won't take paint", even if it is stripped to bare wood. In contrast to the various costs associated with these alternatives, installation of vinyl siding and painting of the trim would cost approximately \$26,000.00.

Commissioner Brenneman commented that he has experienced vapor problems in several cases involving older structures and blown-in insulation, which the Church currently has. He said that his experience shows that the blown-in insulation provides no vapor barrier, which will cause paint peel within a year's time. By opening up the wall and insulating it properly with vapor barrier, paint peeling can be avoided, he said.

In response to a question from Commissioner King, Mr. Carlson testified that new wood trim will be installed over the present trim, to fit over the siding.

Commissioner Randall asked if, had Church representatives gotten a guarantee of 5 years on a paint job, they would consider painting as an alternative. Dr. Postel stated that they would still be looking at siding as the most viable option, due to the other pressing economic needs of the Church. Mr. Carlson also added that the siding is 150 years old, and "shot". He said that an ice pick will penetrate the siding in any location. He said that the Church would only be delaying the inevitable by painting, because five years from now they will be back asking the Commission for vinyl siding or money to replace the wood.

Commissioner Wagner asked staff what his opinion was on the siding's condition. Mr. Cooper stated that he hadn't used an ice pick, but that his surface inspection of the siding revealed that it is deteriorated in very limited areas to a point where an ice pick could be inserted. He said that along the bottom, near the splash trim over the foundation in a few areas, and in areas where a gutter has leaked on the siding, it might be in poor condition. Overall, he said, he believes that the problem lies in paint adherence and occasional splitting. But, said Mr. Cooper, he did not observe an overall problem with rot.

Ms. Irma Byrd, a member of the Church since 1952, came forward to state that she is very much in support of the proposal to place vinyl siding on the structure. She also spoke of the Church's upcoming and present economic needs, and spoke of the Church's place and importance in the community, and the necessity to expend Church funds on more important items. She said that all of the other Church projects and programs would suffer if the proposal were to be denied.

Commissioner Cantelon stated that the Commission's concern is that, were vinyl siding approved, the architectural features of the Church be maintained. The other problem is, he said, if the siding is applied, is there an assurance that the old siding won't deteriorate further? He said that his concern is that, given the approval of the vinyl siding, that the wood siding would deteriorate rapidly, or that structural problems might result. Mr. Carlson pointed out Commissioner Brenneman's example of removing ten year-old aluminum siding from a structure and finding intact wood siding beneath. Commissioner Cantelon asked Mr. Carlson whether he could provide a reasonable assurance that the siding would not deteriorate under the vinyl. Mr. Carlson replied that he could. Commissioner Cantelon expressed concern that the siding would, however, deteriorate with the existing moisture problem, as testified to previously.

*Marginal*  
Chairperson Taylor stated that dewpoint determination is a relatively sophisticated series of calculations which measure, under certain atmospheric conditions, where the dewpoint occurs. He said that no one in the room this evening would probably have the ability or the data to collect that information. The fact is, he said, there may well be a chance that a dewpoint where water vapor condenses into water liquid could occur within the wall, a situation that can be exacerbated by applying this siding with the insulation. It may also, he said, improve the situation. Chairperson Taylor said a study is definitely warranted.

Commissioner Randall commented that what is proposed is inconsistent with the Secretary of the Interiors Standards and Guidelines from a historical perspective. Recognizing that, and recognizing the testified-to economic constraints, the problem could be cured in some fashion so that the painting would last a normal length of time, for example five to seven years. If that could be done, he said, he is not sure what would exempt the Church from the Secretary's Standards, given that no other wood Master Plan sites are exempt. What troubles him, he said, is that approval for the Church may set a precedent for vinyl siding.

Chairperson Taylor asked if any Commissioner had any comments or questions about the handicapped elevator. There were no questions or comments.

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The Commission agreed that its comments and concerns were centered around the condition of the existing siding, and whether it is sound. It also agreed that investigation needed to be made into why paint is deteriorating so rapidly; and, if it should become necessary to apply vinyl siding, what effect the siding would have on the existing trim and the decorative elements of the structure.

The Commission requested that more research to be done on the condition of the existing siding. The Commission agreed that the Department of Housing and Community Development would be requested to send an inspector to examine the siding, and advised the Church that it was encouraged to do the same. In addition, the Commission suggested that the Church have an analysis done to examine the wall section permeability and the dewpoint location, perhaps by contacting a specialist in the field. The Commission also requested elevation and detail drawings which indicate exactly where the siding will be installed and how it will interface with the existing trim and decorative elements.

The Commission and the applicant agreed to leave the record open on this case in order for the requested information to be gathered.

II. MASTER PLAN EVALUATIONS

A. Evaluation of the Wilkins Estate and Gatehouse (Atlas Site #30/1) located at 12800 Veirs Mill Road, Rockville

The research on this site describes it as an "outstanding resource from the early 20th century "Great Estate" era". Upon reviewing the research in the file, and research provided by a descendant of the Wilkins family, the Commission indicated it would recommend the site for placement on the Master Plan at a future meeting, and requested that staff draft an appropriate transmittal to the Planning Board. No member of the audience spoke in favor or against Master Plan placement.

B. Evaluation of the "Smokehouse" (Atlas Site #30/4) located at 12012 Old Bridge Road, Rockville

The research on this site describes it as located in the back yard of 12012 Old Bridge Road. The structure, according to a survey undertaken by consultants under contract to Park and Planning, has been extensively altered. At one time a log house with no chinking, covered in board-and-batten, it has been chinked with concrete and has an unoriginal window cut, in addition to some new logs and wooden gable boards. Mr. and Mrs. Edward Michaels, owners of the property, testified that they were mainly in favor of designation. Mr. Michaels submitted written testimony and an article from the Montgomery County Real Estate Report, dated June 20, 1984, which refers to the site as the last surviving structure of the Magruder Plantation or the Riley Plantation. Mr. Michaels testified that sample boards from the site were taken to Williamsburg for an analysis which revealed that the straight cuts in the boards were determined to have been made in a pit-saw, used prior to the Civil War.

Commissioner Randall MOVED that the Commission recommend to the Planning Board that the Smokehouse, Atlas Site #30/4, be placed on the Master Plan for Historic Preservation based on the following criteria set forth in Chapter 24A-3 of the Montgomery County Code: (b)(1)(a), in that the Smokehouse has character, interest or value as part of the development, heritage or cultural characteristics of the County, State or nation, as an exceptionally old structure of a type that is not generally found in this part of the County or elsewhere; for its representation of the rustic beginnings of settlement in this area, and for its being an exception in this portion of the County; (b)(1)(c), in that it is identified with a person or group of persons who influenced society, by virtue of its identification with the Riley family, of early prominence in the County; (b)(2)(a), embodies the distinctive characteristics of a type, period or method of construction, by virtue of the unique Roman numerals which designate the logs which comprise the structure. Commissioner Cantelon seconded the motion, which passed unanimously.

*Better English  
More exposition -- funding*

*The transmittal letter must document clearly  
the important aspects of the research that  
lead the Commission to recommend*

HPC/July 11, 1990



OFFICE OF THE ASSISTANT SECRETARY  
FOR COMMUNITY PLANNING AND DEVELOPMENT

AUG 4 1986

MEMORANDUM FOR: All Regional Administrators

ATTENTION: Regional Counsels  
Regional CPD Directors

All Category "A" Office Managers

ATTENTION: Chief Counsels  
CPD Division Directors

FROM: Alfred C. Moran, Assistant Secretary for Community  
Planning and Development, C. *Alfred C. Moran*

SUBJECT: Community Development Block Grant Program --  
Church/State Guidance

The purpose of this memorandum is to provide guidance with respect to the effect of the Constitutional principle of separation of Church and State on the expenditure of CDBG funds in the Entitlement and State's Programs. As you know, CPD furnished training earlier this year on the pending revision of the block grant regulations which would explicitly treat for the first time the Establishment Clause of the First Amendment. Recent questions concerning the appropriateness of certain block grant expenditures give rise to this guidance, which we trust will be helpful to you in dealing with a variety of cases which frequently turn on the specific facts of each case.

#### Background

The CDBG program has always been subject to the principle of separation of Church and State. The First Amendment of the Constitution states that "Congress shall make no law respecting an establishment of religion \* \* \* ." That requirement undergirds all Federal assistance statutes.

In 1983, in order to confirm the Department's understanding with respect to the Constitutional limitations, we requested guidance from the Department of Justice concerning the effect of the Establishment Clause on the section 202 direct loan program and the CDBG program. On July 1, 1983, the Department of Justice furnished a detailed response confirming HUD's implementation of the First Amendment in the section 202 and CDBG programs. HUD's position on the provision of assistance under Federal statutes, as well as its affirmation by the Department of Justice, spring from three governing principles followed by the United States Supreme Court in Church/State questions. First, the statute must reflect a clearly secular legislative purpose. Second, the



statute must have a primary effect that neither advances nor inhibits religion. Third, the statute and its administration must avoid excessive government entanglement with religion. Lemon v. Kurtzman, 403 U.S. 602 (1972). Although these three principles may seem to be deceptively clear, there is much complexity in their application. Chief Justice Burger noted in the majority opinion in the Lemon case that the language of the First Amendment is "at best opaque." It is in this context that the specific guidelines set forth below should be followed.

### \* Construction or Rehabilitation of Facilities

The Department of Justice concluded that the Department's existing policy, which prohibits block grant fund recipients from using any funds to construct, rehabilitate, maintain, or restore religious structures (including those which may be historic properties) currently used for religious purposes, properly reflects Constitutional requirements. Further, the opinion observed that the Constitution prohibits government subsidies to any structures or facilities owned by religious or church-related organizations and used to promote religious interests. In accordance with the Department's longstanding administration of the section 202 housing program (in which program the assisted projects are not used in any way for religious activities), block grant funds also may not be used to construct, acquire, rehabilitate, maintain, or restore structures or other real property owned by "pervasively sectarian" organizations (the term used by the Supreme Court to characterize the types of entities involved in Church/State issues, and also used by the Department of Justice in its opinion to include churches, the Salvation Army, B'nai B'rith, and the Young Men's Christian Association; in this memorandum the term "religious organization" is used with the same meaning). This requirement applies whether or not the property is used for religious services or instruction or is used in any other way for religious activities.

### Public Services

Unlike property owned by religious organizations, the provision of public services by such entities with governmental assistance has not been the subject of United States Supreme Court decisions or, for that matter, of developed case law by lower courts. Nor is this type of activity expressly treated in the guidance provided us by the Department of Justice. It should be noted, however, that the Supreme Court has never construed the First Amendment as a complete bar to all assistance, particularly when such assistance is merely flowing through the religious organization. Under the following circumstances, this Department believes that the provision of public services can be carried out by a religious organization where such provision is essentially assistance through, rather than assistance to, that entity. The conditions are as follows:

1. The public services provided are exclusively non-religious in nature and scope;
2. There are no religious services, proselytizing, instruction, or any other religious influences in connection with the public services;
3. There is no religious discrimination in terms of employment or benefits under the public services;
4. The CDBG funds may be used only for the provision of public services and not for the construction, rehabilitation or restoration of any facility owned by the religious organization where the services are to be provided. A narrow exception to this prohibition is that minor repairs may be made where such repairs (a) are directly related to the public services, (b) are located in a structure used exclusively for non-religious purposes, and (c) constitute in dollar terms a minor portion of the CDBG expenditure for the public services; and
5. Terms incorporating these conditions are set out in an agreement between the CDBG grantee (or in the State's Program, the unit of general local government) and the providing entity. See attachment.

(An entirely secular independent corporation established by a church to receive and administer funds for exclusively non-religious purposes, or another non-religious independent contractor or provider, can provide exclusively secular public services on or using church-owned property where there is no charge for the use of such property in excess of actual cost.)

#### Sanctions

The foregoing guidance is to be used in handling Church/State issues in the block grant program. As noted above, because the Department has not yet promulgated regulations formally delineating specific guidelines in this area, no Field Office should undertake the imposition of any sanction involving reimbursement to the letter of credit, contract conditioning, or any form of financial recovery without the concurrence of Field Counsel and subsequent approval of Headquarters CPD through the Office of Field Operations and Monitoring. Field Counsel should coordinate advice in these matters with OGC's Block Grants Division.

I urge you to make this guidance available to program grantees.

Attachment

IMPLEMENTATION

Once designated on the Master Plan for Historic Preservation, any substantial changes to the exterior of a resource or its environmental setting must be reviewed by the Historic Preservation Commission and a historic area work permit issued. The Ordinance also empowers the County's Department of Environmental Protection and the Historic Preservation Commission to prevent the demolition of historic buildings through neglect.

It is the intent of the Master Plan and Ordinance to provide a rational system for evaluating, protecting and enhancing Montgomery County's heritage for the benefit of present and future residents. The accompanying challenge is to weave protection of this heritage into the County's planning program so as to maximize community support for preservation and minimize infringement on private property rights.

AMENDMENT TO  
THE MASTER PLAN FOR HISTORIC PRESERVATION

The purpose of this amendment is to designate the following sites on the Master Plan for Historic Preservation thereby extending to them the protection of the Historic Preservation Ordinance, Chapter 24A of the Montgomery County Code.

<u>Site</u>	<u>Name</u>	<u>Location</u>	<u>Associated Acreage</u>
13/3	Oliver T. Watkins House (Wells Farm)	23400 Ridge Road	290 Acres (Ovid Hazen Wells Special Park)
-	Ca. 1850, two-story, frame structure featuring a three-story octagonal tower with arched windows in the third story, a central gable with a pointed arch window, wrap around porch, and eaves decorated with sawtooth-like bargeboards.		
-	Associated with Oliver Watkins, upper middle class farmer, prosperous merchant and early settler of the Cedar Grove area.		
-	The 2.6 acre environmental setting includes the major trees associated with the historic farmhouse and incorporates acreage to the south or front of the house, and to the east to preserve any seasonal vistas of the house from Ridge Road and views of the house along the entrance drive to the site.		

B 2/12/86-2

<u>Site</u>	<u>Name</u>	<u>Location</u>	<u>Associated Acreage</u>
13/7	Ned Watkins House (Wells Farm)	12001 Skylark Road	290 Acres (Ovid Hazen Wells Special Park)
-	Stylish late Victorian frame farmhouse constructed in 1892 for Ned Watkins, a farmer and member of the Watkins family, prominent in the history of the Cedar Grove area.		
-	The 11.1 acre environmental setting encompasses the entire 4-acre life estate currently held on the farm which includes the Victorian frame house, bank barn, hen and smoke houses, the farm pond and the significant plantings which define the farmyard. To buffer the farmstead on the south and west, the setting extends beyond the area delineated as the life estate to include additional acreage across the front of the site, and to the west of the house and barn the setting extends to the adjacent stream bed.		
13/30	High View/Burdette (Boyds) Hotel	21010 Clarksburg Road	2.9 Acres
-	1887 -- Large Queen Anne style house featuring a central projecting, three-story pavilion flanked on the east side by two porches with a two-story porch on the west side and a two-story square bay window on the north. The house also features a mansard roof with diamond and square shaped slate tiles.		
-	One of the best extant examples of Victorian 'summer resort' architecture in the County, the hotel reflects the historical development of Boyds as a summer resort during the late 19th century.		
17/46	Mount Nebo	Mount Nebo Road	2.97 Acres
-	Good example of late 18th century Federal style architecture and one of very few remaining frame dwellings of this style and age in the County.		
-	Associated with the Fletchall and White families, early settlers prominent in the history of the western part of the County.		
-	The recommended environmental setting of 2.97 acres includes the terracing to the front of the house and extant outbuildings associated with the site.		

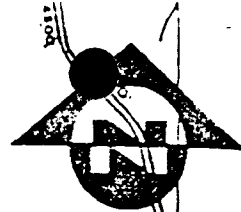
24/16 Poplar Grove Baptist Church 14621 Jones Lane 1.93 Acres

- Late 19th century rural vernacular church featuring a gabled facade and three-story entrance tower with no steeple.
- Current 1883 building stands on the site which has been occupied since the early 1800's by a church in the Poplar Grove community.
- The recommended .267 acre environmental setting includes the church, cemetery and the major trees which define the historic churchyard.

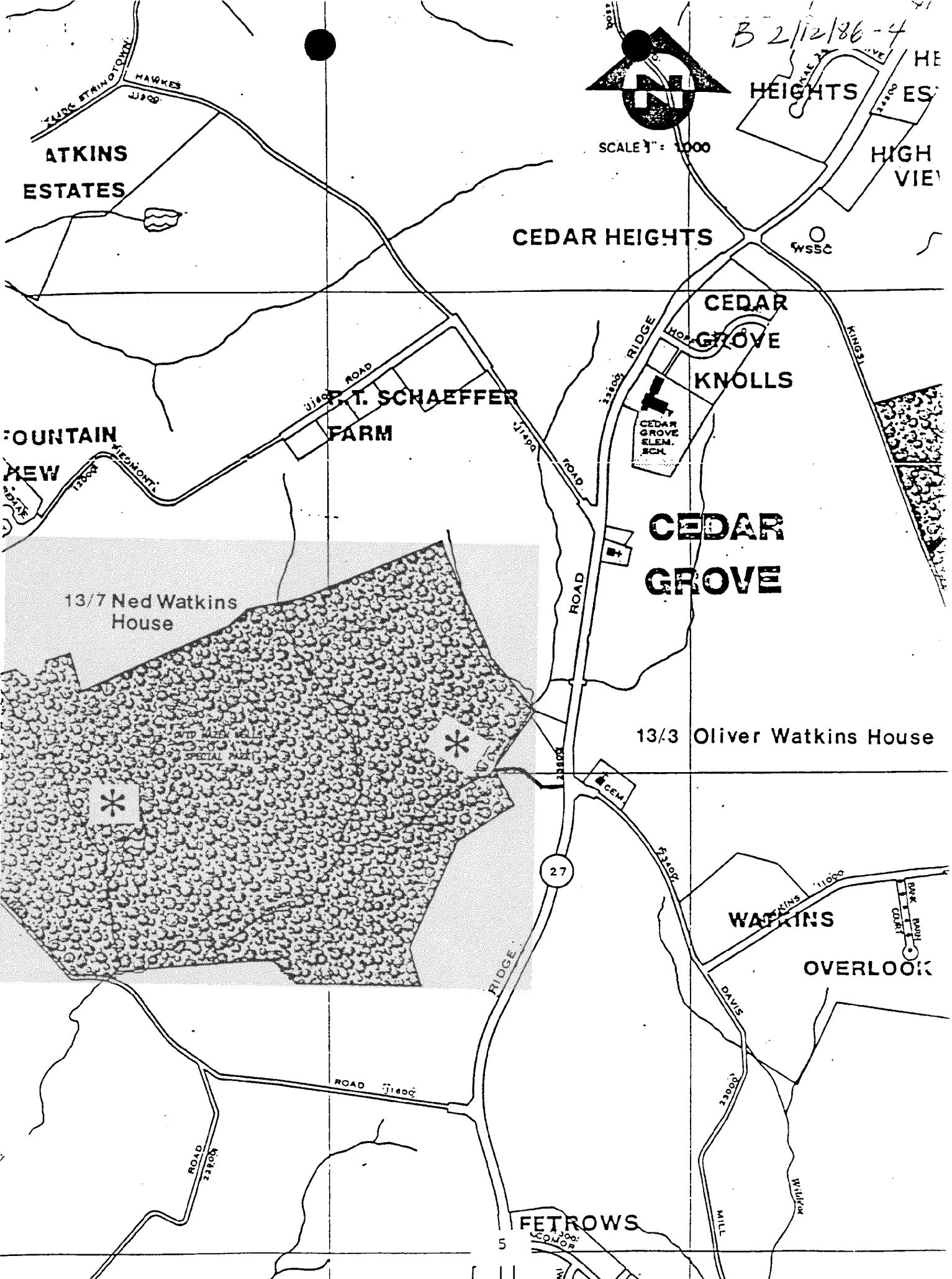
24/19-1 Darnestown Presbyterian Church 13800 Darnestown Road 9.73 Acres

- Begun as a rural, vernacular, frame building in 1856, the church parlor and bell tower added in 1897, impart a Gothic feeling to the present structure.
- The approximately 6-acre environmental setting equates to the historic churchyard and includes the cemetery to the rear of the church property, the parking area and yards to the east and south of the church as well as the stone fence which runs the length of the church's frontage along Darnestown Road.

B 2/12/86-4



SCALE 1" = 1000



ATKINS ESTATES

CEDAR HEIGHTS

HEIGHTS

HIGH VIEW

CEDAR GROVE

KNOLLS

P. T. SCHAEFFER FARM

CEDAR GROVE

13/7 Ned Watkins House

13/3 Oliver Watkins House

WATKINS

OVERLOOK

FETROWS

27

DAVE COURT

DAVIS

2300'

2300'

MILL

WALKER

ROAD 1160'

ROAD 1200'

5

1300' UCMOR

WSSC

CEDAR GROVE ELEM. SCH.

RIDGE ROAD

ROAD

ROAD

ROAD

HAWKES

FOUNTAIN VIEW

1200'

13/7 Ned Watkins House

13/3 Oliver Watkins House

WATKINS

OVERLOOK

FETROWS

27

DAVE COURT

DAVIS

2300'

2300'

MILL

WALKER

ROAD 1160'

ROAD 1200'

5

1300' UCMOR

WSSC

CEDAR GROVE ELEM. SCH.

RIDGE ROAD

ROAD

ROAD

ROAD

HAWKES

FOUNTAIN VIEW

1200'

13/7 Ned Watkins House

13/3 Oliver Watkins House

WATKINS

OVERLOOK

FETROWS

27

DAVE COURT

DAVIS

2300'

2300'

MILL

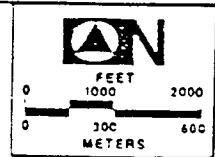
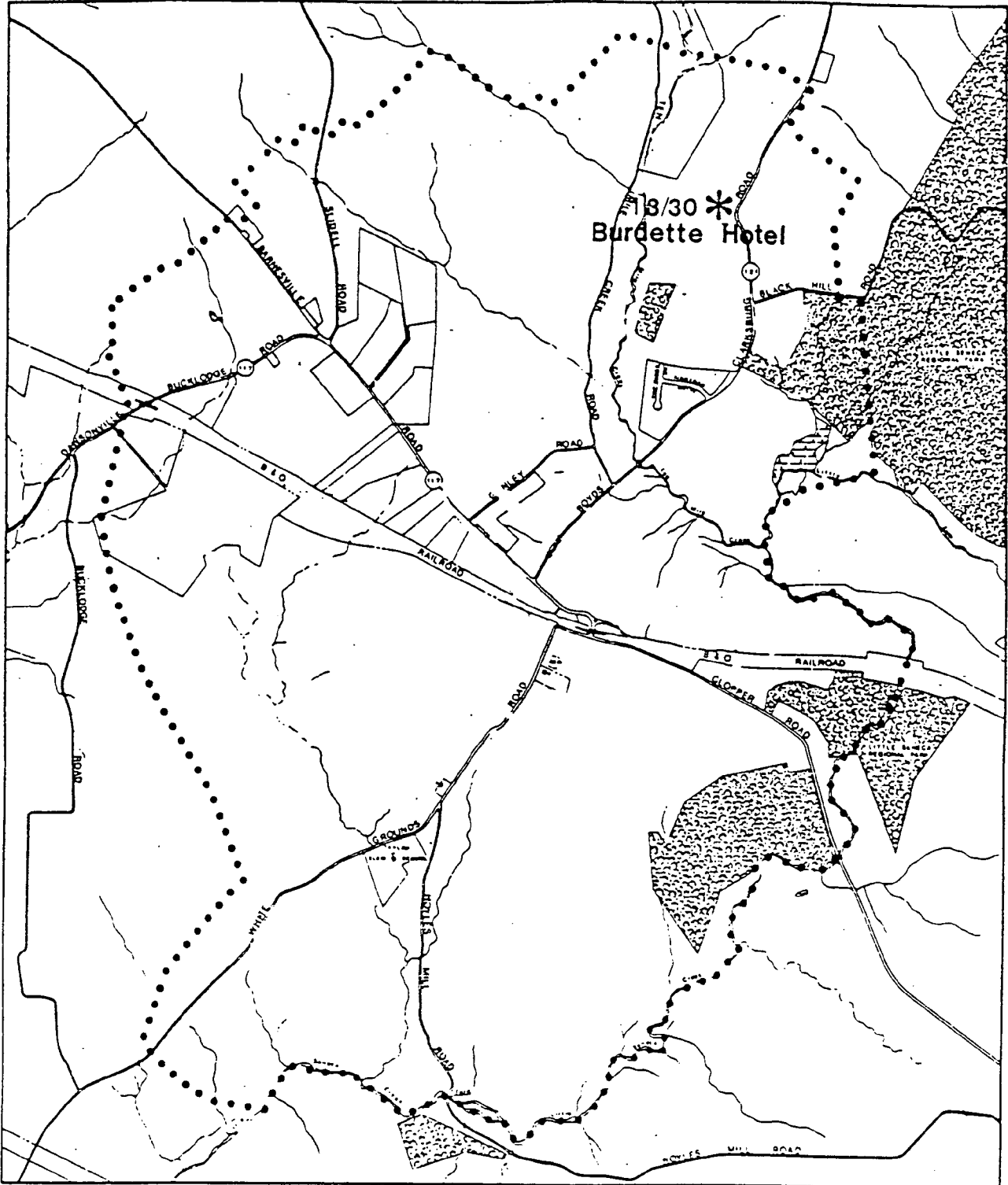
WALKER

ROAD 1160'

ROAD 1200'

5

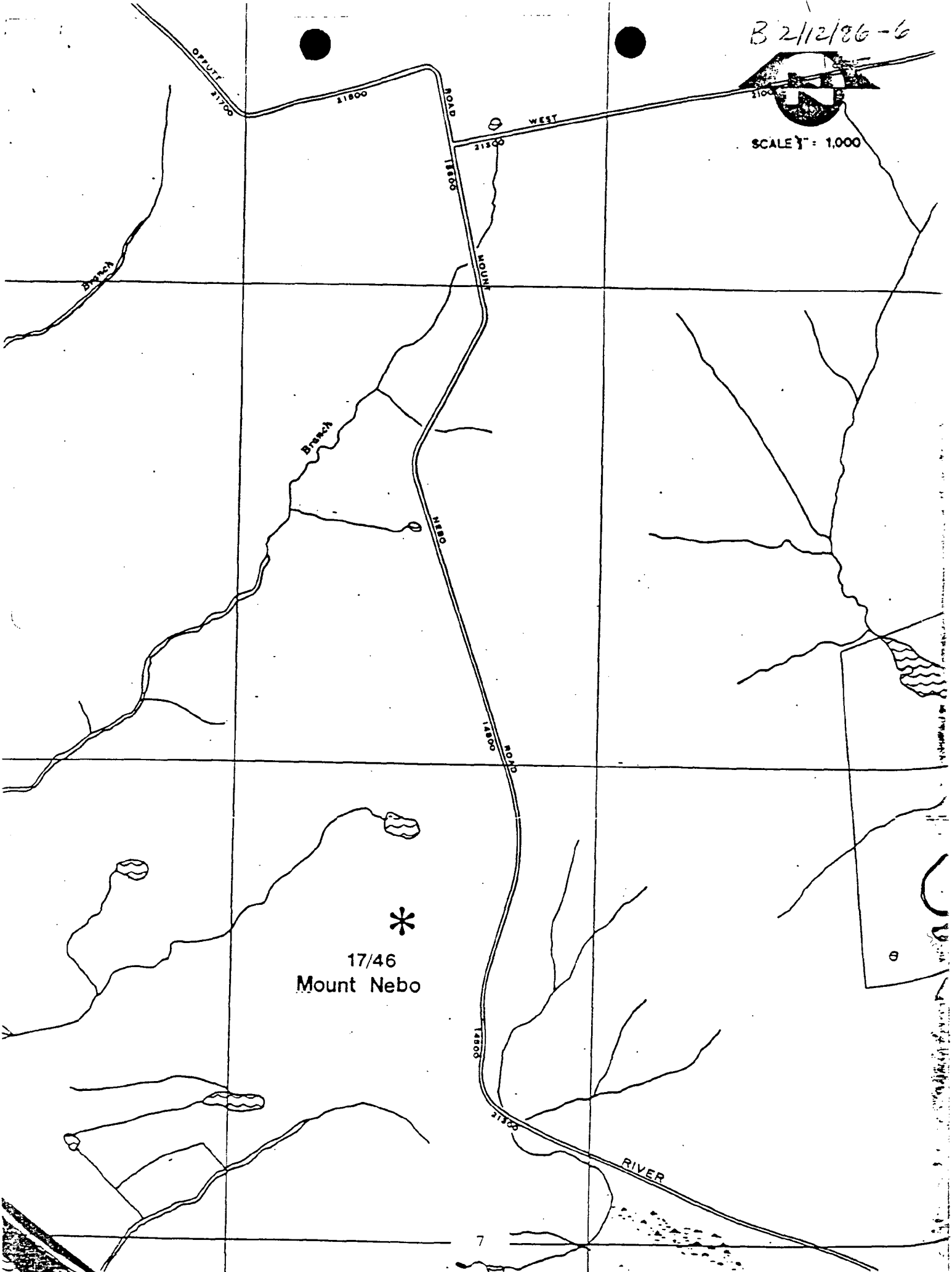
1300' UCMOR



B 2/12/86-6



SCALE 1" = 1,000'



17/46  
Mount Nebo

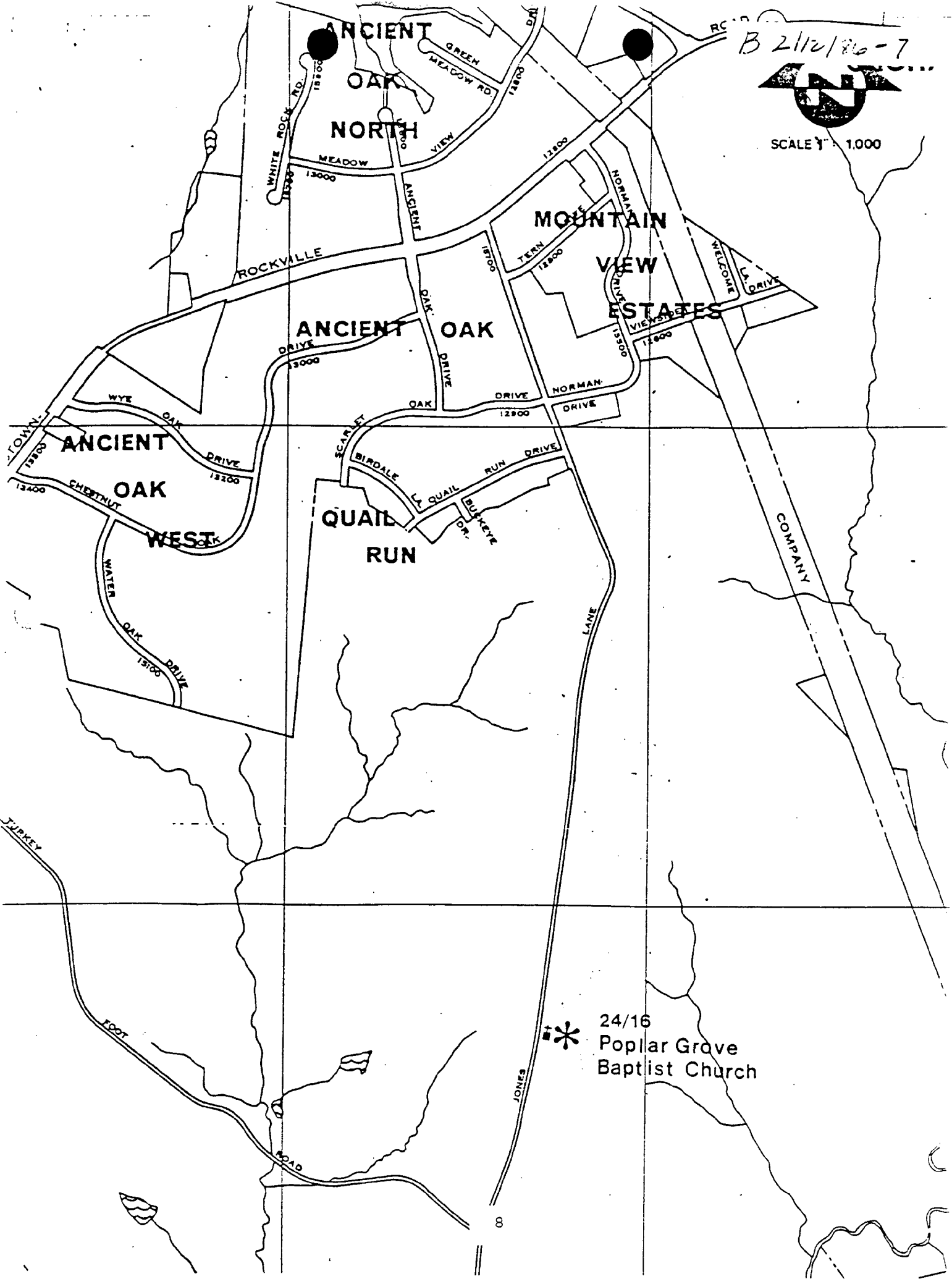




B 2112/86-7



SCALE 1:1000



ANCIENT OAK NORTH

MOUNTAIN VIEW ESTATES

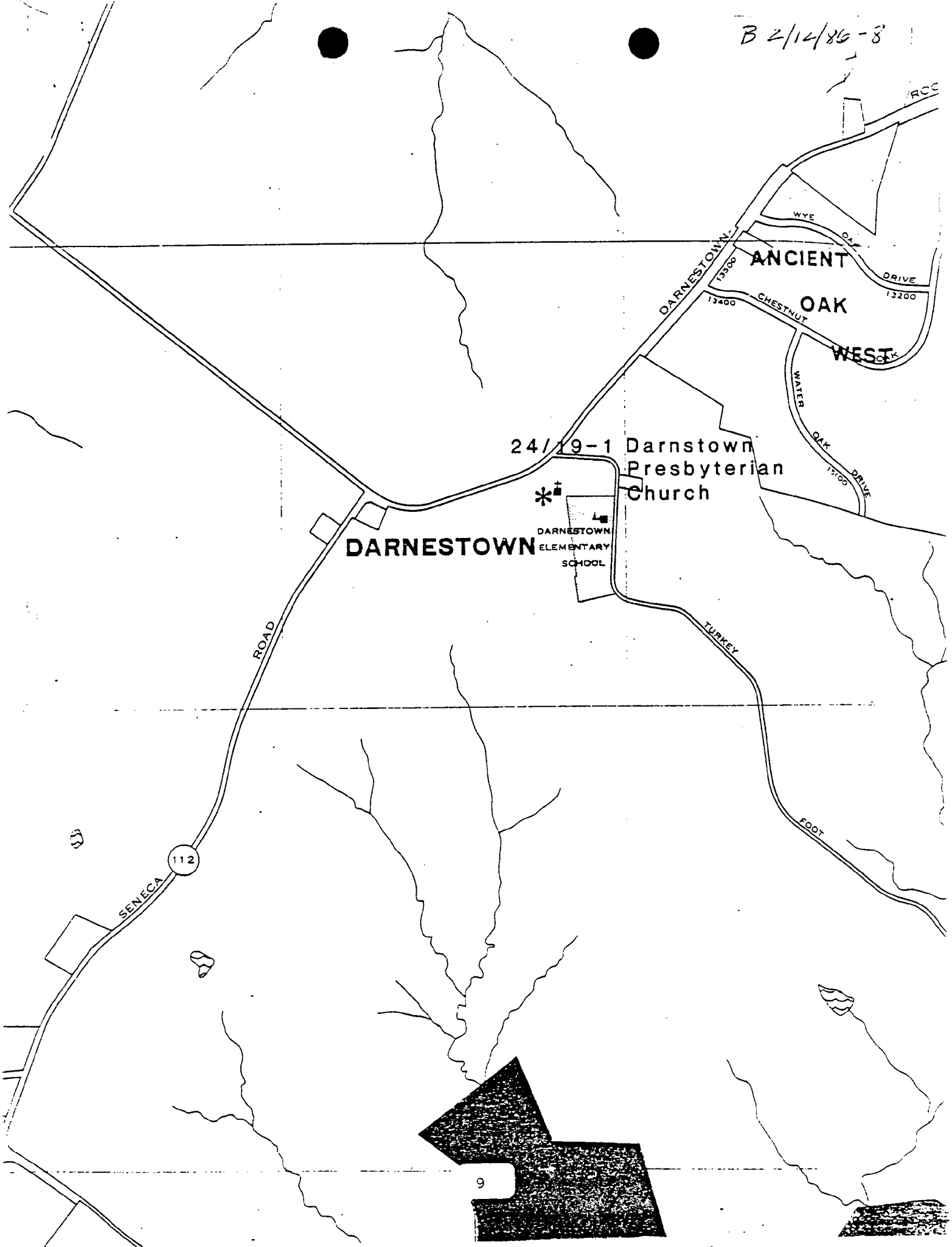
ANCIENT OAK

ANCIENT OAK WEST

QUAIL RUN

24/16 Poplar Grove Baptist Church

B 2/14/86-8



**DARNESTOWN**

24/19-1 Darnestown  
Presbyterian  
Church

DARNESTOWN  
ELEMENTARY  
SCHOOL

ANCIENT  
OAK  
WEST

SENECA  
112

B 2/12/86-7

Resolution No. 10-1705  
Introduced: January 28, 1986  
Adopted: January 28, 1986

COUNTY COUNCIL FOR MONTGOMERY COUNTY, MARYLAND  
SITTING AS THE DISTRICT COUNCIL FOR THAT PORTION  
OF THE MARYLAND-WASHINGTON REGIONAL DISTRICT  
WITHIN MONTGOMERY COUNTY, MARYLAND

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By: District Council

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Subject: Amendment to the Approved and Adopted Master Plan for Historic Preservation in Montgomery County, Maryland re: Upper and Western Montgomery County Resources

Background

1. On August 12, 1985, the Montgomery County Planning Board transmitted to the Montgomery County Council a Final Draft Amendment to the Historic Preservation Master Plan proposing the designation of five sites in upper and western Montgomery County as historic resources.
2. On October 15, 1985, the Montgomery County Council held a public hearing wherein oral and written testimony was received concerning the Final Draft Amendment to the Master Plan for Historic Preservation.
3. On December 10, 1985, the Planning, Housing and Economic Development Committee reviewed the Final Draft Master Plan Amendment and the issues raised at the public hearing with the Montgomery County Planning Board, staff, and interested parties.
4. The Montgomery County Council reviewed the Final Draft Amendment and the recommendations of the Planning, Housing, and Economic Development Committee at a worksession held on January 28, 1986.

Action

For these reasons, the County Council for Montgomery County, Maryland, sitting as the District Council for that portion of the Maryland-Washington Regional District in Montgomery County, Maryland, approves the following resolution:

#24/19-1            Darnestown                    13800 Darnestown Road            9.73 acres  
                         Presbyterian Church

- \* \* \*
- \* \* \*

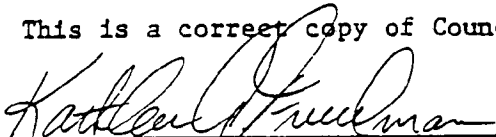
#13/3                Oliver T. Watkins            23400 Ridge Road                290 acres  
                         House (Wells Farm)

- \* \* \*
- \* \* \*

- [The 290-acre parcel is recommended as the environmental setting for placement on the Master Plan.]

- The 2.6 acre environmental setting includes the major trees associated with the historic farmhouse and incorporates acreage to the south or front of the house, and to the east to preserve any seasonal vistas of the house from Ridge Road and views of the house along the entrance drive to the site.

This is a correct copy of Council action.

  
\_\_\_\_\_  
Kathleen A. Freedman, Secretary  
County Council

B 2/12/86-11

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION  
8787 Georgia Avenue • Silver Spring, Maryland 20910-3760

MCPB NO: 86-6  
M-NCPPC NO: 86-8

RESOLUTION

WHEREAS, The Maryland-National Capital Park and Planning Commission, by virtue of Article 28 of the Annotated Code of Maryland, is authorized and empowered, from time to time, to make and adopt, amend, extend, and add to a General Plan for the Physical Development of the Maryland-Washington Regional District; and

WHEREAS, the Montgomery County Planning Board of The Maryland-National Capital Park and Planning Commission held a public hearing on June 27, 1985, on a preliminary draft amendment to the Master Plan for Historic Preservation, being also a proposed amendment to the General Plan for the Physical Development of the Maryland-Washington Regional District and Master Plan of Highways; and

WHEREAS, the Montgomery County Planning Board, after said public hearing and due deliberation and consideration, at meetings held June 27, 1985, approved and forwarded to the Montgomery County Council the Final Draft Amendment: Upper and Western Montgomery County Resources, and recommended that said amendment be approved by the County Council; and

WHEREAS, the Montgomery County Council, sitting as the District Council for that portion of the Maryland-Washington Regional District lying within Montgomery County, on January 28, 1986, approved the designation of six sites as identified in the amendment, attached hereto and made a part of, for inclusion in the Master Plan for Historic Preservation;

NOW, THEREFORE, BE IT RESOLVED, that the Montgomery County Planning Board and The Maryland-National Capital Park and Planning Commission do hereby adopt said amendment to the Master Plan for Historic Preservation, together with the General Plan for the Physical Development of the Maryland-Washington Regional District and the Master Plan of Highways as approved by the Montgomery County Council in Resolution 10-1705, and

BE IT FURTHER RESOLVED, that this amendment be reflected on copies of the aforesaid plan and that such amendment shall be certified by The Maryland-National Capital Park and Planning Commission, and filed with the Clerk of the Circuit Court of each of Montgomery and Prince George's Counties, as required by law.

\* \* \* \* \*

This is to certify that the foregoing is a true and correct copy of a resolution adopted by the Montgomery County Planning Board of The Maryland-National Capital Park and Planning Commission on motion of Commissioner Krahnke, seconded by Commissioner Christeller, with Commissioners Granke, Krahnke, and Christeller voting in favor, with Commissioner Keeney being temporarily absent and Commissioner Heimann being absent, at its regular meeting held on Thursday, February 6, 1986, in Silver Spring, Maryland.

Thomas H. Countee, Jr.  
Thomas H. Countee, Jr.  
Executive Director

This is to certify that the foregoing is a true and correct copy of a resolution adopted by The Maryland-National Capital Park and Planning Commission on motion of Commissioner Granke, seconded by Commissioner Christeller, with Commissioners Rhoads, Botts, Krahnke, Dabney, Jr., Keller, Jr. and Yewell voting unanimously in favor, and Commissioners Heimann and Keeney being absent, at its regular meeting held February 12, 1986, in Silver Spring, Maryland.

Thomas H. Countee, Jr.  
Thomas H. Countee, Jr.  
Executive Director

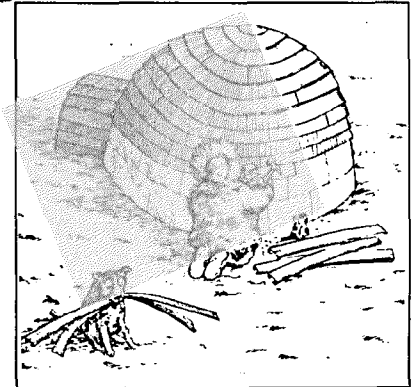
# 8 PRESERVATION BRIEFS

## Aluminum and Vinyl Siding on Historic Buildings

### The Appropriateness of Substitute Materials for Resurfacing Historic Wood Frame Buildings.

John H. Myers, revised by Gary L. Hume

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



Standard 6 of the Secretary of the Interior's "Standards for Rehabilitation" states that "deteriorated architectural features shall be repaired rather than replaced, wherever possible. In the event replacement is necessary, the new material should match the material being replaced in composition, design, color, texture, and other visual qualities." Therefore, the Secretary's Standards and their accompanying Guidelines *never recommend* resurfacing frame buildings with any new material that does not duplicate the historic material because of the strong potential of altering the character of the historic building.

A historic building is a product of the cultural heritage of its region, the technology of its period, the skill of its builders, and the materials used for its construction. To assist owners, developers and managers of historic property in planning and completing rehabilitation project work that will meet the Secretary's "Standards for Rehabilitation" (36 CFR 67), the following planning process has been developed by the National Park Service and is applicable to all historic buildings. This planning process is a sequential approach to the preservation of historic wood frame buildings. It begins with the premise that historic materials should be retained wherever possible. When retention, including retention with some repair, is not possible, then *replacement of the irreparable historic material can be considered*. The purpose of this approach is to determine the appropriate level of treatment for the preservation of historic wood frame buildings. The planning process has the following four steps:

1. Identify and preserve those materials and features that are important in defining the *building's historic character*. This may include features such as wood siding, brackets, cornices, window architraves, doorway pediments, and their finishes and colors.
2. Undertake routine maintenance on historic materials and features. Routine maintenance generally involves the least amount of work needed to preserve the materials and features of the building. For example, maintenance of a frame building would include caulking and painting; or, where paint is extensively cracking and peeling, its removal and the re-application of a protective paint coating.
3. Repair historic materials and features. For a historic material such as wood siding, repair would generally involve patching and piecing-in with new material according to recognized preservation methods.



Photo: Lee H. Nelson

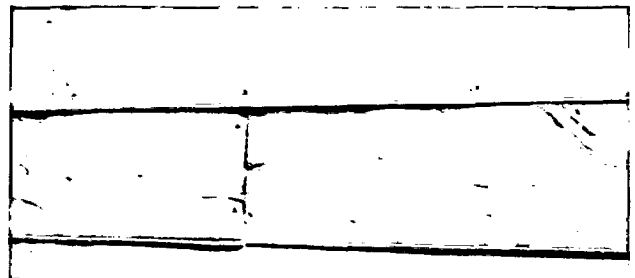


Photo: Hugh C. Miller

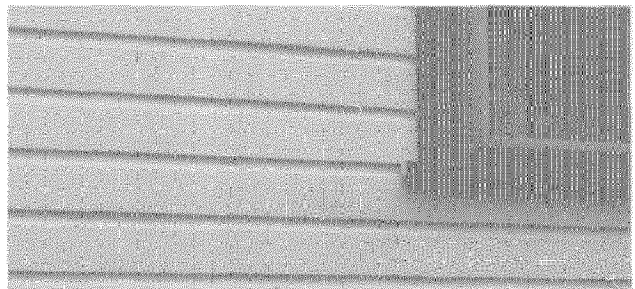


Photo: John H. Myers

*Historic wood sidings exhibit rich and varied surface textures. They range from hand-split clapboards of short lengths with feather-edged ends, to pit or mill sawn boards which can be beveled, rabbeted, milled, or beaded.*



Photo: Laurie Robin Hammel

When a building is in need of maintenance, such as the house on the right which needs painting, some owners consider installing aluminum or vinyl siding. The result, like the house on the left, can be a complete loss of architectural character due to the covering of details (cornice), the removal of features (window trim), and a change of scale due to inappropriate siding dimensions.

4. Replace severely damaged or deteriorated historic materials and features in kind. Replacing sound or repairable historic material is never recommended; however, if the historic material cannot be repaired because of the extent of deterioration or damage, then it will be necessary to *replace* an entire character-defining feature such as the building's siding. The preferred treatment is always replacement in kind, that is, with the same material. Because this approach is not always feasible, provision is made under the recommended treatment options in the Guidelines that accompany the Secretary of the Interior's Standards to consider the use of a compatible substitute material. A substitute material should only be considered, however, if the form, detailing, and overall appearance of the substitute material conveys the visual appearance of the historic material, and the application of the substitute material does not damage, destroy or obscure historic features.

In many cases, the replacement of wood siding on a historic building is proposed because little attention has been given to the retention of historic materials. Instead, the decision to use a substitute material is made because: (1) it is assumed that aluminum or vinyl siding will be a maintenance-free material; and (2) there is the desire to give a building a "remodeled" or "renovated" appearance. A decision to replace historic material must, however, be carefully considered for its impact on the historic resource—even when the model planning process has been followed and the appropriate treatment is replacement.

Therefore, this brief focuses on the visual and physical consequences of using a substitute material such as aluminum or vinyl siding for new siding installations on a wood frame historic building. These concerns include the potential of *damaging* or *destroying* historic material and features; the potential of *obscuring* historic material and features; and, most important, the potential of *diminishing the historic character* of the building.



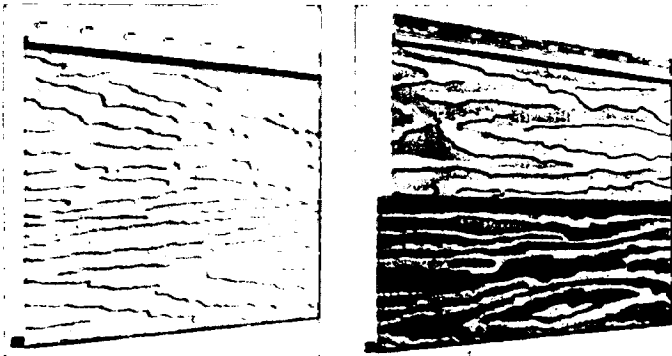


Photo: Technical Preservation Services

*Aluminum and vinyl siding are available in a variety of widths and colors, but the optional wood graining is not characteristic of real wood siding.*

## The Historic Character of Buildings and Districts

The character or "identity" of a historic building is established by its form, size, scale and decorative features. It is also influenced by the choice of materials for the walls—by the dimension, detailing, color, and other surface characteristics. This is particularly true for wood frame buildings which are the typical objects of aluminum or vinyl siding applications. Since wood has always been present in abundance in America, it has been a dominant building material in most parts of the country. Early craftsmen used wood for almost every aspect of building construction: for structural members such as posts, beams and rafters, and for cladding materials and decorative details, such as trim, shakes, and siding.

The variety of tools used, coupled with regional differences in design and craftsmanship, has resulted in a richness and diversity of wood sidings in America. For example, narrow boards with beveled, lapped joints called "clapboards" were used on New England frame dwellings. The size and shape of the "clapboards" were determined by the process of hand splitting or "riving" bolts of wood.

The width, the short lengths, the beveled lapping, the "feathered" horizontal joints, and the surface nailing of the clapboards created a distinctive surface pattern that is recognizable as an important part of the historic character of these structures.

The sawn and hand-planed clapboards used throughout the Mid-Atlantic and Southern states in the eighteenth and early nineteenth centuries, by contrast, have a wide exposure—generally between six and eight inches. The exposure of the siding, frequently coupled with a beaded edge, created a very different play of light and shadow on the wall surface, thus resulting in a different character. The "German" or "Novelty siding"—a milled siding that is thin above and thicker below with a concave bevel—was used throughout many parts of the United States in the late nineteenth and early twentieth century but with regional variations in material, profile, and dimensions. One variation of this type of milled siding was called "California siding" and was milled with a rabbetted or shiplap edge to insure a tight installation of the weatherboards. Shingles were also commonly used as an exterior cladding material, and in buildings such as the Bungalow style houses, were often an important character-defining feature of the exterior. Shingles were often applied in decorative patterns by varying the lap, thus creating alternating rows of narrow exposures and wide exposures. Shingles were also cut in geometric patterns such as diamond shapes and applied in patterns. This treatment was commonly used in the gable end of shingled houses. Siding and wood shingles were often used in combination with materials such as cobblestone and brick in Bungalow style buildings to create a distinctive interplay of surfaces and materials.

The primary concern, therefore, in considering replacement siding on a historic building, is the potential loss of those features such as the beaded edge, "drop" profile, and the patterns of application. Replacing historic wood siding with new wood, or aluminum or vinyl siding could severely diminish the unique aspects of historic materials



Photo: Nancy J. Long

*Two originally similar houses. When aluminum was installed on the house on the right, the barge boards, scrollwork, columns, and railings were removed. The distinctive shingled gable and attic vent were covered, further compromising the building's architectural integrity.*



Photo: John H. Myers

*This brick rowhouse was covered with vertical and horizontal aluminum siding. Such treatment is inappropriate for historic masonry buildings.*

and craftsmanship. The inappropriate use of substitute siding is especially dramatic where sufficient care is not taken by the owner or applicator and the width of the clapboards is altered, shadow reveals are reduced, and molding or trim is changed or removed at the corners, at cornices or around windows and doors. Because substitute siding is usually added on top of existing siding, details around windows and doors may appear set back from the siding rather than slightly projecting; and if the relationship of molding or trim to the wall is changed, it can result in the covering or removal of these historic features. New substitute siding with embossed wood graining—intended to simulate the texture of wood—is also visually inappropriate. Exaggerated graining would have been undesirable on real wood siding and is generally found only after sandblasting, a destructive and totally unacceptable treatment for wood.

While this discussion focuses primarily on the historic character of individual wood frame buildings, of equal importance is the context of buildings that comprise a historic district or neighborhood. Changes to the character-defining features of a building, such as distinctive clapboarding and other wall surfaces and decorative trim, always have an impact on more than just that building; they also alter the historic visual relationship between the buildings in the district. If character-defining weather-

boards, clapboards or shingles are replaced on a number of buildings in a historic district, the historic character of the entire district may be seriously damaged. Because of the potential impact some substitute materials have on the character of a neighborhood or district, many communities regulate their use through zoning ordinances and design review boards. These ordinances and review boards usually require review and approval of proposed alterations to a historic building that could potentially impact the historic character of the building or the district, including the application of substitute materials, such as aluminum or vinyl siding.

Preservation of a building or district and its historic character is based on the assumption that the retention of historic materials and features and their craftsmanship are of primary importance. Therefore, the underlying issue in any discussion of replacement materials is whether or not the integrity of historic materials and craftsmanship has been lost. Structures are historic because the materials and craftsmanship reflected in their construction are tangible and irreplaceable evidence of our cultural heritage. To the degree that substitute materials destroy and/or conceal the historic fabric, they will always subtract from the basic integrity of historically and architecturally significant buildings.

## The Products and Their Installation

The use of aluminum and vinyl siding really involves two separate industries. The siding materials themselves, including a variety of inside and outside corner pieces, trim and molding pieces and panning for window and door frames, are produced by a comparatively small number of manufacturers. The product information, advertising, and any manufacturer's warranties on the product itself are handled by this part of the industry. The installation of aluminum or vinyl siding is generally carried out by independent contractors or applicators, who are frequently called "home improvement" contractors, and they are not affiliated with the manufacturers. The manufacturer's warranties normally do not cover the installation, or any damage or defect resulting from the installation process.

Since the manufacturer has little control over the quality of the installation, both the quality of the work and the sensitivity of the application are variable. This variation in quality has traditionally been a problem in the industry and one which the industry and its professional associations have attempted to correct through publishing and disseminating information on the proper application of vinyl and aluminum siding.

Although it is sometimes argued that an artificial siding application is reversible since it can be removed, there is frequently irreversible damage to historic building materials if decorative features or trim are permitted to be cut down or destroyed, or removed by applicators and discarded. The installation process requires that the existing surface be flat and free of "obstructions" so that the new siding will be smooth and even in appearance. To achieve the requisite flat surface, furring strips are usually placed over the wall surface (vertical furring strips for horizontal aluminum or vinyl siding and vice-versa for vertical siding). The potential danger in this type of surface prepara-

tion is that the furring strips may change the relationship between the plane of the wall and the projecting elements such as windows, door trim, the cornice, or any other projecting trim or molding. Projecting details may also cause a problem. To retain them, additional cutting and fitting will usually be required. Further, additional or special molding pieces, or "accessories" as they are called by the industry, such as channels, inserts and drip caps, will be needed to fit the siding around the architectural features. This custom fitting of the siding will be more labor-intensive, adding to the cost of the siding installation.

The existing wall fabric is further damaged by the nailing necessary to apply siding. Either by nailing directly to the building fabric or by nailing the furring strips to the old siding, the installation of aluminum or vinyl siding will leave numerous holes in wood siding, molding, trim, window and door frames. When applied to brick or other masonry units, the nail penetrations attaching the furring strips and siding can cause irreversible cracking or spalling of the masonry. Although this reference to damaging masonry is included as a point of fact, the application of aluminum or vinyl siding is highly inappropriate to historic masonry buildings.

## The Use of Aluminum or Vinyl Siding on Historic Buildings

The maintenance and periodic painting of wood frame structures is a time-consuming effort and often a substantial expense for the homeowner. It is therefore understandable that a product which promises relief from periodic painting and gives the building a new exterior cladding would have considerable appeal. For these reasons, aluminum and vinyl siding have been used extensively in upgrading and rehabilitating the nation's stock of wood frame residential buildings. For historic residential buildings, aluminum or vinyl siding may be an acceptable alternative *only if* (1) the existing siding is so deteriorated or damaged that it cannot be repaired; (2) the substitute material can be installed without irreversibly damaging or obscuring the architectural features and trim of the building; and (3) the substitute material can match the historic material in size, profile and finish so that there is no change in the character of the historic building. In cases where a non-historic artificial siding has been applied to a building, the removal of such a siding, and the application of aluminum or vinyl siding would, in most cases, be an acceptable alternative, as long as the above-mentioned first two conditions are met.

There are, however, also certain disadvantages in the use of a substitute material such as aluminum or vinyl siding, and these factors should be carefully considered before a decision is made to use such a material rather than the preferred replacement with new wood siding duplicating the old.

### Applying Siding without Dealing with Existing Problems

Since aluminum and vinyl sidings are typically marketed as home improvement items, they are frequently applied to buildings in need of maintenance and repair. This can result in concealing problems which are the early warning

signs of deterioration. Minor uncorrected problems can progress to the point where expensive, major repairs to the structure become necessary.

If there is a hidden source of water entry within the wall or leakage from the roof, the installation of any new siding will not solve problems of deterioration and rotting that are occurring within the wall. If deferred maintenance has allowed water to enter the wall through deteriorated gutters and downspouts, for example, the cosmetic surface application of siding will not arrest these problems. In fact, if the gutters and downspouts are not repaired, such problems may become exaggerated because water may be channeled behind the siding. In addition to drastically reducing the efficiency of most types of wall insulation, such excessive moisture levels within the wall can contribute to problems with interior finishes such as paints or wallpaper, causing peeling, blistering or staining of the finishes.

It cannot be overemphasized that a cosmetic treatment to hide difficulties such as peeling paint, stains or other indications of deterioration is not a sound preservation practice; it is no substitute for proper care and maintenance. Aluminum and vinyl siding are not directly at fault in these situations since property owners should determine the nature and source of their problems, then make appropriate repairs. The difficulty arises when owners perceive the siding as the total solution to their required maintenance and forgo other remedial action.

### Durability and Cost

The questions of durability and relative costs of aluminum or vinyl siding compared to the maintenance cost of historic materials are complex. It is important to consider these questions carefully because both types of siding are marketed as long lasting, low maintenance materials. Assuming that the substitute sidings are not damaged, and that they will weather and age normally, there will be inevitable changes in color and gloss as time passes. A normal application of aluminum or vinyl siding is likely to cost from two to three times as much as a good paint job on wood siding. A sensitive application, retaining existing trim, will cost more. Therefore, to break even on expense, the new siding should last as long as two or three paintings before requiring maintenance. On wood two coats of good quality paint on a properly prepared surface can last from 8 to 10 years, according to the U.S. Department of Agriculture. If a conservative life of seven years is assumed for paint on wood, then aluminum and vinyl siding should last 15 to 21 years before requiring additional maintenance, to break even with the maintenance cost for painting wood siding. Once painted, the aluminum and vinyl siding will require repainting with the same frequency as wood.

While aluminum siding can dent upon impact and the impact resistance of vinyl siding decreases in low temperatures and, therefore, is susceptible to cracking from sharp impact, these materials are generally not more vulnerable than wood siding and shingles. All siding materials are subject to damage from storm, fire, and vandalism; however, there is a major difference in the reparability of wood siding versus substitute materials such as aluminum and vinyl. Although they can all be repaired, it is much easier to repair wood siding and the

repair, after painting, is generally imperceptible. In addition, a major problem in the reparability of aluminum and vinyl siding, as mentioned above, is matching color since the factory finishes change with time. Matching the paint for wood siding has a greater likelihood of success.

## Energy

Because of high fuel costs, there is a concern for energy conservation in historic materials as well as in substitute materials. Because aluminum and vinyl siding can be produced with an insulating backing, these products are sometimes marketed as improving the thermal envelope of a historic building. The aluminum and vinyl material themselves are not good insulators, and the thickness of any insulating backing would, of necessity, be too small to add to the energy efficiency of a historic building. What energy savings did accrue as a result of a siding application would probably be as much the result of the creation of an air space between the old and new siding as the addition of insulating material. If the historic wood siding were removed in the course of installing the aluminum or vinyl siding (even with an insulating backing), the net result would likely be a loss in overall thermal efficiency for the exterior sheathing.

Preservation Briefs Number 3, "Conserving Energy in Historic Buildings," notes that the primary sources of energy loss in small frame buildings are the doors, windows and roof. It is, therefore, more cost-effective to apply storm windows, weatherstripping and attic insulation than to treat the sidewalls of these structures. There are numerous publications on energy retrofitting which explain techniques of determining cost-effectiveness based on utility costs, R-factors or materials and initial cost of the treatment. Persons interested in this approach may wish to read "Retrofitting Existing Houses for Energy Conservation: An Economic Analysis" published by the National Bureau of Standards, or the U.S. Department of Housing and Urban Development booklet "In the Bank or Up the Chimney." One such study in Providence, Rhode Island, determined that for a two-story house, twenty-five feet square, the payback period for twenty-three storm windows, two storm doors and six inches of attic insulation (R-20) was 4.4 years while the payback period of aluminum siding with an R-factor of 2.5 was 29.96 years. Most of the information which is available supports the position that aluminum or vinyl siding will not have a reasonable payback on an energy-saving basis alone.

## Summary

The intent of this brief has been to delineate issues that should be considered when contemplating the use of aluminum or vinyl sidings on historic buildings and assessing under what circumstances substitute materials such as artificial siding may be used without damaging the integrity of the historic building or adversely changing its historic character. Many property owners are faced with decisions weighing the historic value of their building and its maintenance cost against the possible benefit of aluminum and vinyl siding materials. To assist in making these decisions, "The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings"

have been published and are available from National Park Service Regional Offices and State Historic Preservation Offices. Further, since rehabilitation projects for income-producing historic buildings often seek tax benefits under the 1981 Economic Recovery Tax Act, as amended, it is essential that all work, such as the replacement of exterior siding, be carried out in conformance with the Standards and be consistent with the building's historic character to insure that the tax benefits are not denied.

As stated earlier, the application of aluminum and vinyl siding is frequently considered as an alternative to the maintenance of the original historic material. The implication is that the new material is an economical and long-lasting alternative and therefore somehow superior to the historic material. In reality, historic building materials such as wood, brick and stone, when properly maintained, are generally durable and serviceable materials. Their widespread existence on tens of thousands of old buildings after many decades in serviceable condition is proof that they are the original economic and long-lasting alternatives. All materials, including aluminum and vinyl siding can fall into disrepair if abused or neglected; however, the maintenance, repair and retention of historic materials are always the most architecturally appropriate and usually the most economically sound measures when the objective is to preserve the unique qualities of historic buildings.

The appropriate preservation decision on the use of a substitute material in the rehabilitation of a historic building must always center on two principal concerns: the possible damage or destruction of historic building materials; and, the possible negative impact on the historic character of the building and the historic district or setting in which the building is located. Because applications of substitute materials such as aluminum and vinyl siding can either destroy or conceal historic building material and features and, in consequence, result in the loss of a building's historic character, they are not recommended by the National Park Service. Such destruction or concealment of historic materials and features confuses the public perception of that which is truly historic and that which is imitative.

## Reading List

- "*Condensation Problems in Your House: Prevention and Solution.*" Information Bulletin No. 373. Washington, D.C.: U.S. Department of Agriculture, 1974.
- Kiefer, Matthew J. "*Vinyl and Aluminum Siding: Pro and Con.*" Report to the Ashmont Hill Study Committee. Boston, Massachusetts: The Boston Landmarks Commission, 1977.
- "*Landmark and Historic District Commission.*" Vol. 4. No. 5. Washington, D.C.: National Trust for Historic Preservation. October 1978.
- "*Moisture Conditions in Walls and Ceilings of a Simulated Older Home in Winter.*" Madison, Wisconsin: Forest Products Laboratory-USDA, 1977.
- "*Performance Criteria for Exterior Wall Systems.*" Washington, D.C.: National Bureau of Standards, 1974.
- "*Rehab Right.*" Oakland, California: City of Oakland Planning Department, 1978.
- Skoda, Leopold F. "*Performance of Residential Siding Materials.*" Washington, D.C.: National Bureau of Standards, 1972.
- Wood Handbook: Wood as an Engineering Material.* Washington, D.C.: Forest Products Laboratory. U.S. Department of Agriculture, 1974.

This Preservation Brief was written by John H. Myers, Historical Architect, formerly with Technical Preservation Services, and was published first in 1979. The Brief was substantially revised in 1984 by Gary L. Hume, Deputy Division Chief, Preservation Assistance Division. H. Ward Jandl, Chief, Technical Preservation Services Branch, and the following Branch staff members are to be thanked for reviewing the manuscript and making suggestions that were incorporated into the final text: Emogene A. Bevitt, Kay Davidson Weeks, and Susan Dynes.

This publication has been prepared pursuant to the Economic Recovery Tax Act of 1981 which directs the Secretary of the Interior to certify rehabilitations of historic buildings that are consistent with their historic character; the advice and guidance provided in this Brief will assist property owners in complying with the requirements of this law.

Preservation Briefs 8 has been developed under the technical editorship of Lee H. Nelson, AIA, Chief, Preservation Assistance Division, National Park Service, U.S. Department of the Interior, Washington, D.C. 20240. Comments on the usefulness of this information are welcomed and can be sent to Mr. Nelson at the above address.

The drawing "A Tribute to Vinyl Siding. (Igloo)" on the front cover is reproduced from David Macaulay's "Great Moments in Architecture." Copyright © 1978 by David Macaulay and reprinted permission of Houghton Mifflin Company.

# 10 PRESERVATION BRIEFS

## Exterior Paint Problems on Historic Woodwork

Kay D. Weeks and David W. Look, AIA



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

A cautionary approach to paint removal is included in the guidelines to "The Secretary of the Interior Standards for Historic Preservation Projects." 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<sup>1</sup> 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-base paint,<sup>2</sup> 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

Paint<sup>3</sup> 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 re-application every 5-8 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<sup>4</sup> 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 (see figure 1). 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.

### 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*

<sup>1</sup> General paint type recommendations will be made, but paint color recommendations are beyond the scope of this Brief.

<sup>2</sup> Douglas R. Shier and William Hall, *Analysis of Housing Data Collected in a Lead-Based Paint Survey in Pittsburgh, Pennsylvania, Part I*, National Bureau of Standards, Inter-Report 77-1250, May 1977.

<sup>3</sup> Any pigmented liquid, liquefiable, or mastic composition designed for application to a substrate in a thin layer which is converted to an opaque solid film after application. *Paint and Coatings Dictionary*, 1978. Federation of Societies for Coatings and Technology.

<sup>4</sup> For purposes of the Brief, this includes any area of painted exterior woodwork displaying signs of peeling, cracking, or alligating to bare wood. See descriptions of these and other paint surface conditions as well as recommended treatments on pp. 5-10.



Fig. 1 Excessive paint build-up on architectural details such as this ornamental bracket does not in itself justify total paint removal. If paint is cracked and peeling down to bare wood, however, it should be removed using the gentlest means possible. Photo: David W. Look, AIA.

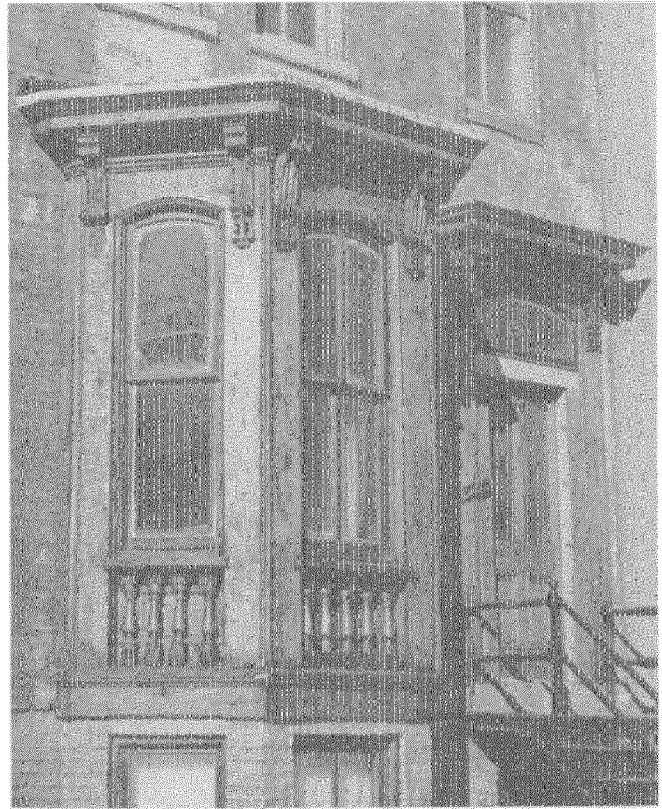


Fig. 2 A traditionally painted bay window has been stripped to bare wood, then varnished. In addition to being historically inaccurate, the varnish will break down faster as a result of the sun's ultraviolet rays than would primer and finish coats of paint. Photo: David W. Look, AIA.

been identified, the general approach should be to remove paint to the next sound layer using the gentlest means possible, then to repaint (see figure 2). 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 (see figure 3).

### 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

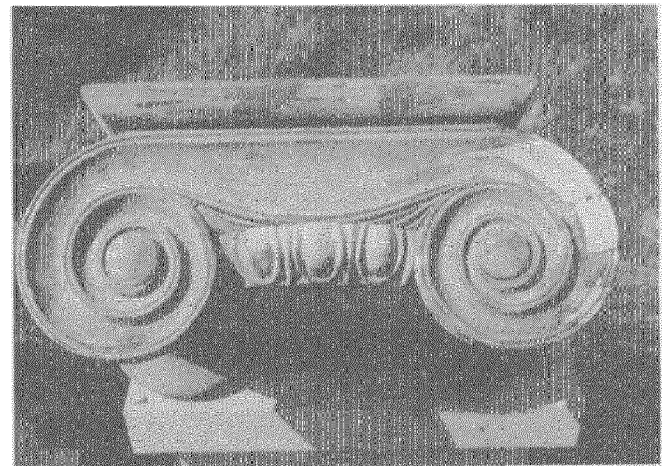


Fig. 3 If damage to parts of a wooden element is severe, new sections of wood will need to be pieced-in. When such piecing is required, paint on the adjacent woodwork should be removed so that the old and new woods will make a smooth profile when joined. After repainting, the repair should be virtually impossible to detect. Photo: Morgan W. Phillips.

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, with-

out 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.

### Repainting 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 paint builds up to a thickness of approximately 1/16" (approximately 16-30 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.<sup>5</sup>

### 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 (see figure 4). 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 alligatoring. 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 ½ 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.

<sup>5</sup> See the Reading List for paint research and documentation information. See also *The Secretary of the Interior's Standards for Historic Preservation Projects with Guidelines for Applying the Standards* for recommended approaches on paints and finishes within various types of project work treatments.



- 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 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 ½ 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



Fig. 4 Paint films wear unevenly depending on exposure and location. Exterior locations which are susceptible to accelerated deterioration are horizontal surfaces such as window sills. These and similar areas will require repainting more often than less vulnerable surfaces. In the case of this window sill where paint has peeled off and adjacent areas have cracked and alligatored, the paint should be totally removed. Prior to repainting, any weathered wood should be rejuvenated using a solution of 3 cups exterior varnish, 1 oz. paraffin wax, and mineral spirits/paint thinner/or turpentine to make 1 gallon. Liberal brush application should be made. This formula was tested over a 20-year period by th. U.S. Department of Agriculture's Forest Products Laboratory and proved to be just as effective as water-repellent preservatives containing pentachlorophenol. After the surface has thoroughly dried (2-3 days of warm weather), the treated surface can be painted. A high quality oil-base primer followed by two top coats of a semi-gloss oil-enamel or latex-enamel paint is recommended. Photo: Baird M. Smith, AIA.

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 "stain-blocking 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 (see figure 5). 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.

#### 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.

Fig. 5 Crazing—or surface cracking—is an exterior surface condition which can be successfully treated by sanding and painting. Photo: Courtesy, National Decorating Products Association.

### • **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 air-borne 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 (see figure 6). For example, if oil paint is applied over latex paint, peeling of the top

coat can sometimes result since, upon aging, the oil paint 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.

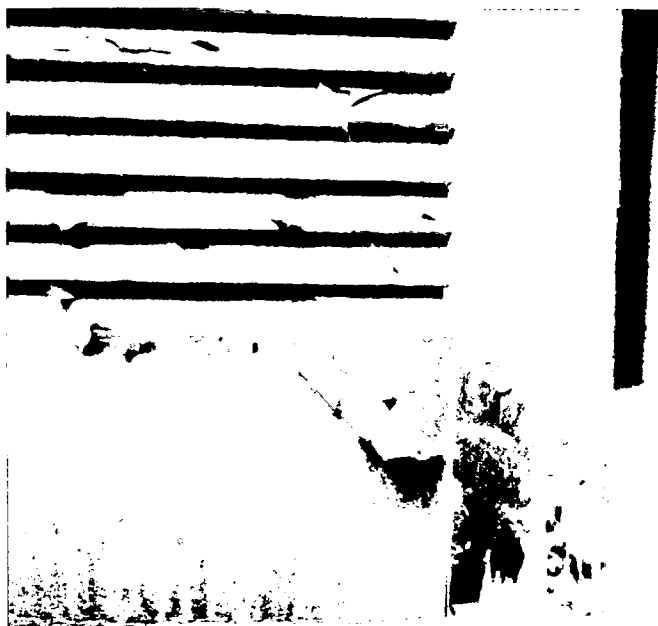


Fig. 6 This is an example of intercoat peeling. A latex top coat was applied directly over old oil paint and, as a result, the latex paint was unable to adhere. If latex is being used over oil, an oil-base primer should be applied first. Although much of the peeling latex paint can be scraped off, in this case, the best solution may be to chemically dip strip the entire shutter to remove all of the paint down to bare wood, rinse thoroughly, then repaint. Photo: Mary L. Oehrlein, AIA.

### • **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 (see figure 7). 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.

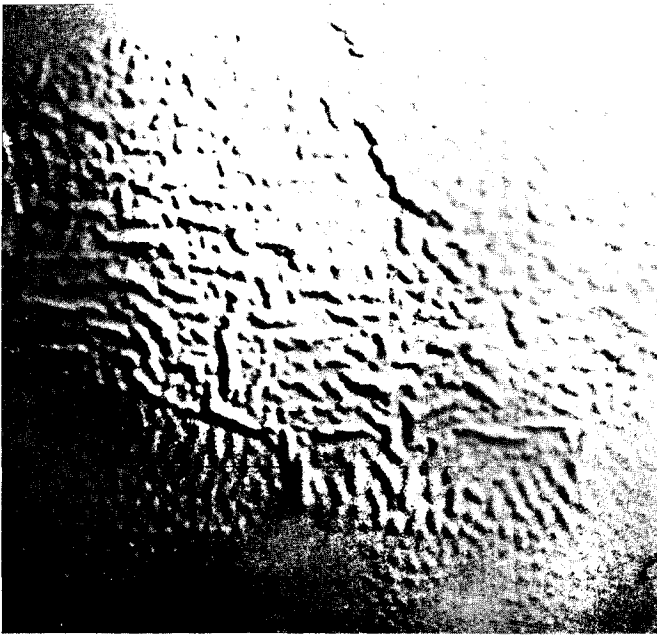


Fig. 7 Wrinkled layers can generally be removed by scraping and sanding as opposed to total paint removal. Following manufacturers' application instructions is the best way to avoid this surface condition. Photo: Courtesy, National Decorating Products Association.

### 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

Peeling to bare wood is most often caused by excess interior or exterior moisture that collects behind the paint

film, thus impairing adhesion (see figure 8). 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.

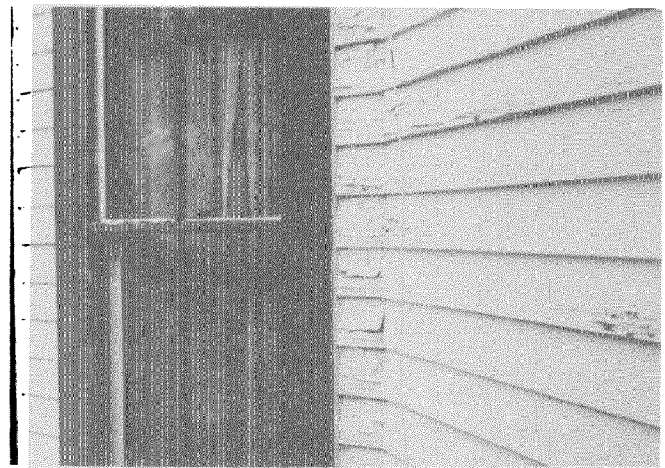


Fig. 8 Peeling to bare wood—one of the most common types of paint failure—is usually caused by an interior or exterior moisture problem. Photo: Anne E. Grimmer.

- **Cracking/Alligatoring**

#### Cause of Condition

Cracking and alligatoring are advanced stages of crazing (see figure 9). 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.



Fig. 9 Cracking, alligatoring, and flaking are evidence of long-term neglect of painted surfaces. The remaining paint on the clapboard shown here can be removed with an electric heat plate and wide-bladed scraper. In addition, unsound wood should be replaced and moisture problems corrected before primer and top coats of paint are applied. Photo: David W. Look, AIA.

### Selecting the Appropriate/Safest Method to Remove Paint

After having presented the "hierarchy" of exterior paint surface conditions—from a mild condition such as mildew 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 over-riding 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 (see figure 10).

Paint scrapers are commonly available in  $1\frac{5}{16}$ ,  $2\frac{1}{2}$ , and  $3\frac{1}{2}$  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.

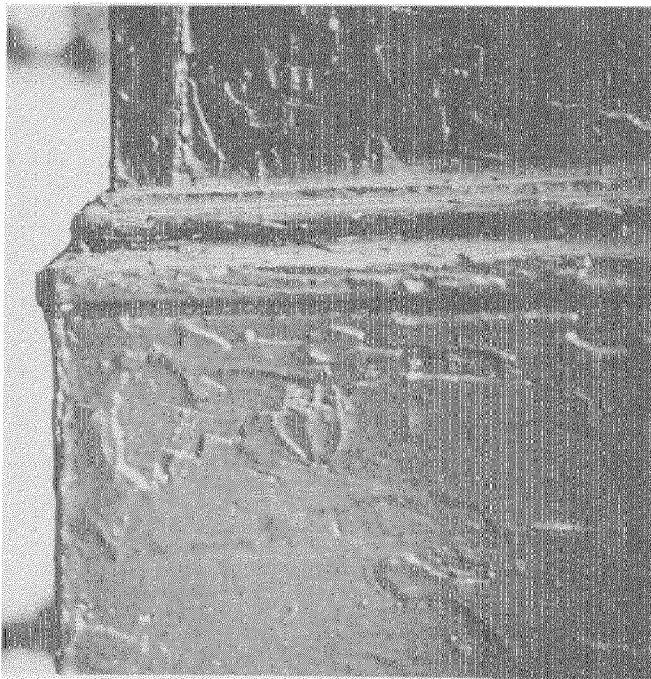


Fig. 10 An excellent example of inadequate scraping before repainting, the problems here are far more than cosmetic. This improperly prepared surface will permit moisture to get behind the paint film which, in turn, will result in chipping and peeling. Photo: Baird M. Smith, AIA.

### • 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 (see figure 11). The abrasive surface varies from about 3×7 inches to 4×9 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.

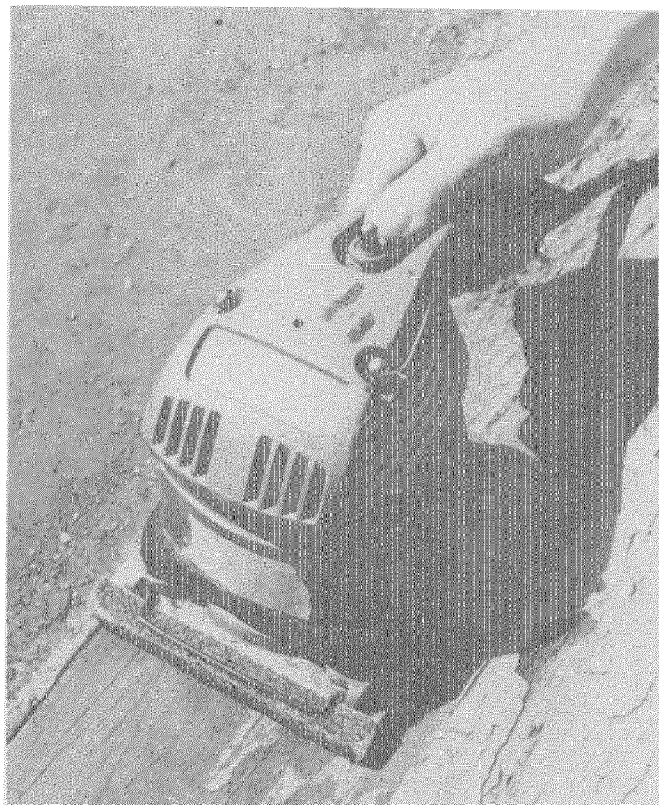


Fig. 11 The orbital sander can be used for limited paint removal, i.e., for smoothing flat surfaces after the majority of deteriorated paint has already been scraped off. Photo: Charles E. Fisher, III.

### 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 is 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 metal 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 (see figure 12). 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”.)



Fig. 12 Sandblasting has permanently damaged this ornamental bracket. Even paint will not be able to hide the deep erosion of the wood. Photo: David W. Look, AIA.

#### 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

*Electric heat plate:* The electric heat plate (see figure 13) 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.



Fig. 13 The electric heat plate (with paint scraper) is particularly useful for removing paint down to bare wood on flat surfaces such as doors, window frames, and siding. After scraping, some light sanding will probably be necessary to smooth the surface prior to application of primer and top coats. Photo: David W. Look, AIA.

*Electric heat gun:* The electric heat gun (electric hot-air gun) looks like a hand-held hairdryer with a heavy-duty metal case (see figure 14). 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 build-up. (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.)

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."



Fig. 14 The nozzle on the electric heat gun permits hot air to be aimed into cavities on solid decorative elements such as this applied column. After the paint has been sufficiently softened, it can be removed with a profiled scraper. Photo: Charles E. Fisher, III.

## 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, lead-base 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 home-owner 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 be-

ing sent out<sup>6</sup> 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

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 heavy 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.

<sup>6</sup> Marking the original location of the shutter by number (either by stamping numbers into the end grain with metal numeral dies or cutting numbers into the end with a pen knife) will minimize difficulties when rehanging them.

\* If the top coat is latex paint (when viewed by the naked eye or, preferably, with a magnifying glass, it looks like a series of tiny craters) it may either be repainted with new latex paint or with oil paint. Normal surface preparation should precede any repainting.



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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Special thanks go to Baird M. Smith, AIA (formerly Chief, Preservation Technology Branch, TPS) for providing general direction in the development of the manuscript. In addition, the following individuals are to be thanked for their contributions as technical experts in the field: Royal T. Brown, National Paint and Coatings Association, Washington, D.C.; Dr. Judith E. Selwyn, Preservation Technology Associates, Boston, Massachusetts; and Dennis R. Vacca, Pratt & Lambert Co., Carlstadt, New Jersey. Finally, thanks go to several National Park Service staff members whose valuable comments were incorporated into the text and who contributed to the production of the brief: James A. Caulfield, Anne E. Grimmer, Jean E. Travers, David G. Battle, Sharon C. Park, AIA, Charles E. Fisher III, Sara K. Blumenthal, and Martha A. Gutrick.

## Reading List

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- "How to Assure a Satisfactory Paint Job." *Scientific Section: Circular 784*. Washington, DC: National Paint, Varnish and Lacquer Association (undated).
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- Paint Problem Solver*. St. Louis: National Decorating Products Association, 1980.
- "Special Issue: Exterior Painting." *The Old House Journal*. Vol. 4, No. 4 (April 1981), pp. 71-94.
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This publication has been prepared pursuant to The Economic Recovery Tax Act of 1981, which directs the Secretary of the Interior to certify rehabilitations of historic buildings that are consistent with their historic character; the advice and guidance in this brief will assist property owners in complying with the requirements of this law.

Preservation Briefs 10 has been developed under the technical editorship of Lee H. Nelson, AIA, Chief, Preservation Assistance Division, National Park Service, U.S. Department of the Interior, Washington, D.C. 20240. Comments on the usefulness of this information are welcomed and can be sent to Mr. Nelson at the above address.

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September 1982

*Charles Carlson*

MESSAGE CONFIRMATION

SEP-27-90 THU 14:14

TERM ID: MONT CO HSG&COMM DEV P-0000

TEL NO: 301 217-3677

NO.	DATE	ST. TIME	TOTAL TIME	ID	DEPT CODE	OK	NG
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Bill Chen

MESSAGE CONFIRMATION

SEP-27-90 THU 14:08

TERM ID: MONT CO HSG&COMM DEV P-0000

TEL NO: 301 217-3677

NO.	DATE	ST. TIME	TOTAL TIME	ID	DEPT CODE	OK	NG
047	09-27	14:03	00°04'55	2		06	00



Montgomery County Government

MEMORANDUM

TO: Robert Seely, Chief  
 Division of Construction Codes Enforcement  
 Department of Environmental Protection

FROM: Laura E. McGrath, Planning Specialist *LM*  
 Division of Community Planning and Development  
 Department of Housing and Community Development

SUBJECT: Historic Area Work Permit Application

DATE: 9-21-90

The Montgomery County Historic Preservation Commission, at their meeting of 9-20-90 reviewed the attached application by Darcey Jones Proctor's Church for an Historic Area Work Permit. The application was:

Construction of Glades Approved Installation of Siding Denied  
 Approved with Conditions: *\* Please see attached HPC decision*

The Building Permit for this project should be issued conditional upon adherence to the approved Historic Area Work Permit.

Attachments:

1. MDHP Application & Attachments
2. Conditions
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

2020E

Historic Preservation Commission



# Historic Preservation Commission

51 Monroe Street, Suite 1001, Rockville, Maryland 20850  
217-3625

24/19 1-90A

## APPLICATION FOR HISTORIC AREA WORK PERMIT

Contact: Charles Carlson  
948-9090

TAX ACCOUNT # 388 556

NAME OF PROPERTY OWNER DARNESTOWN PRESBYTERIAN CHURCH TELEPHONE NO. 301/948-9177  
(Contract/Purchaser) Hank Postel (Include Area Code)

ADDRESS 15120 Turkey Foot Road Gaithersburg, MD 20878 ZIP

CONTRACTOR CARLSON CONSTRUCTION CO., INC. TELEPHONE NO. 301/948-0090  
CONTRACTOR REGISTRATION NUMBER 971439

PLANS PREPARED BY CARLSON CONSTRUCTION CO., INC. TELEPHONE NO. 301/948-9090  
(Include Area Code)

REGISTRATION NUMBER 971439

LOCATION OF BUILDING/PREMISE

House Number 15120 Street Turkey Foot Road

Town/City Gaithersburg, MD Election District Montgomery County

Nearest Cross Street Darnestown

Lot 039 Block 0259 Subdivision Mr. Pleasant Etc.

Liber 039 Folio 0259 Parcel

1A. TYPE OF PERMIT ACTION: (circle one)

Construct	<u>Extend/Add</u>	Alter/Renovate	Repair	Circle One: A/C	Slab	Room Addition
Wreck/Raze	<u>Move</u>	Reinstall	Revocable	Porch	Deck	Fireplace
			Revision	Fence/Wall (complete Section 4)	Shed	Solar
				Other:	Woodburning Stove	

1B. CONSTRUCTION COSTS ESTIMATE \$ 25,000.00

1C. IF THIS IS A REVISION OF A PREVIOUSLY APPROVED ACTIVE PERMIT SEE PERMIT # ----

1D. INDICATE NAME OF ELECTRIC UTILITY COMPANY POTOMAC ELECTRIC

1E. IS THIS PROPERTY A HISTORICAL SITE? Yes

PART TWO: COMPLETE FOR NEW CONSTRUCTION AND EXTEND/ADDITIONS

2A. TYPE OF SEWAGE DISPOSAL

01 ( ) WSSC	02 ( <u>X</u> ) Septic	2B. TYPE OF WATER SUPPLY
03 ( ) Other		01 ( <u>X</u> ) WSSC
		02 ( ) Well
		03 ( ) Other

PART THREE: COMPLETE ONLY FOR FENCE/RETAINING WALL

4A. HEIGHT \_\_\_\_\_ feet \_\_\_\_\_ inches

4B. 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 \_\_\_\_\_ (Revocable Letter Required).

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.

Charles S. Carlson Signature of owner or authorized agent (agent must have signature notarized on back) 6/15/90 Date

APPROVED [Signature] For Chairperson, Historic Preservation Commission

DISAPPROVED [Signature] Signature [Signature] Date 9-21-90

APPLICATION/PERMIT NO: 60-27-3 FILING FEE: \$ 110.00

DATE FILED: \_\_\_\_\_ PERMIT FEE: \$ \_\_\_\_\_

DATE ISSUED: \_\_\_\_\_ BALANCE \$ \_\_\_\_\_

OWNERSHIP CODE: \_\_\_\_\_ RECEIPT NO: 48727 FEE WAIVED: \_\_\_\_\_

9006210093

SEE REVERSE SIDE FOR INSTRUCTIONS

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

DESCRIPTION OF PROPOSED WORK: (including composition, color and texture of materials to be used:)

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(If more space is needed, attach additional sheets on plain or lined paper to this application)

ATTACH TO THIS APPLICATION (2) COPIES OF: SUCH SITE PLANS (lot dimensions, building location with dimensions, drives, walks, fences, patios, etc. proposed or existing) and/or ARCHITECTURAL DRAWINGS (floor plans, elevations, etc.), PHOTOGRAPHS OF THE AREA AFFECTED, as are necessary to fully describe the proposed work.

MAIL OR DELIVER THE APPLICATION AND ALL REQUIRED DOCUMENTS TO THE:  
HISTORIC PRESERVATION COMMISSION  
100 MARYLAND AVENUE  
ROCKVILLE, MARYLAND 20850



## Montgomery County Government

September 27, 1990

Hank Postel, Pastor  
Darnestown Presbyterian Church  
15120 Turkey Foot Road  
Gaithersburg, Maryland 20878

RE: Historic Preservation Commission (HPC) Decision on  
HPC Case Number 24/19-1-90A

Dear Reverend Postel:

Enclosed please find the formal decision by the Historic Preservation Commission on the application by the Darnestown Presbyterian Church to construct a handicapped-access elevator and to install vinyl siding on the church (HPC Case No. 24/19-1-90A). If you have any questions regarding the decision, please do not hesitate to call me at 217-3625.

Sincerely,

*Laura McGrath*

Laura McGrath,  
Planning Specialist

Enclosure

2132E

HISTORIC PRESERVATION COMMISSION

of

MONTGOMERY COUNTY

51 Monroe Street, Suite 1001  
Rockville, Maryland 20850

301-217-3625

Case No.: 24/19-1-90A

Received: June 22, 1990

Public Appearance(s): July 11, 1990; September 12, 1990

Before the Montgomery County Historic Preservation Commission

Application of the Darnestown Presbyterian Church

DECISION AND OPINION OF THE COMMISSION

Decision of the Commission: APPROVE construction of handicapped-access  
elevator

DENY installation of vinyl siding

Commission Motion: At the September 26, 1990, meeting of the Commission, Commissioner Randall presented a motion to adopt the findings and decision presented. Commissioner Cantelon seconded the motion. Commissioners Wagner, Cantelon, Randall, Brenneman and Taylor voted in favor. Commissioner King was opposed. Not voting or participating in the deliberations were Commissioners Booth, Hartman, and Miskin. The motion was passed, 5-1.

BACKGROUND

The following term is defined in Section 24A-2 of the Code:

Historic Site: Any individual historic resource that is significant and contributes to the historical, architectural, archeological or cultural values within the Maryland-Washington Regional District and which has been so designated in the master plan for historic preservation.



The applicant has applied for an Historic Area Work Permit (HAWP) to construct a handicapped-access elevator and the installation of vinyl siding at 15120 Turkey Foot Road, Gaithersburg, Maryland. The subject property was designated an historic site through a resolution amending the Master Plan for Historic Preservation by the Montgomery County Council, sitting as the District Council, on January 28, 1986. The amendment was adopted by the Maryland-National Capital Park and Planning Commission on February 12, 1986.

The Master Plan Amendment for the Darnestown Presbyterian Church describes the findings of historical and architectural significance that resulted in the placement of the Darnestown Presbyterian Church on the Master Plan.

[The Darnestown Presbyterian Church] Begun as a rural, vernacular, frame building in 1856, the church and bell tower added in 1897, impart a Gothic feeling to the present structure. The approximately 6-acre environmental setting equates to the historic churchyard and includes the cemetery to the rear of the church property, the parking area and yards to the east and south of the church as well as the stone fence which runs the length of the church's frontage along Darnestown Road.

The application by the Darnestown Presbyterian Church was considered by the Commission at two Commission meetings. The first public appearance was held on July 11, 1990. The second public appearance was held on September 12, 1990.

## FINDINGS

Based on the testimony presented to the Commission and other evidence in the record, the Commission makes the following findings:

1. The Commission finds that the Darnestown Presbyterian Church, located at 15120 Turkey Foot Road, Gaithersburg, Maryland, is a historic site under the Master Plan for Historic Preservation and under the definition of historic site according to Section 24A-2 of Chapter 24A and is an excellent example of a rural, vernacular church building which has maintained its strong historic character and integrity over time.
2. The Commission finds that the applicant's proposal to construct a handicapped elevator on the north elevation of the 20th Century addition to the church will not substantially alter the historic character of the historic site and so is approved under Section 24A-8, criterion (b)(1) and (b)(4).

3. The Commission finds that the applicant's proposal to install vinyl siding over the existing wood siding on the church does not conform to the Secretary of the Interior's Standards for Rehabilitation, published by the U.S. Department of the Interior, National Park Service (Revised 1990), which were adopted by the Historic Preservation Commission on February 5, 1987, for use in evaluating the impact of proposed work on historic resources, or to the criteria set forth in the National Park Service's Preservation Brief Number 8: "Aluminum and Vinyl Siding on Historic Buildings", published by the Department of the Interior, (1979; revised in 1984). In particular, the proposal does not conform to the following standards and criteria:

- ° Standard 2: The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.
- ° Preservation Brief No. 8, Criteria 2: Aluminum or vinyl siding may be an acceptable alternative only if the substitute material can be installed without irreversibly damaging or obscuring the architectural features and trim.

The Commission finds that the original wood siding is an integral feature of the historic nature of the church and important to the historic character of the building. The applicant did not demonstrate that the application of vinyl siding and flammable insulation would not cause damage to, or eventually destroy, the original wood siding. An additional concern of the Commission's is that vinyl siding would keep any fire trapped inside the church and may contribute to a significant destruction of the original fabric of the building.

The Commission finds that the applicant's proposal to install vinyl siding would obscure the distinctive architectural detail of the church and alter the relationships between the existing corner boards, moldings, and other trim details. The Commission further finds that the shadow line of the architectural components would be severely and unacceptably changed.

- ° Standard 4: Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.
- ° Preservation Brief No. 8, Criteria 3: Aluminum or vinyl siding may be an acceptable alternative only if the substitute material can match the historic material in size, profile, and finish so that there is no change in the character of the historic building.

The Commission finds that the applicant's proposal to cover the entire building with one style of siding would not be an accurate representation of the existing historic fabric which displays several styles of siding associated with different periods of construction.

- ° Standard 6: Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.
- ° Preservation Brief No. 8, Criteria 1: Aluminum or vinyl siding may be an acceptable alternative only if the existing siding is so deteriorated or damaged that it cannot be repaired.

The Commission finds that the existing wood siding material is not so deteriorated that it must be replaced. In fact, testimony entered into the record by a County inspector noted that the original wood siding was in generally sound condition. The applicant has also testified that, by its representative's estimate, only approximately 10% of the historic siding may be so deteriorated that it needs to be replaced. The applicant further stated that this deteriorated wood siding would be replaced by new wood siding before installing the vinyl siding.

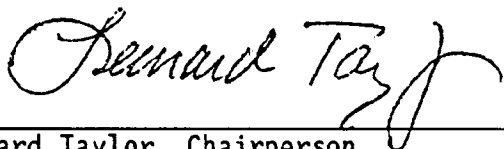
4. The Commission finds that, although the applicant presented cost estimates for two alternatives, replacing deteriorated siding, removing old paint and re-painting the existing siding, and for replacing deteriorated siding and covering the existing siding with artificial siding, the cost estimates for the initial work for either method were not substantially different.
5. The Commission finds that although the applicant explained that certain areas of siding on the church building were not holding paint as long as desired and that one painting estimator would give only a one year warranty on the job to strip and re-paint the building, another contractor offered a three year written warranty on its work. In addition, the Commission finds that the evidence presented indicated that a properly prepared wood base may hold paint for an acceptable period of time.

Moreover, the Commission finds that the applicant failed to present adequate facts to assure the Commission that current moisture problems would be mitigated, rather than exacerbated, by the installation of artificial siding. Although given ample opportunity, the applicant failed to address adequately the Commission's questions regarding moisture transmission, location of dew points, and the possible mitigating effects of properly located and installed vapor barriers on paint adherence.

The Commission finds that, based on the findings 3 through 5, the applicant's proposal to install vinyl siding on the church does not meet any of the criteria for approval in Section 24A-8, and that the installation of vinyl siding on the church would be inappropriate and inconsistent with the preservation of the Darnestown Presbyterian Church. Therefore, under Section 24A-8(a), the Commission must deny the proposal to install vinyl siding on the church.

Based on these facts and findings, and having heard and carefully considered all of the testimony and exhibits contained in the record, it is the decision of the Montgomery County Historic Preservation Commission that the proposal by the Darnestown Presbyterian Church to construct a handicapped-access elevator is APPROVED and that the proposal to install vinyl siding on the church is DENIED.

If any party is aggrieved by the decision of the Commission, pursuant to Section 24A - 7(h) of the Montgomery County Code, an appeal may be filed within thirty days with the Board of Appeals, which will review the Commission's decision de novo. The Board of Appeals has full and exclusive authority to hear and decide all appeals taken from decisions of the Commission. The Board of Appeals has the authority to affirm, modify, or reverse the order or decision of the Commission.



\_\_\_\_\_  
Leonard Taylor, Chairperson  
Montgomery County Historic Preservation Commission

9-27-90

\_\_\_\_\_  
Date

Ex A

29/19-1-90A



August 6, 1990

Carlson Construction Co., Inc.  
15811 Crabbs Branch Way  
Rockville, Maryland 20855

Attn: Charlie Carlson

Dear Charlie,

In response to your request I am writing a brief description of Edward W. Minte Co. and Pete Conto's qualifications.

The Edward W. Minte Co. has been in the Painting & Wallcovering business in the Washington Metropolitan Area since 1920. In our seventy years, we have worked in some of the most prestigious buildings in this area including the White House, Blair House and Old Executive Office Building. In addition to new structures such as the National Gallery of Art, World Bank, J.W. Marriott and Willard Hotels. Minte has worked on restoration projects at Georgetown University, Betsy Ross House and Patrick Henry Plantation to list a few.

Peter A. Conto is a principal and Senior Vice President of Minte Co.. He has been with the firm for eighteen years, starting out working in our shop, then in the field, followed by two years in the office. His primary responsibility for the last 12 years is to manage the field which consists of two superintendents, a warehouseman and 80 to 120 painters and paperhangers. The manner in which Pete came up through our industry, he has learned all facets of the painting business and is considered by many to be an expert. He has been asked to speak to groups of Architects, Designers, Wallcovering Manufacturers and Distributors to heighten their awareness of what procedures to follow to deliver a finished product that satisfies the end user.

If we can be of any assistance to you do not hesitate to call upon us.

Very truly yours,  
EDWARD W. MINTE CO., INC.

  
R. A. HELLER SR.  
Executive Vice President

RAH/tb

M E M O R A N D U M

TO: Historic Preservation Commission

FROM: Laura McGrath, Planning Specialist LM  
Division of Community Planning and Development

DATE: September 5, 1990

SUBJECT: Second Review of Application by Darnestown Presbyterian Church,  
15120 Turkeyfoot Road (HPC Case No. 24/19-1-90A)

As you may recall, an application for an Historic Area Work Permit has been filed by the Darnestown Presbyterian Church for installation of vinyl siding and the addition of a small enclosed elevator (see copy of original staff report attached). The application was originally heard on July 11, 1990, after which the record was left open and the applicants were asked by the HPC to respond to the following concerns:

1. Is the existing siding sound and serviceable for the foreseeable future?
2. What has been causing the rapid deterioration of paint?
3. If it should become necessary to apply vinyl or aluminum siding, what effect would it have on the existing trim and decorative elements?

Attached please find a packet prepared by the Darnestown Presbyterian Church responding to the above concerns. This packet includes estimates on replacing the church's existing wood siding with new wood siding, chemically removing the paint and repainting the existing wood siding, and installing vinyl siding. These estimates are followed by an overall cost comparison, elevations showing where the new siding would be located, and literature on the proposed new siding.

In response to an additional request made by the Commission, an inspector from the Division of Housing in the Department of Housing and Community Development also inspected the siding for an assessment of its condition. The inspector's report on his findings is also attached.

HPC Case No. 24/19-1-90A (continued)

Based on the Inspection report submitted by Mr. Brown of the Division of Housing which determines that the existing siding and trim are generally in sound condition, and on the Secretary of Interior's Guidelines for Rehabilitation on siding, staff maintains its recommendation that vinyl siding be installed only on the 20th century wing of the church. However, if the Commission agrees that the costs of installing new wood siding or stripping and repainting the existing wood siding, along with long-term maintenance costs, would pose a financial hardship for the applicant, staff would recommend approval of cladding the entire building (exclusive of the trim and other decorative elements) in vinyl siding based on criterion 24A-8(b)(5).

ATTACHMENTS

1. Original staff report
2. Packet submitted by applicant
3. DHCD Inspection Report

2059E

HISTORIC PRESERVATION COMMISSION STAFF REPORT

PREPARED BY: Jared B. Cooper

DATE: July 2, 1990

CASE NUMBER: 24/19-1-90A

TYPE OF REVIEW: HAWP

SITE/DISTRICT NAME: Darnestown  
Presbyterian  
Church

PROPERTY ADDRESS: 15120 Turkey Foot Rd.

TAX CREDIT ELIGIBLE: N/A

DISCUSSION:

The applicant is proposing installation of vinyl siding on the entire church, including the original structure (1850's), an 1897 addition, and a 1951-53 ell. Also proposed is the addition of a small enclosed elevator. Staff met with the pastor and members of the congregation at the site on 6/12/90 in order to discuss the proposed project and possible alternatives. The church representatives made it clear that they had thoroughly researched all options but that based on serious financial constraints, they had to choose what they determined to be the most cost-effective solution: vinyl siding. They also indicated that the siding would be installed in the most sensitive manner, respecting all existing trim and decorative elements. Church representatives also indicated that there has existed a chronic problem with peeling paint, and that the last several paint jobs, while thorough and expensive, have lasted an average of three years. It was also indicated that the congregation had consulted with several expert painters, all of whom indicated that, in order to ensure a quality paint job, it would be necessary to remove the paint completely, down to the wood surface. This process, of course, is extremely labor-intensive, and would be very costly, according to the preliminary estimates received by the church.

Having carefully considered the proposed project and its potential impact on the integrity of the site, staff finds that the proposal to clad the entire structure in vinyl (with the exception of the tower, trim, and other details) would significantly impact the architectural integrity of the structure.

Generally, staff concurs with the analysis of the pros and cons of vinyl siding found in Preservation Briefs #8: "Aluminum and Vinyl Siding on Historic Buildings", published by the Department of the Interior, National Park Service, in 1979 and revised in 1984 (see attached). That analysis finds that "aluminum or vinyl siding may be an acceptable alternative only if (1) "the existing siding is so deteriorated or damaged that it cannot be repaired; (2) the substitute material can be installed without irreversibly damaging or obscuring the architectural features and trim of the building; and (3) the substitute material can match the historic material in size, profile and finish so that there is no change in the character of the historic building."



Staff finds that the current proposal meets condition #2, in that the proposed method of installation would not conceal existing trim and decorative elements. Staff finds that condition #3 is met in part, in that a portion of the building (that constructed in 1897, utilizing "drop" style siding) is proposed to be clad in vinyl material of like size, profile and finish. (The finish is slightly different in that the proposed vinyl siding has a mild "woodgrained" effect.) Condition #3 is not fully met, in that the proposed "drop" siding does not match the original siding found on the remainder of the building, which is lapped in style.

Staff does not find that condition #1 is met. While the existing siding is weather damaged in limited areas, it is not "so deteriorated or damaged that it cannot be repaired."

STAFF RECOMMENDATION:

While staff sympathizes with the congregation in its continuing and costly efforts to "keep paint" on the church, staff is not convinced that this portion of the proposed project meets any of the criteria for issuance of an HAWP, and thus recommends denial. Staff finds that installation of vinyl siding on the 19th century portions of the structure, while sensitive in methodology, would serve to substantially alter the original exterior of the structure. Staff finds that while vinyl siding could reasonably duplicate the size and shape of the original siding, it could not recreate the original material, texture, profile, and shadow reveals of the original.

Moreover, while staff believes that vinyl siding may in certain instances be an acceptable solution, there is not compelling evidence in this case that the existing original siding would be inordinately difficult to repair and maintain.

If the applicant desired to clad the 20th century wing in vinyl, staff would recommend approval of that portion of the project, based on criterion 24A-8(b)(1).

Lastly, staff recommends approval of the elevator addition to the 20th century wing, based on criteria 24A-8(b)(1) and (2). The applicant examined a number of possible handicapped access locations and methods, and found the proposed solution to be the least intrusive.

ATTACHMENTS:

1. HAWP Application
2. Site Plan
3. Elevation /Floor Plan
4. Photographs
5. Manufacturer's Literature
6. Preservation Briefs #8: "Aluminum and Vinyl Siding on Historic Buildings"
7. History/Description of the Darnestown Presbyterian Church
8. Excerpt from Master Plan

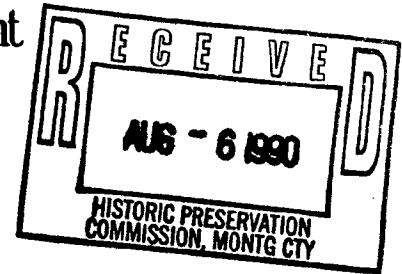
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1920E



# Montgomery County Government

## INSPECTION REPORT

15120 TURKEY FOOT ROAD  
DARNESTOWN, MD



On July 31, 1990 I conducted a partial inspection of the above property. The scope of the evaluation included the wood components of the exterior envelope of the building. The specific issue to be determined was whether "the existing siding is so deteriorated or damaged that it cannot be repaired". Within this narrow context, my determination is that the existing siding and trims are in generally sound condition with minimal rot or insect damage. Several fairly small sections of siding should be considered for replacement, as should several window sills. The chronic flaking and peeling problem of the exterior paint is likely due to inadequate preparation prior to the application of paint. I concur with the painters who have examined the project that the existing paint should be stripped to bare wood & the wood properly treated before repainting. If chemical strippers are to be used, it is important to neutralize the exposed bare wood when this process has been completed. The possible existence of lead based paint should be investigated and appropriate methods employed for it's safe removal if indicated.

As a final note, I would add that the work required to properly repaint this building, even if lead paint is not an issue, will be extremely costly. If historical concerns were not an issue, my recommendation would be to install an appropriately styled vinyl siding product over the existing wood siding. This would result in a cost effective, durable and relatively maintenance free end product. I can be reached at 301-271-3700 for questions or comments.

Stevens T. Brown  
Senior Planner

A handwritten signature in black ink, appearing to be "Stevens T. Brown", enclosed in a circular scribble.

STB:lg/6166c



## Montgomery County Government

July 18, 1990

Dr. Hank Postel, Pastor  
Darnestown Presbyterian Church  
15120 Turkey Foot Road  
Darnestown, Maryland 20878

RE: HPC Case No. 24/19-1-90A

Dear Dr. Postel:

As a follow up to the Historic Preservation Commission meeting of July 11, 1990, I would like to take this opportunity to formally outline the directives of the Commission.

As you may recall, the Commission's primary concerns were threefold:

1. Is the existing siding sound and serviceable for the foreseeable future?
2. What has been causing the rapid deterioration of paint?
3. If it should become necessary to apply vinyl or aluminum siding, what effect would it have on the existing trim and decorative elements?

In order to respond to the first of these concerns, the Commission would like more research to be done on the condition of the existing siding. Mr. Carlson testified that some portions of the siding were in very poor condition. Our staff indicated that, based on visual survey, it appeared that the siding was deteriorated only in isolated areas. The Commission has contacted the Department of Housing and Community Development, which will send an inspector to examine the siding. If you would like to have an independent expert do the same, the Commission would likely find that information valuable.

With regard to the second concern, the Commission requests that you try to determine the causes of the peeling. The HPC suggests that you analyze the wall section permeability and the dewpoint location, as this is often a cause of such problems. In order to do this, you may need to contact specialist(s) in the field.

Historic Preservation Commission

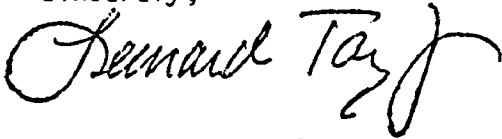
51 Monroe Street, Rockville, Maryland 20850-2419, 301/217-3625

Dr. Postel  
Page Two  
July 18, 1990

As regards the third concern, there were no detailed drawings submitted which indicate where the siding is to be installed. The Commission will need elevation and detail drawings which indicate exactly where the siding will be installed and how it will interface with the existing trim and decorative elements.

If you have any questions regarding any of the foregoing, please do not hesitate to contact Jared Cooper or Alison Vawter, at 217-3625.

Sincerely,

A handwritten signature in cursive script that reads "Leonard Taylor, Jr." The signature is written in black ink and is positioned to the right of the word "Sincerely,".

Leonard Taylor, Jr.  
Chairperson

cc: Charles S. Carlson

1959E

July 11, 1990

To: Members of the Historic Preservation Society

Ladies and Gentlemen,

My name is Irma Byrd and I live at 16301 Sugarland Road in Dawsonville, MD. I have been attending the Darnestown Presbyterian Church on a regular basis since March 1952 and have been an active member since March 1959.

I have just completed 6 years as an Elder on the Sessions of the church and I am presently the Chairman of the Memorial Committee and the Flower Committee.

In past decades, when the quality of outside paint was different and the cost of labor was not too expensive, the church was painted on a regular basis without too much hardship on the members and friends of Darnestown Presbyterian Church.

Unfortunately, the paint available today does not last hardly any time and with the high cost of labor, we are no longer able to paint the church on a regular basis.

The issue of putting siding on the church is very difficult, but the REALITY is that if we want to preserve our church for future generations, we MUST put siding on the church.

Most of our older members who have contributed significantly over the years have passed away. We now have a young generation of families with small children. In many cases they must struggle to make ends meet, particularly with the high cost of living in our area. It is the church's responsibility not to place additional burdens on the families.

In the past year we have been faced with enormous expenses. We had to replace the roof, make additional parking, and re-surface the roadways and old parking areas. There has also been substantial storm and lightening damage done to our beautiful older trees. We lost another one within the last few weeks and each time, it is very expensive to arrange for the removal and clearing of the debris. We are also faced with the expenses of replacing the roof on the educational building and installing new windows and floors. It will take years to pay off the debts we are incurring on these unending expenses and new ones seem to be added each year.

I believe that a church is not just an historic building.  
IT IS A PLACE TO WORSHIP GOD; A PLACE TO HELP THE POOR, THE  
LONELY, AND THE SUFFERING. IT PROVIDES IMPORTANT EDUCATIONAL  
PROGRAMS, SERVES THE SURROUNDING COMMUNITY AND SUPPORTS IMPORTANT  
MISSION WORK BOTH HERE IN THE UNITED STATES AND OVERSEAS.

All this takes money. If we have to paint the church every few years, all the programs will suffer and the real MISSION of the church will fail.

WE OWE IT TO OUR FUTURE GENERATIONS TO KEEP THE CHURCH ALIVE, NOT ONLY AS AN HISTORIC BUILDING, BUT ALSO AS A TRUE CHURCH OF GOD.

Thank you,

Irma Byrd

HISTORIC PRESERVATION COMMISSION STAFF REPORT

PREPARED BY: Jared B. Cooper

DATE: July 2, 1990

CASE NUMBER: 24/19-1-90A

TYPE OF REVIEW: HAWP

SITE/DISTRICT NAME: Darnestown  
Presbyterian  
Church

PROPERTY ADDRESS: 15120 Turkey Foot Rd.

TAX CREDIT ELIGIBLE: N/A

DISCUSSION:

The applicant is proposing installation of vinyl siding on the entire church, including the original structure (1850's), an 1897 addition, and a 1951-53 ell. Also proposed is the addition of a small enclosed elevator. Staff met with the pastor and members of the congregation at the site on 6/12/90 in order to discuss the proposed project and possible alternatives. The church representatives made it clear that they had thoroughly researched all options but that based on serious financial constraints, they had to choose what they determined to be the most cost-effective solution: vinyl siding. They also indicated that the siding would be installed in the most sensitive manner, respecting all existing trim and decorative elements. Church representatives also indicated that there has existed a chronic problem with peeling paint, and that the last several paint jobs, while thorough and expensive, have lasted an average of three years. It was also indicated that the congregation had consulted with several expert painters, all of whom indicated that, in order to ensure a quality paint job, it would be necessary to remove the paint completely, down to the wood surface. This process, of course, is extremely labor-intensive, and would be very costly, according to the preliminary estimates received by the church.

Having carefully considered the proposed project and its potential impact on the integrity of the site, staff finds that the proposal to clad the entire structure in vinyl (with the exception of the tower, trim, and other details) would significantly impact the architectural integrity of the structure.

Generally, staff concurs with the analysis of the pros and cons of vinyl siding found in Preservation Briefs #8: "Aluminum and Vinyl Siding on Historic Buildings", published by the Department of the Interior, National Park Service, in 1979 and revised in 1984 (see attached). That analysis finds that "aluminum or vinyl siding may be an acceptable alternative only if (1) "the existing siding is so deteriorated or damaged that it cannot be repaired; (2) the substitute material can be installed without irreversibly damaging or obscuring the architectural features and trim of the building; and (3) the substitute material can match the historic material in size, profile and finish so that there is no change in the character of the historic building."

Staff finds that the current proposal meets condition #2, in that the proposed method of installation would not conceal existing trim and decorative elements. Staff finds that condition #3 is met in part, in that a portion of the building (that constructed in 1897, utilizing "drop" style siding) is proposed to be clad in vinyl material of like size, profile and finish. (The finish is slightly different in that the proposed vinyl siding has a mild "woodgrained" effect.) Condition #3 is not fully met, in that the proposed "drop" siding does not match the original siding found on the remainder of the building, which is lapped in style.

Staff does not find that condition #1 is met. While the existing siding is weather damaged in limited areas, it is not "so deteriorated or damaged that it cannot be repaired."

STAFF RECOMMENDATION:

While staff sympathizes with the congregation in its continuing and costly efforts to "keep paint" on the church, staff is not convinced that this portion of the proposed project meets any of the criteria for issuance of an HAWP, and thus recommends denial. Staff finds that installation of vinyl siding on the 19th century portions of the structure, while sensitive in methodology, would serve to substantially alter the original exterior of the structure. Staff finds that while vinyl siding could reasonably duplicate the size and shape of the original siding, it could not recreate the original material, texture, profile, and shadow reveals of the original.

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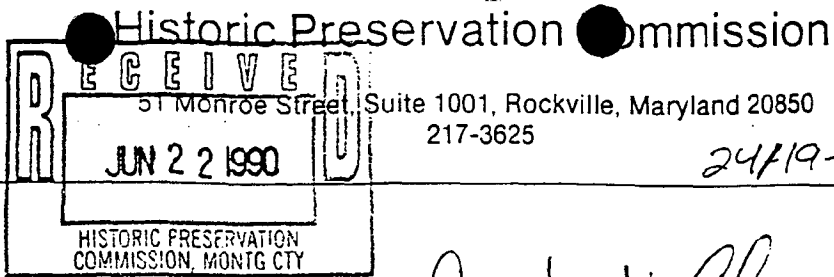
Lastly, staff recommends approval of the elevator addition to the 20th century wing, based on criteria 24A-8(b)(1) and (2). The applicant examined a number of possible handicapped access locations and methods, and found the proposed solution to be the least intrusive.

ATTACHMENTS:

1. HAWP Application
2. Site Plan
3. Elevation /Floor Plan
4. Photographs
5. Manufacturer's Literature
6. Preservation Briefs #8: "Aluminum and Vinyl Siding on Historic Buildings"
7. History/Description of the Darnestown Presbyterian Church
8. Excerpt from Master Plan

JBC:av  
1920E





2419-1-90A

# APPLICATION FOR HISTORIC AREA WORK PERMIT

Contact: Charles Carlson  
948-9090

TAX ACCOUNT # 388 556

NAME OF PROPERTY OWNER DARNESTOWN PRESBYTERIAN CHURCH TELEPHONE NO. 301/948-9127  
 (Contract/Purchaser) Hank Postel (Include Area Code)

ADDRESS 15120 Turkey Foot Road Gaithersburg, MD 20878  
CITY STATE ZIP

CONTRACTOR CARLSON CONSTRUCTION CO., INC. TELEPHONE NO. 301/948-9090  
CONTRACTOR REGISTRATION NUMBER 971438

PLANS PREPARED BY CARLSON CONSTRUCTION CO., INC. TELEPHONE NO. 301/948-9090  
(Include Area Code)

REGISTRATION NUMBER 971438

LOCATION OF BUILDING/PREMISE

House Number 15120 Street Turkey Foot Road

Town/City Gaithersburg, MD Election District Montgomery County

Nearest Cross Street Darnestown

Lot \_\_\_\_\_ Block \_\_\_\_\_ Subdivision Mr Pleasant ETC.

Liber 039<sup>37</sup> Folio 0239 Parcel \_\_\_\_\_

1A. TYPE OF PERMIT ACTION: (circle one)

Construct	<u>Extend/Add</u>	Alter/Renovate	<u>Repair</u>	Circle One: A/C	Slab	Room Addition			
Wreck/Raze	Move	Install	Revocable	Porch	Deck	Fireplace	Shed	Solar	Woodburning Stove
				Fence/Wall (complete Section 4)			Other _____		

1B. CONSTRUCTION COSTS ESTIMATE \$ 25,000.00

1C. IF THIS IS A REVISION OF A PREVIOUSLY APPROVED ACTIVE PERMIT SEE PERMIT # \_\_\_\_\_

1D. INDICATE NAME OF ELECTRIC UTILITY COMPANY POTOMAC ELECTRIC

1E. IS THIS PROPERTY A HISTORICAL SITE? Yes

PART TWO: COMPLETE FOR NEW CONSTRUCTION AND EXTEND/ADDITIONS

2A. TYPE OF SEWAGE DISPOSAL	2B. TYPE OF WATER SUPPLY
01 ( ) WSSC	01 (X) WSSC
02 (X) Septic	02 ( ) Well
03 ( ) Other _____	03 ( ) Other _____

PART THREE: COMPLETE ONLY FOR FENCE/RETAINING WALL

4A. HEIGHT \_\_\_\_\_ feet \_\_\_\_\_ inches

4B. 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 \_\_\_\_\_ (Revocable Letter Required).

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.

*Charles E Carlson*

*6/15/90*

Signature of owner or authorized agent (agent must have signature notarized on back) \_\_\_\_\_ Date \_\_\_\_\_

APPLICATION FOR HISTORIC AREA WORK PERMIT  
REQUIRED ATTACHMENTS

1. WRITTEN DESCRIPTION OF PROJECT

a. Description of existing structure(s):

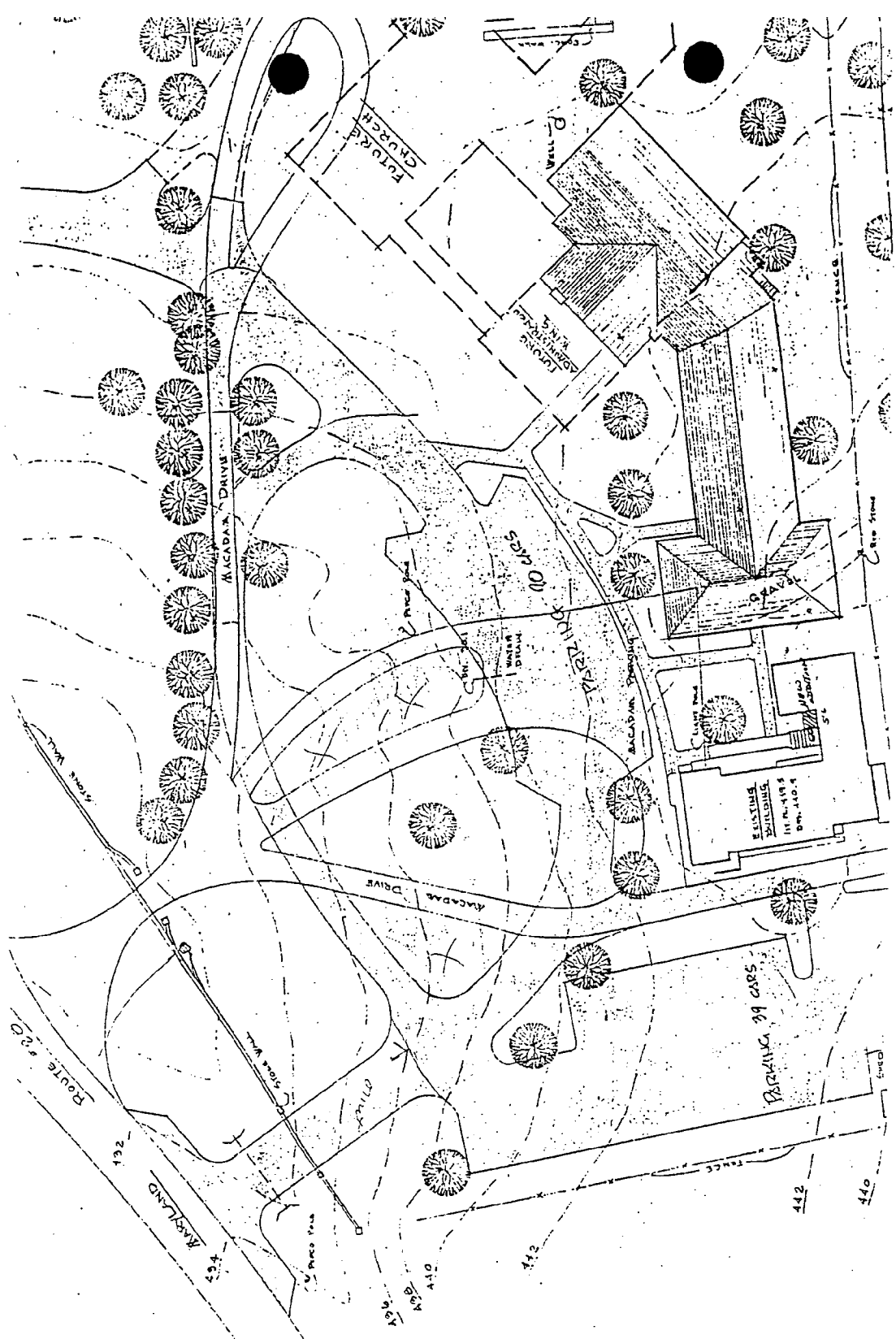
Approximately 180 year old church constructed of frame with  
wood siding; including a basement, sanctuary and office area.

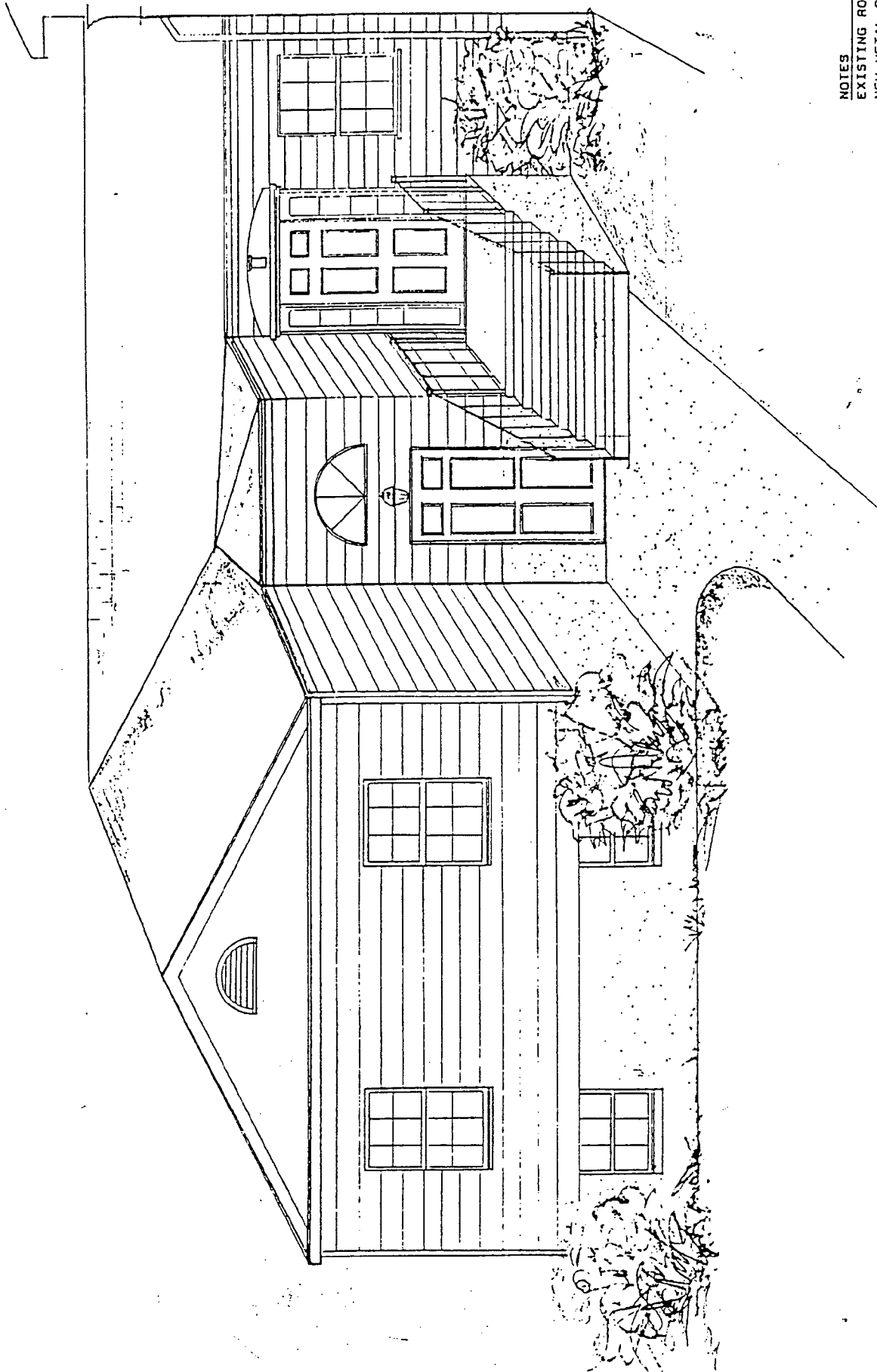
b. General Description of Project:

1. Furnish & Install vinyl siding as per sample.
2. To scrape all fascia, cornice, columns, window trim to bare wood and repaint.
3. Furnish & Install handicapped elevator as per plans and specifications included.

2. SITE PLAN. For all projects, attach an accurate site plan or property survey, which shall include the following:
  - a. Scale (for example, 1/4" = 1 foot)
  - b. North Arrow
  - c. Location and dimensions of all existing and proposed structures:
  - d. Location of other features such as walks, drives, fences, ponds, streams, dumpsters, mechanical equipment, and major landscaping elements.
3. TREE SURVEY. If any 6" diameter or larger trees are to be removed, or fall within the construction zone, attach an accurate tree survey. The survey should include the exact location, size, and species of all trees located in the project area, indicating which are to be preserved and which are to be removed.
4. FLOOR PLANS; CONSTRUCTION PLANS. For new construction and room additions, attach a complete set of scaled floor plans. For porches and decks, attach scaled drawings showing dimensions, materials, and where and how they will be attached to existing structures. For other types of work, such as outbuildings and fences, attach scaled drawings showing dimensions, materials, construction methods, and design details.
5. ELEVATION DRAWINGS. For new construction, including outbuildings, attach scaled drawings of all sides of the proposed structure. For additions, decks, porches, and major exterior alterations, attach scaled drawings of all sides of structure which will be affected by the proposed work.
6. MATERIAL SPECIFICATIONS. For all projects, provide a written description of all exterior materials to be used. If desired, material specifications may also be included as notes on elevation drawings. If available, manufacturer's literature may also be included.

WHITE Vinyl SHIP LAP SIDING AS PER SAMPLE  
INSTALLED ON EXTERIOR OF CHURCH.

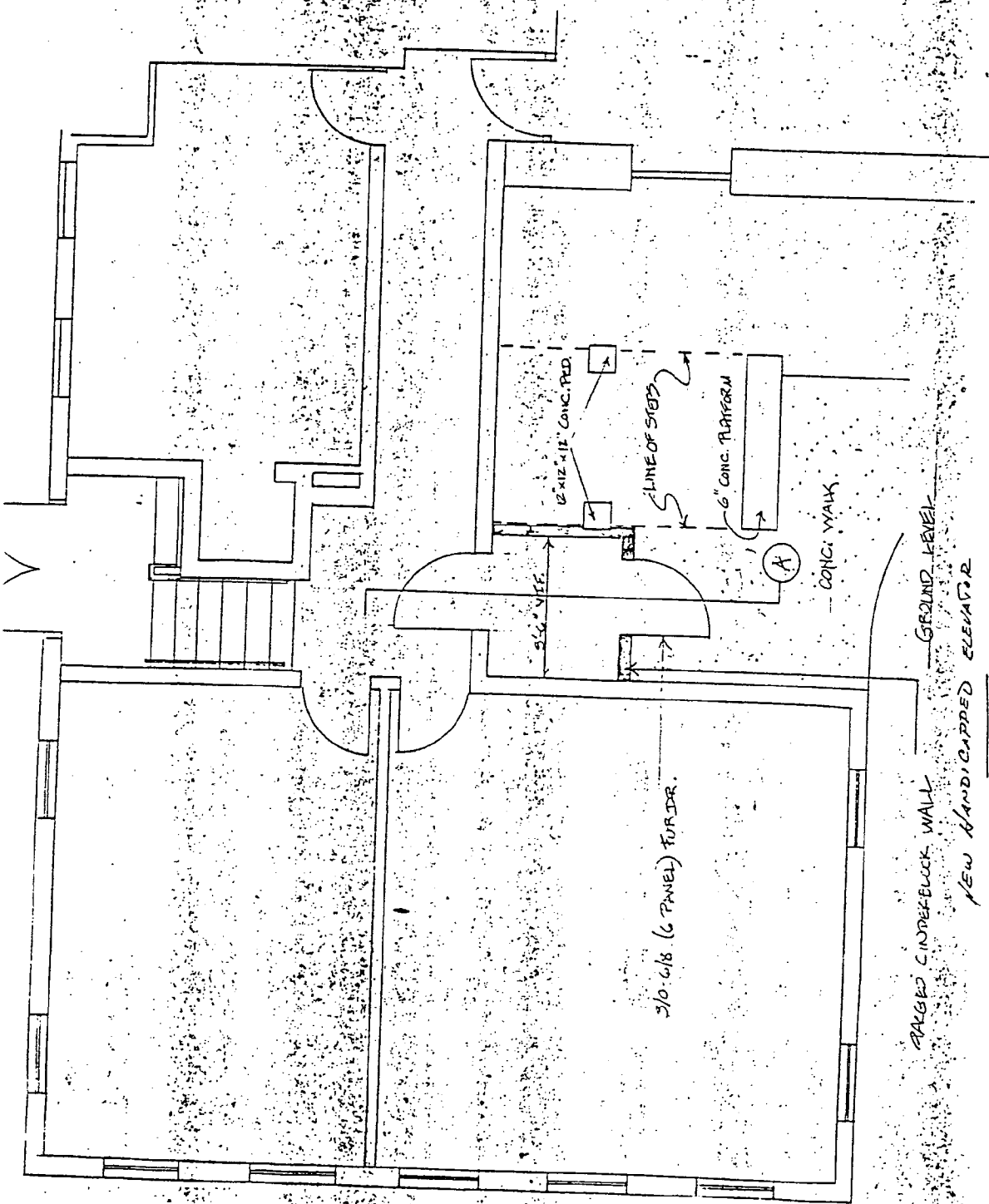




NOTES

- EXISTING ROOF TO REMAIN
- NEW METAL ROOF ON HANDI-CAP
- SIDING TO MATCH EXISTING

New Enclosure for Handi-Cap Elevator



3/0 6/18 (6 PANEL) FURDER

RAGED CINDERBLOCK WALL  
NEW HANDICAPPED ELEVATOR

5/6" V. OFF.

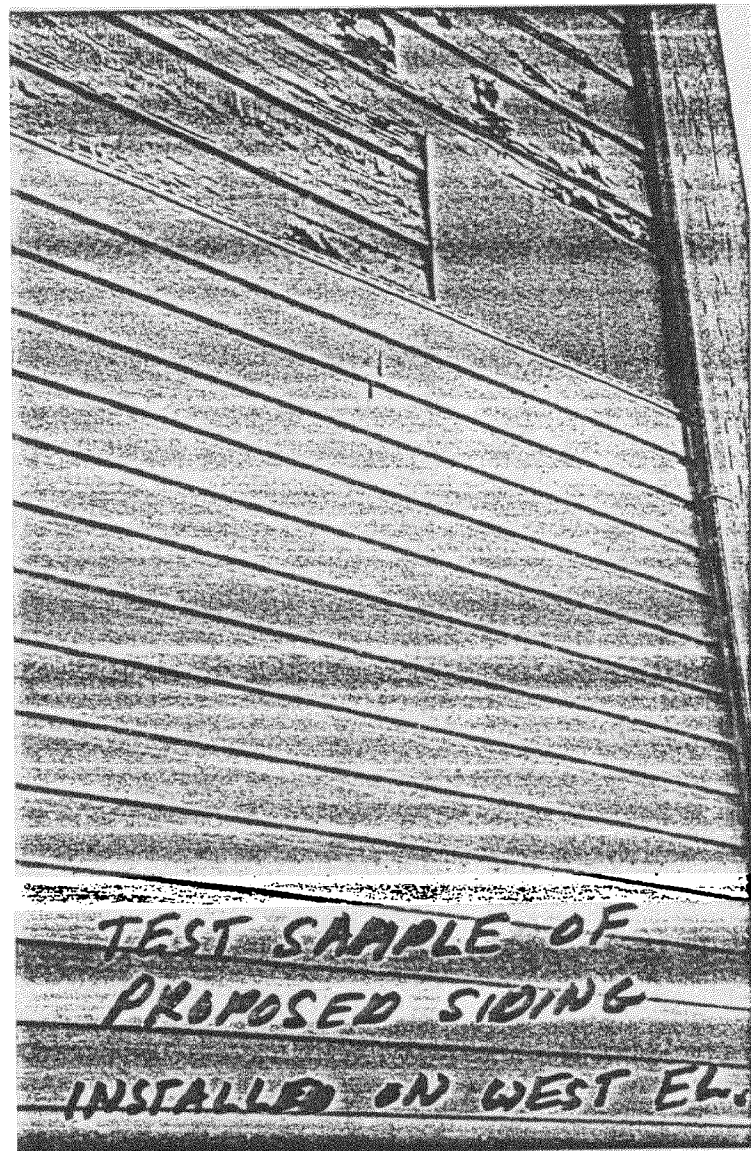
12" X 12" X 12" CONC. PAD

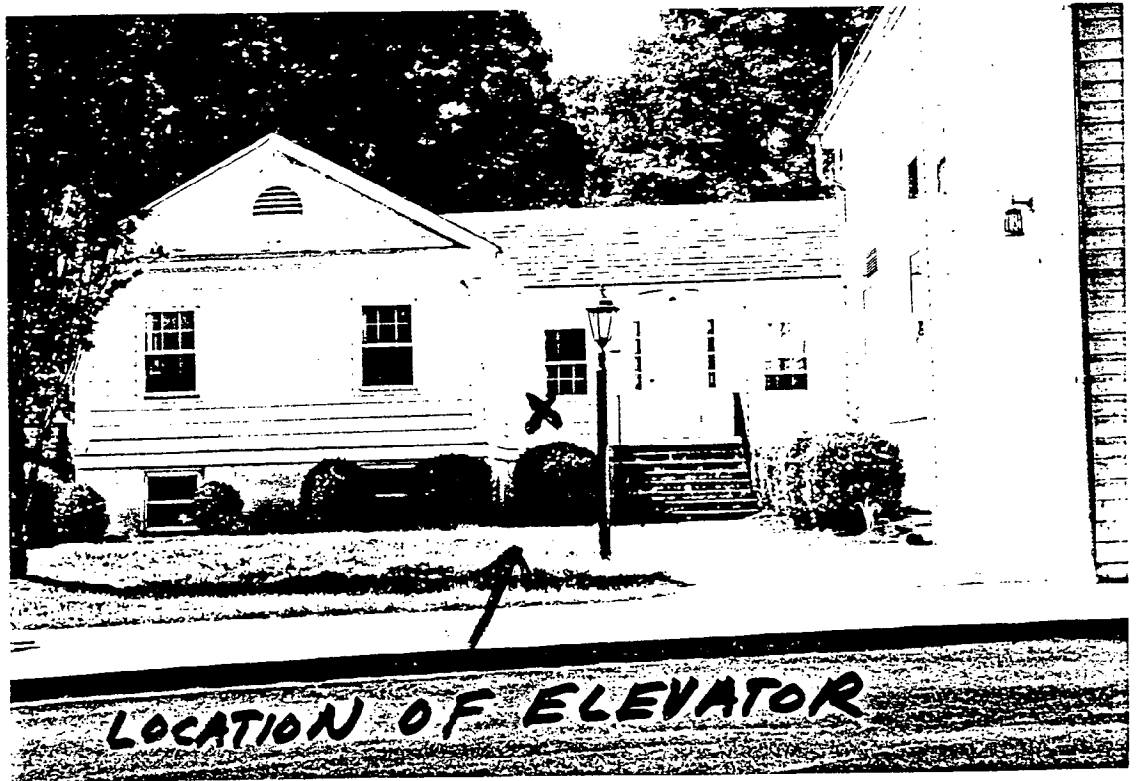
LINE OF STEPS

6" CONC. PLATFORM

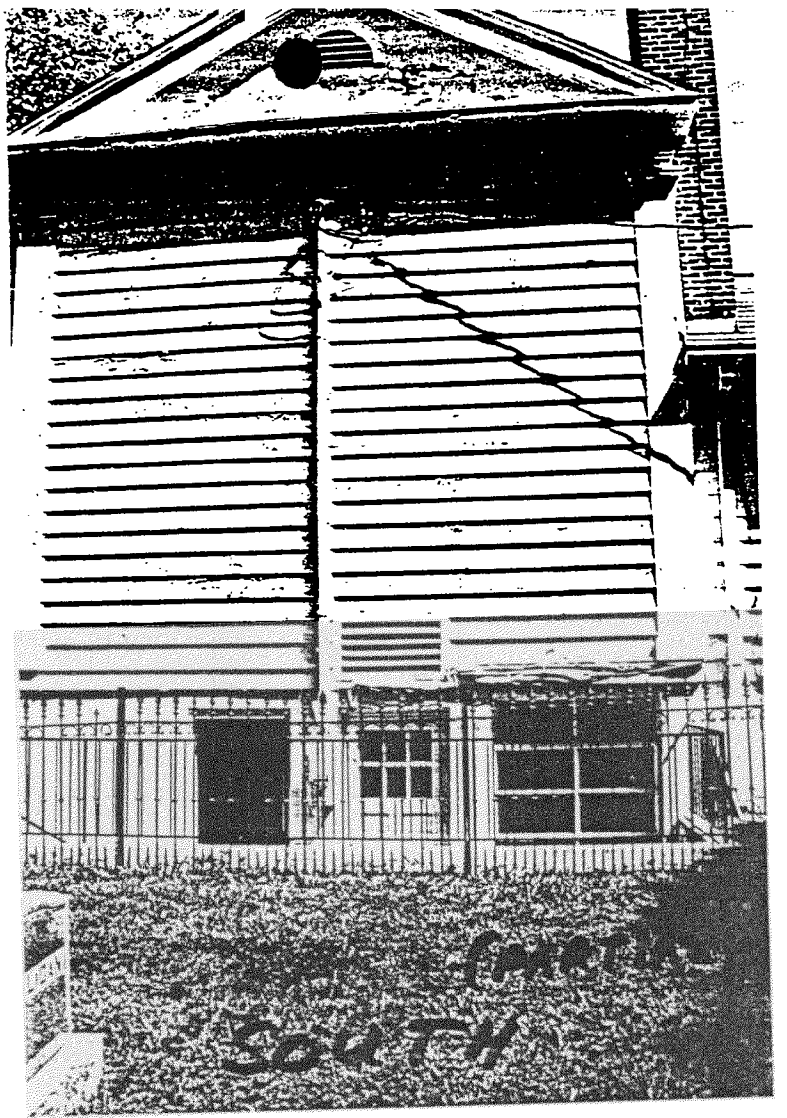
CONC. WALK

GROUND LEVEL

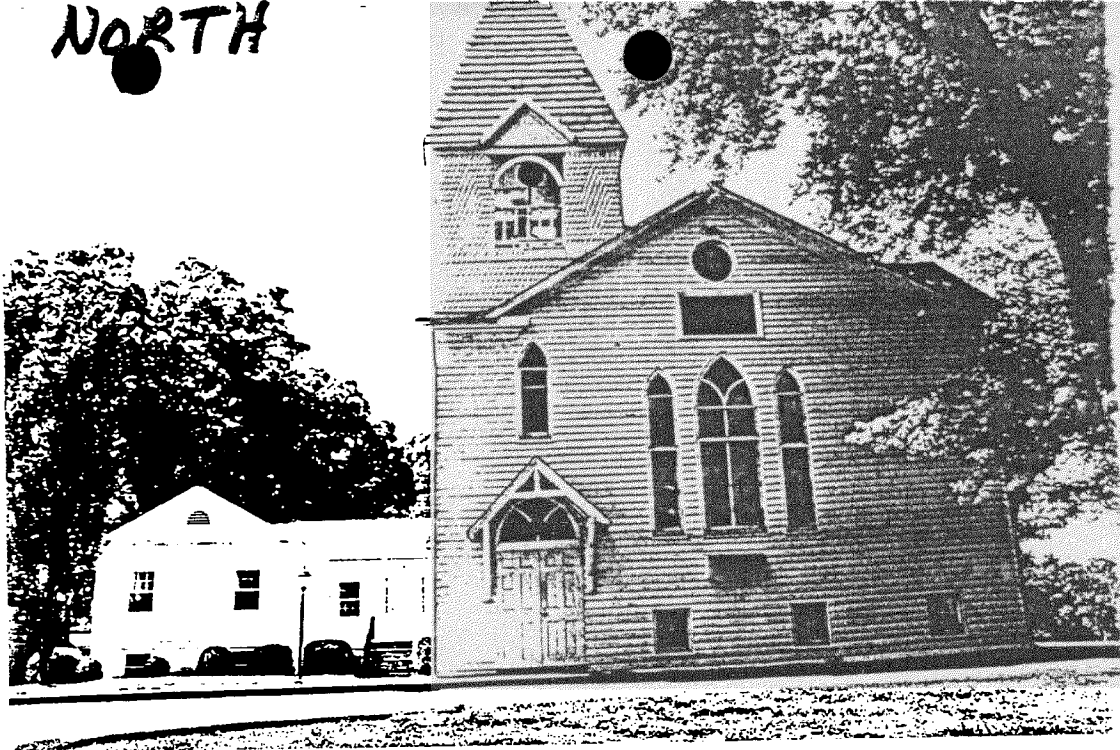








NORTH



SOUTH

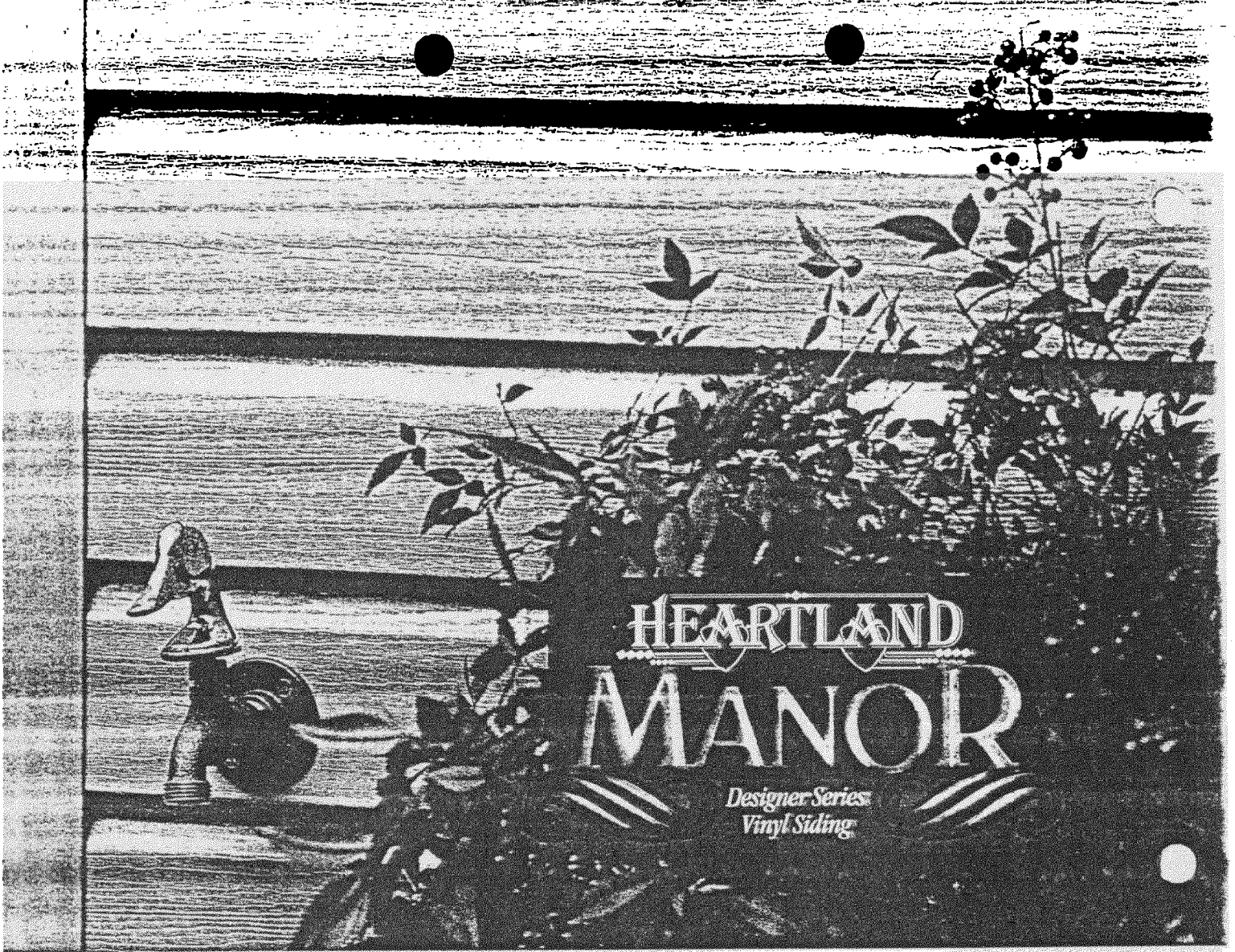




A VINTAGE STYLE  
FOR A NEW LOOK  
ON YOUR HOME

# HEARTLAND MANOR

Designer Series  
Vinyl Siding

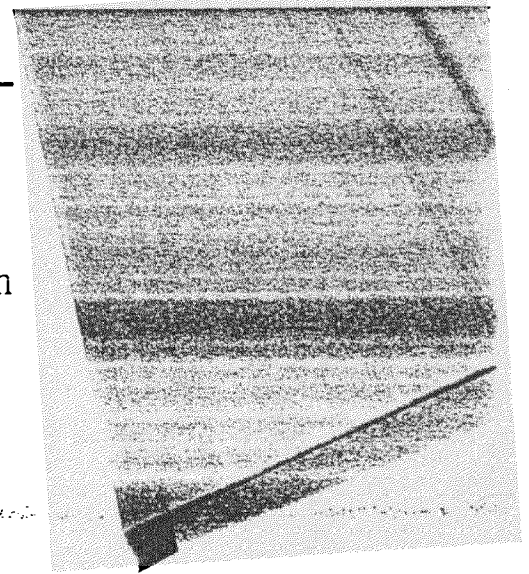


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**Heartland Manor**™ is a brand new shape for vinyl siding. At last, you now have a choice of architectural styles for your home when using vinyl siding. **Heartland Manor** has shadow lines reminiscent of the turn-of-the-century style of shiplapped drop siding. This popular siding was used on many fine homes during the past 100 years. Now this style has become a prestigious member of Heartland's family of vinyl siding styles.

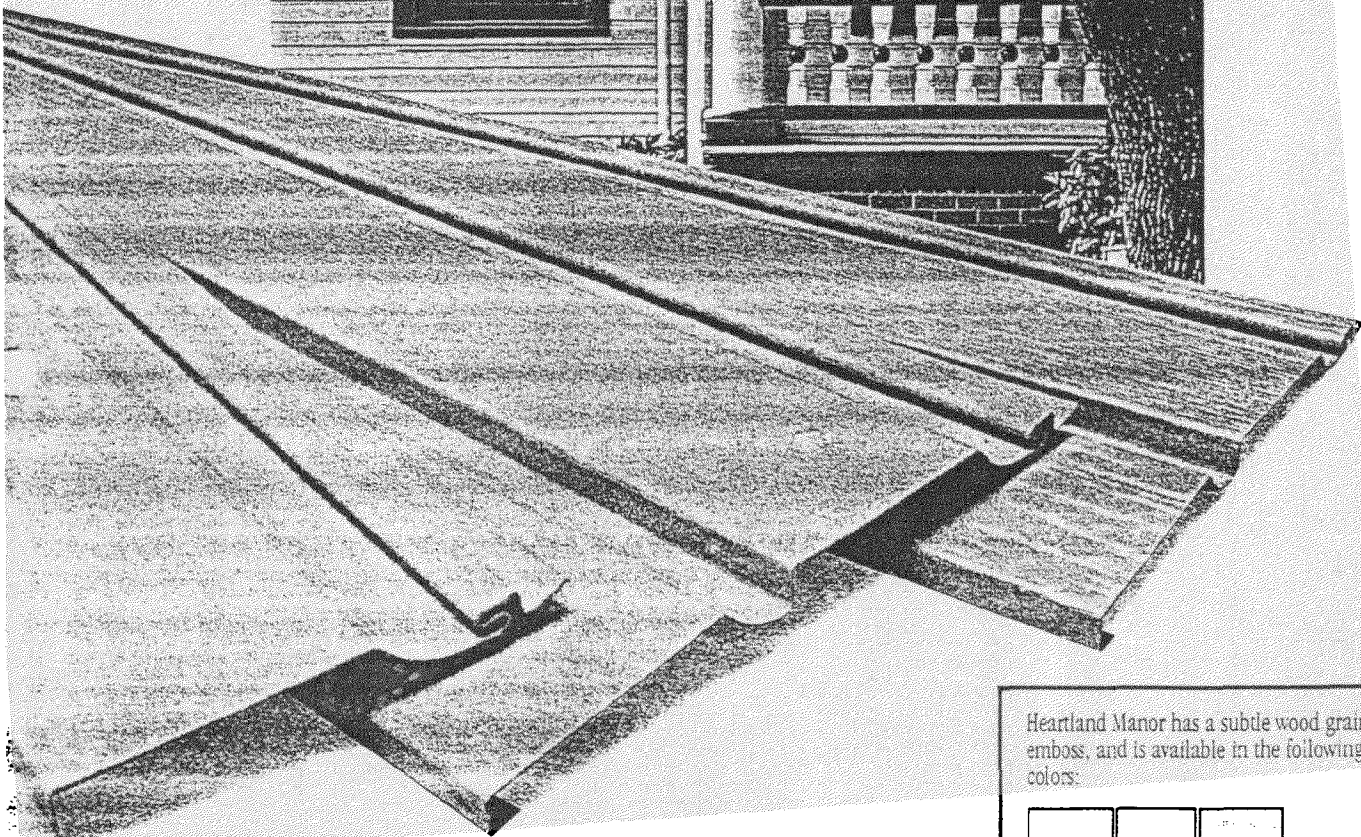
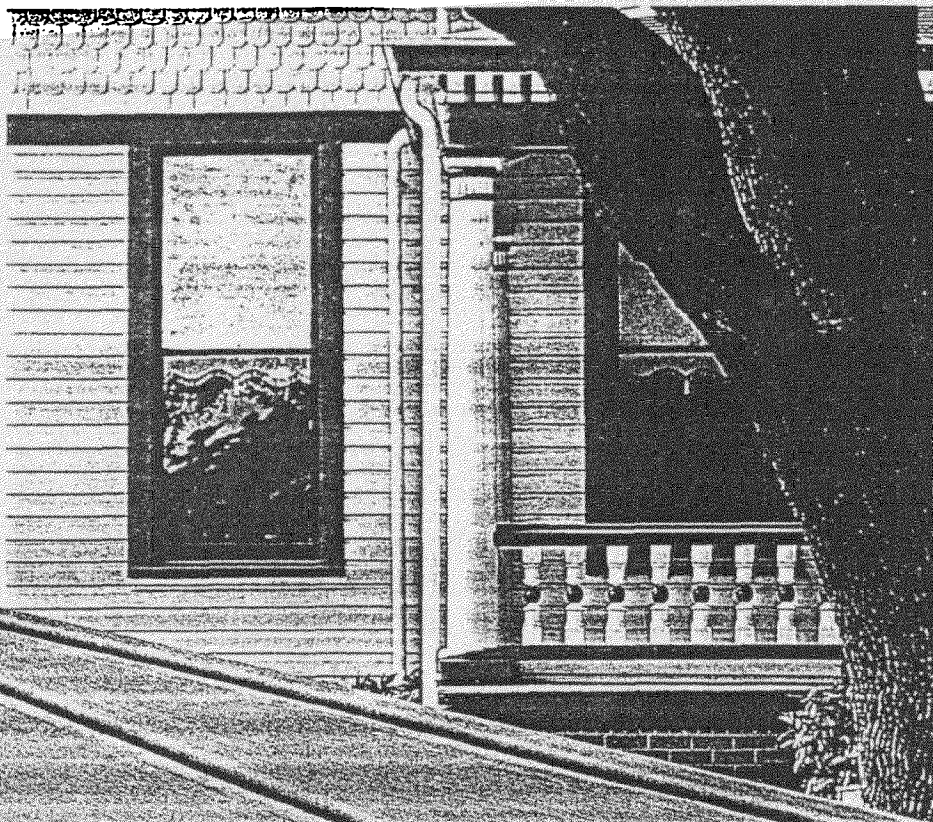
**Heartland Manor** is made for modern homes and modern living. This elegant look in siding now will never need painting, is easy to clean, is strong and weatherproof.

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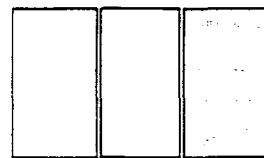


# HEARTLAND MANOR—

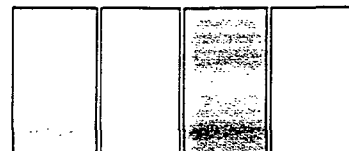
## *A Vintage Shape For A New Look On Your Home*



Heartland Manor has a subtle wood grain emboss, and is available in the following colors:



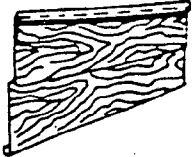
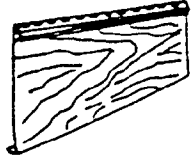
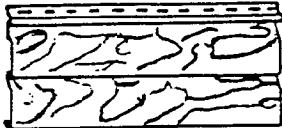
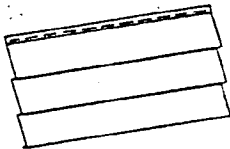
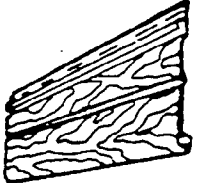
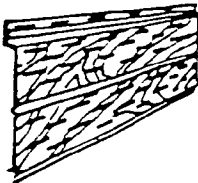
Classic White    Spring Green    Sandalwood



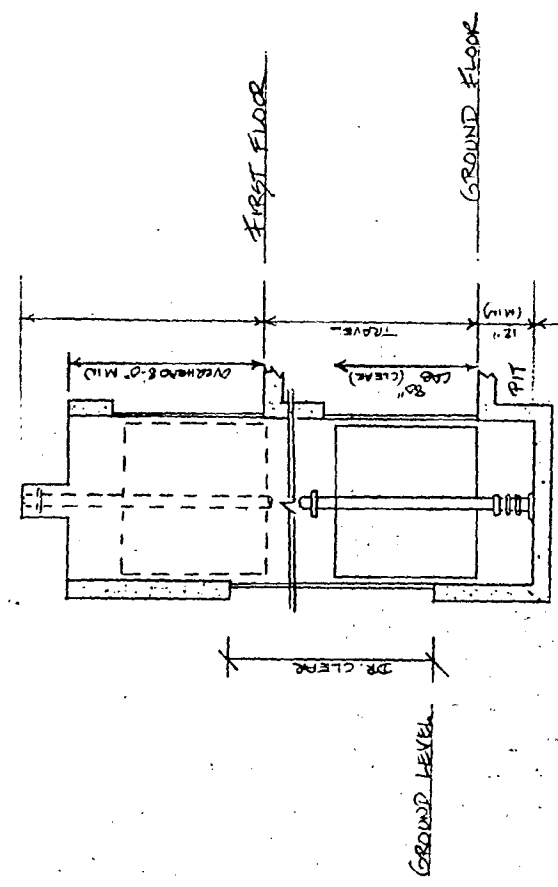
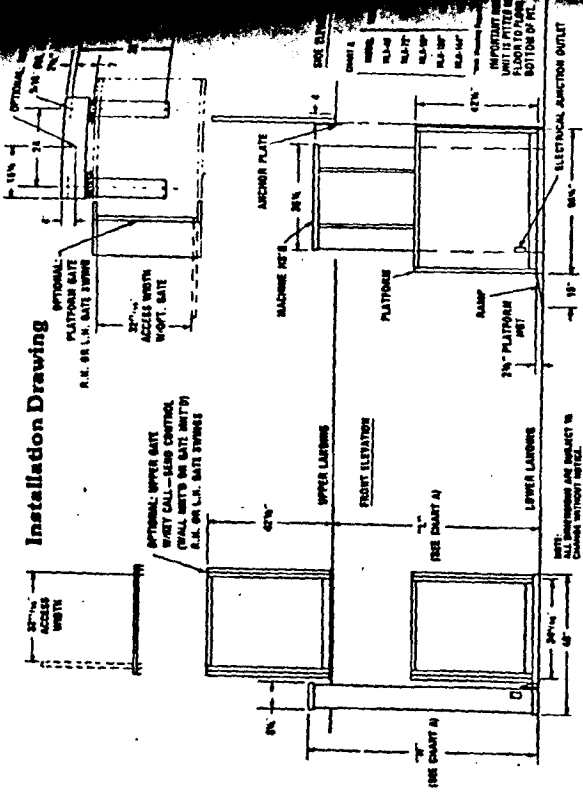
Sterling Grey    Natural Almond    Baltic Blue    Sunbeam Yellow

**Heartland Manor** has durable beauty. It's made from solid vinyl, with 100% color through and through. It's backed by Heartland's 50 year warranty/protection plan, non-prorated and fully transferable. It is manufactured to exceed the requirements set by the American Society of Testing and Materials Standard ASTM 3679, and the National Bureau of Standards Voluntary Product Standard PS 55-72.

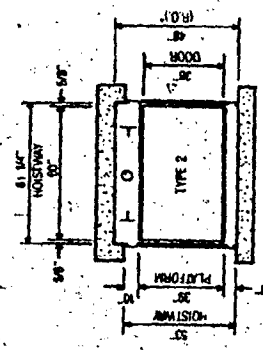
# H & W Building Products

Product	Description	Packaging	Colors	Price
	<b>Heartland Traditional</b> D/5" Woodgrain D/4" Woodgrain	Length 12' 10 pcs per sq Length 12'6" 12 pcs per sq	White Almond Sandalwood Gray Blue Yellow Green	White 46.95 Colors 48.95
	<b>Heartland Traditional</b> 8" Woodgrain "The Heavyweight"	Length 12'6" 12 pcs per sq	White Almond Sandalwood Gray Blue Yellow Green	White 51.95 Colors 53.95
	<b>Heartland Manor</b> Double 5" German Lap	Length 12' 10 pcs per sq	White Almond Sandalwood Gray Blue Yellow Green	White 57.95 Colors 59.95
	<b>Republicana</b> Triple 3" Matte Finish	Length 12'1" 11 pcs per sq	White Sandalwood Gray Blue Clay	White 61.95 Colors 63.95
	<b>Heartland Traditional</b> Double 6" Vertical & Soffit V-Groove 12" Exposure	Length 10' 10 pcs per sq	White Almond Sandalwood Gray Blue Yellow Green	White 5.10 pc Colors 5.30 pc
	<b>Heartland Traditional</b> Double 6" Perforated Soffit V-Groove 12" Exposure	Length 10' 10 pcs per sq	White Almond Sandalwood Gray Blue Yellow Green	White 5.10 pc Colors 5.30 pc

# Handi-Lift® Vertical Wheelchair



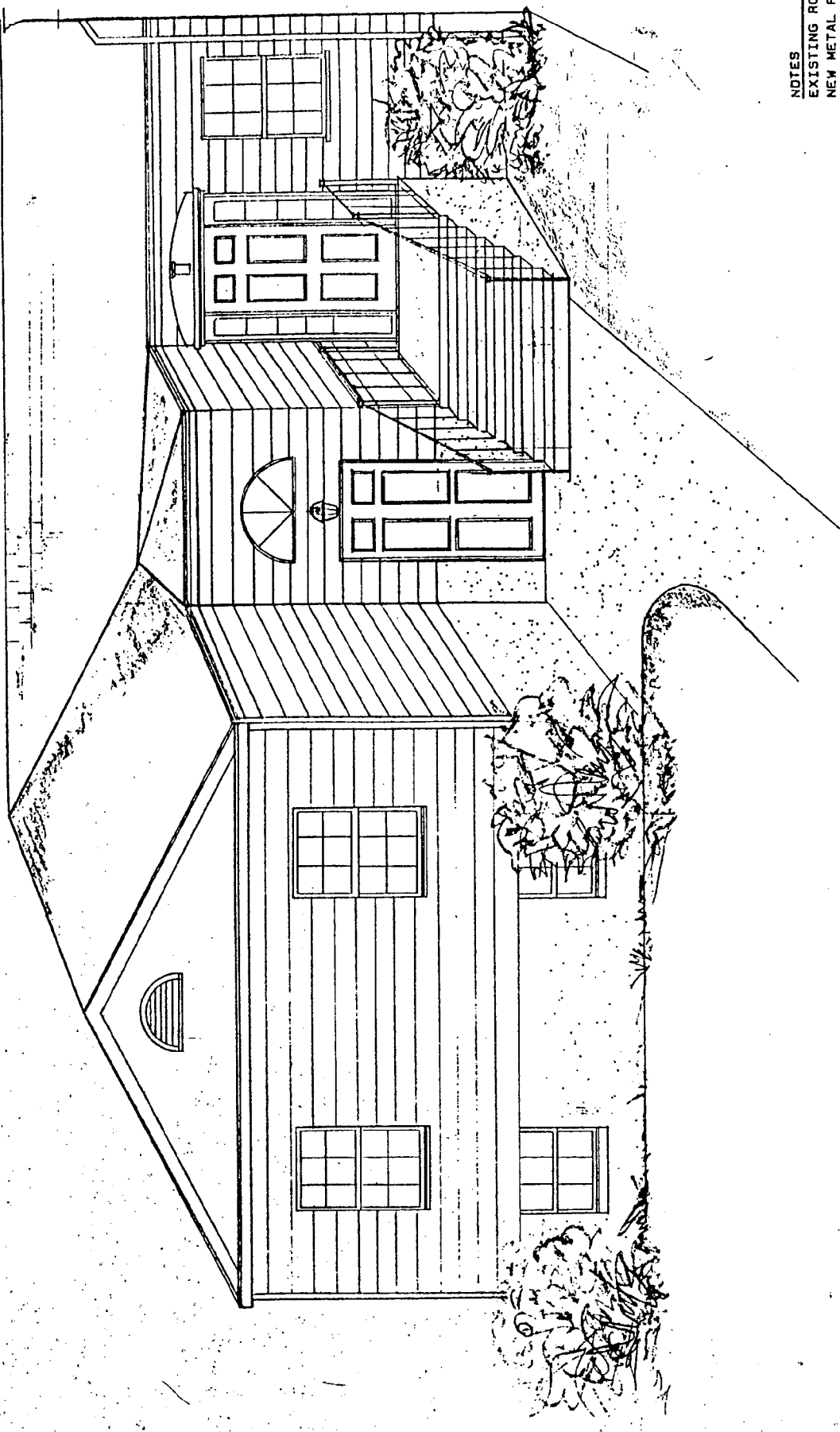
SECTION A



Darnstown P.  
 SCALE: 1/4" = 1'-0"  
 DATE: 6/13/90

IMPORTANT: THE UNIT MUST BE INSTALLED ON A LEVEL SURFACE. THE BOTTOM OF THE UNIT MUST BE AT LEAST 1/2\"/>

NOTES  
EXISTING ROOF TO REMAIN  
NEW METAL ROOF ON HANDI-CAP ENC  
SIDING TO MATCH EXISTING



New Enclosure for Handi-Cap Elevator



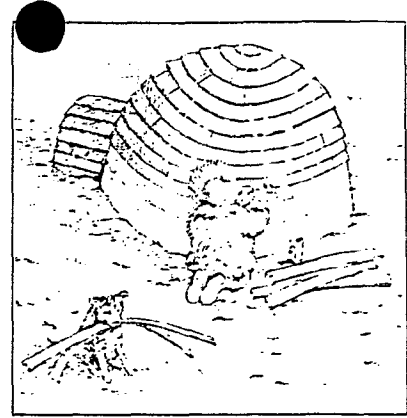
# 8 PRESERVATION 8 BRIEFS

## Aluminum and Vinyl Siding on Historic Buildings

### The Appropriateness of Substitute Materials for Resurfacing Historic Wood Frame Buildings.

John H. Myers, revised by Gary L. Hume

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



Standard 6 of the Secretary of the Interior's "Standards for Rehabilitation" states that "deteriorated architectural features shall be repaired rather than replaced, wherever possible. In the event replacement is necessary, the new material should match the material being replaced in composition, design, color, texture, and other visual qualities." Therefore, the Secretary's Standards and their accompanying Guidelines *never* recommend resurfacing frame buildings with any new material that does not duplicate the historic material because of the strong potential of altering the character of the historic building.

A historic building is a product of the cultural heritage of its region, the technology of its period, the skill of its builders, and the materials used for its construction. To assist owners, developers and managers of historic property in planning and completing rehabilitation project work that will meet the Secretary's "Standards for Rehabilitation" (36 CFR 67), the following planning process has been developed by the National Park Service and is applicable to all historic buildings. This planning process is a sequential approach to the preservation of historic wood frame buildings. It begins with the premise that historic materials should be retained wherever possible. When retention, including retention with some repair, is not possible, then *replacement of the irreparable historic material can be considered*. The purpose of this approach is to determine the appropriate level of treatment for the preservation of historic wood frame buildings. The planning process has the following four steps:

1. Identify and preserve those materials and features that are important in defining the *building's historic character*. This may include features such as wood siding, brackets, cornices, window architraves, doorway pediments, and their finishes and colors.
2. Undertake routine maintenance on historic materials and features. Routine maintenance generally involves the least amount of work needed to preserve the materials and features of the building. For example, maintenance of a frame building would include caulking and painting; or, where paint is extensively cracking and peeling, its removal and the re-application of a protective paint coating.
3. Repair historic materials and features. For a historic material such as wood siding, repair would generally involve patching and piecing-in with new material according to recognized preservation methods.

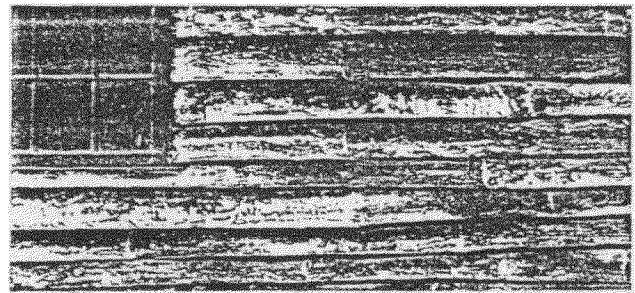


Photo: Lee H. Nelson

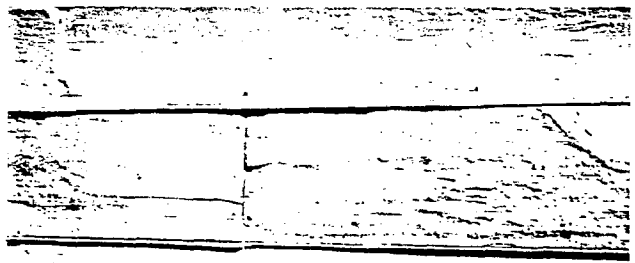


Photo: Hugh C. Miller

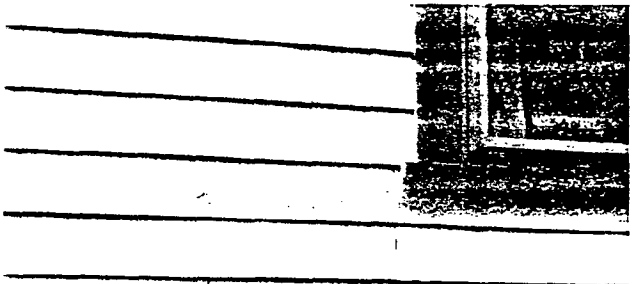


Photo: John H. Myers

Historic wood sidings exhibit rich and varied surface textures. They range from hand-split clapboards of short lengths with feather-edged ends, to pit or mill sawn boards which can be beveled, rabbeted, milled, or beaded.

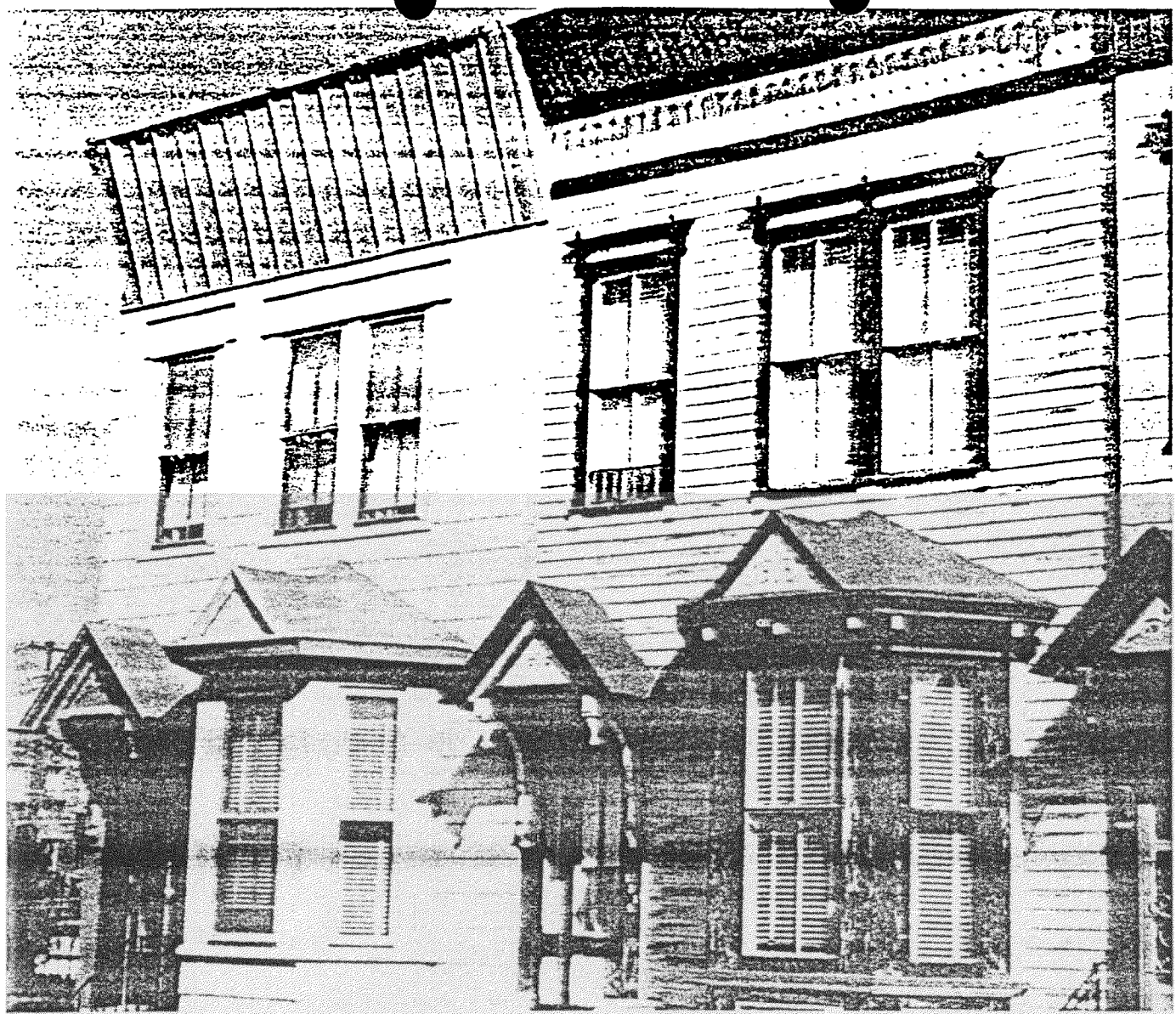


Photo: Laune Robin Hammet

When a building is in need of maintenance, such as the house on the right which needs painting, some owners consider installing aluminum or vinyl siding. The result, like the house on the left, can be a complete loss of architectural character due to the covering of details (cornice), the removal of features (window trim), and a change of scale due to inappropriate siding dimensions.

4. Replace severely damaged or deteriorated historic materials and features in kind. Replacing sound or repairable historic material is never recommended; however, if the historic material cannot be repaired because of the extent of deterioration or damage, then it will be necessary to *replace* an entire character-defining feature such as the building's siding. The preferred treatment is always replacement in kind, that is, with the same material. Because this approach is not always feasible, provision is made under the recommended treatment options in the Guidelines that accompany the Secretary of the Interior's Standards to consider the use of a compatible substitute material. A substitute material should only be considered, however, if the form, detailing, and overall appearance of the substitute material conveys the visual appearance of the historic material, and the application of the substitute material does not damage, destroy or obscure historic features.

In many cases, the replacement of wood siding on a historic building is proposed because little attention has been given to the retention of historic materials. Instead, the decision to use a substitute material is made because: (1) it is assumed that aluminum or vinyl siding will be a maintenance-free material; and (2) there is the desire to give a building a "remodeled" or "renovated" appearance. A decision to replace historic material must, however, be carefully considered for its impact on the historic resource—even when the model planning process has been followed and the appropriate treatment is replacement.

Therefore, this brief focuses on the visual and physical consequences of using a substitute material such as aluminum or vinyl siding for new siding installations on a wood frame historic building. These concerns include the potential of *damaging* or *destroying* historic material and features; the potential of *obscuring* historic material and features; and, most important, the potential of *diminishing the historic character* of the building.

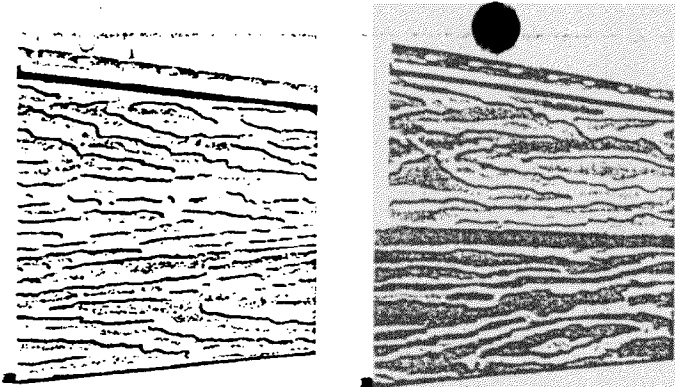


Photo: Technical Preservation Services

Aluminum and vinyl siding are available in a variety of widths and colors, but the optional wood graining is not characteristic of real wood siding.

## The Historic Character of Buildings and Districts

The character or "identity" of a historic building is established by its form, size, scale and decorative features. It is also influenced by the choice of materials for the walls—by the dimension, detailing, color, and other surface characteristics. This is particularly true for wood frame buildings which are the typical objects of aluminum or vinyl siding applications. Since wood has always been present in abundance in America, it has been a dominant building material in most parts of the country. Early craftsmen used wood for almost every aspect of building construction: for structural members such as posts, beams and rafters, and for cladding materials and decorative details, such as trim, shakes, and siding.

The variety of tools used, coupled with regional differences in design and craftsmanship, has resulted in a richness and diversity of wood sidings in America. For example, narrow boards with beveled, lapped joints called "clapboards" were used on New England frame dwellings. The size and shape of the "clapboards" were determined by the process of hand splitting or "riving" bolts of wood.

The width, the short length, the beveled lapping, the "feathered" horizontal joints, and the surface nailing of the clapboards created a distinctive surface pattern that is recognizable as an important part of the historic character of these structures.

The sawn and hand-planed clapboards used throughout the Mid-Atlantic and Southern states in the eighteenth and early nineteenth centuries, by contrast, have a wide exposure—generally between six and eight inches. The exposure of the siding, frequently coupled with a beaded edge, created a very different play of light and shadow on the wall surface, thus resulting in a different character. The "German" or "Novelty siding"—a milled siding that is thin above and thicker below with a concave bevel—was used throughout many parts of the United States in the late nineteenth and early twentieth century but with regional variations in material, profile, and dimensions. One variation of this type of milled siding was called "California siding" and was milled with a rabbeted or shiplap edge to insure a tight installation of the weatherboards. Shingles were also commonly used as an exterior cladding material, and in buildings such as the Bungalow style houses, were often an important character-defining feature of the exterior. Shingles were often applied in decorative patterns by varying the lap, thus creating alternating rows of narrow exposures and wide exposures. Shingles were also cut in geometric patterns such as diamond shapes and applied in patterns. This treatment was commonly used in the gable end of shingled houses. Siding and wood shingles were often used in combination with materials such as cobblestone and brick in Bungalow style buildings to create a distinctive interplay of surfaces and materials.

The primary concern, therefore, in considering replacement siding on a historic building, is the potential loss of those features such as the beaded edge, "drop" profile, and the patterns of application. Replacing historic wood siding with new wood, or aluminum or vinyl siding could severely diminish the unique aspects of historic materials



Photo: Nancy J. Long

Two originally similar houses. When aluminum was installed on the house on the right, the barge boards, scrollwork, columns, and railings were removed. The distinctive shingled gable and attic vent were covered, further compromising the building's architectural integrity.

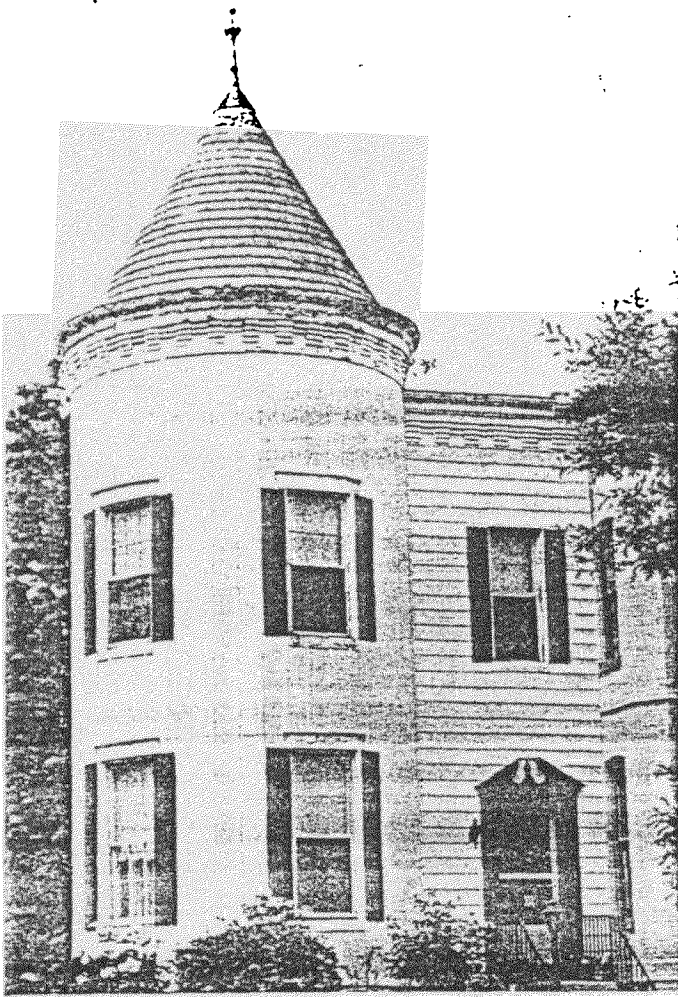


Photo: John H. Myers

*This brick rowhouse was covered with vertical and horizontal aluminum siding. Such treatment is inappropriate for historic masonry buildings.*

and craftsmanship. The inappropriate use of substitute siding is especially dramatic where sufficient care is not taken by the owner or applicator and the width of the clapboards is altered, shadow reveals are reduced, and molding or trim is changed or removed at the corners, at cornices or around windows and doors. Because substitute siding is usually added on top of existing siding, details around windows and doors may appear set back from the siding rather than slightly projecting; and if the relationship of molding or trim to the wall is changed, it can result in the covering or removal of these historic features. New substitute siding with embossed wood graining—intended to simulate the texture of wood—is also visually inappropriate. Exaggerated graining would have been undesirable on real wood siding and is generally found only after sandblasting, a destructive and totally unacceptable treatment for wood.

While this discussion focuses primarily on the historic character of individual wood frame buildings, of equal importance is the context of buildings that comprise a historic district or neighborhood. Changes to the character-defining features of a building, such as distinctive clapboarding and other wall surfaces and decorative trim, always have an impact on more than just that building; they also alter the historic visual relationship between the buildings in the district. If character-defining weather-

boards, clapboards or shingles are replaced on a number of buildings in a historic district, the historic character of the entire district may be seriously damaged. Because of the potential impact some substitute materials have on the character of a neighborhood or district, many communities regulate their use through zoning ordinances and design review boards. These ordinances and review boards usually require review and approval of proposed alterations to a historic building that could potentially impact the historic character of the building or the district, including the application of substitute materials, such as aluminum or vinyl siding.

Preservation of a building or district and its historic character is based on the assumption that the retention of historic materials and features and their craftsmanship are of primary importance. Therefore, the underlying issue in any discussion of replacement materials is whether or not the integrity of historic materials and craftsmanship has been lost. Structures are historic because the materials and craftsmanship reflected in their construction are tangible and irreplaceable evidence of our cultural heritage. To the degree that substitute materials destroy and/or conceal the historic fabric, they will always subtract from the basic integrity of historically and architecturally significant buildings.

## The Products and Their Installation

The use of aluminum and vinyl siding really involves two separate industries. The siding materials themselves, including a variety of inside and outside corner pieces, trim and molding pieces and panning for window and door frames, are produced by a comparatively small number of manufacturers. The product information, advertising, and any manufacturer's warranties on the product itself are handled by this part of the industry. The installation of aluminum or vinyl siding is generally carried out by independent contractors or applicators, who are frequently called "home improvement" contractors, and they are not affiliated with the manufacturers. The manufacturer's warranties normally do not cover the installation, or any damage or defect resulting from the installation process.

Since the manufacturer has little control over the quality of the installation, both the quality of the work and the sensitivity of the application are variable. This variation in quality has traditionally been a problem in the industry and one which the industry and its professional associations have attempted to correct through publishing and disseminating information on the proper application of vinyl and aluminum siding.

Although it is sometimes argued that an artificial siding application is reversible since it can be removed, there is frequently irreversible damage to historic building materials if decorative features or trim are permitted to be cut down or destroyed, or removed by applicators and discarded. The installation process requires that the existing surface be flat and free of "obstructions" so that the new siding will be smooth and even in appearance. To achieve the requisite flat surface, furring strips are usually placed over the wall surface (vertical furring strips for horizontal aluminum or vinyl siding and vice-versa for vertical siding). The potential danger in this type of surface prepara-

tion is that the furring strips may change the relationship between the plane of the wall and the projecting elements such as windows, door trim, the cornice, or any other projecting trim or molding. Projecting details may also cause a problem. To retain them, additional cutting and fitting will usually be required. Further, additional or special molding pieces, or "accessories" as they are called by the industry, such as channels, inserts and drip caps, will be needed to fit the siding around the architectural features. This custom fitting of the siding will be more labor-intensive, adding to the cost of the siding installation.

The existing wall fabric is further damaged by the nailing necessary to apply siding. Either by nailing directly to the building fabric or by nailing the furring strips to the old siding, the installation of aluminum or vinyl siding will leave numerous holes in wood siding, molding, trim, window and door frames. When applied to brick or other masonry units, the nail penetrations attaching the furring strips and siding can cause irreversible cracking or spalling of the masonry. Although this reference to damaging masonry is included as a point of fact, the application of aluminum or vinyl siding is highly inappropriate to historic masonry buildings.

## The Use of Aluminum or Vinyl Siding on Historic Buildings

The maintenance and periodic painting of wood frame structures is a time-consuming effort and often a substantial expense for the homeowner. It is therefore understandable that a product which promises relief from periodic painting and gives the building a new exterior cladding would have considerable appeal. For these reasons, aluminum and vinyl siding have been used extensively in upgrading and rehabilitating the nation's stock of wood frame residential buildings. For historic residential buildings, aluminum or vinyl siding may be an acceptable alternative *only* if (1) the existing siding is so deteriorated or damaged that it cannot be repaired; (2) the substitute material can be installed without irreversibly damaging or obscuring the architectural features and trim of the building; and (3) the substitute material can match the historic material in size, profile and finish so that there is no change in the character of the historic building. In cases where a non-historic artificial siding has been applied to a building, the removal of such a siding, and the application of aluminum or vinyl siding would, in most cases, be an acceptable alternative, as long as the above-mentioned first two conditions are met.

There are, however, also certain disadvantages in the use of a substitute material such as aluminum or vinyl siding, and these factors should be carefully considered before a decision is made to use such a material rather than the preferred replacement with new wood siding duplicating the old.

### Applying Siding without Dealing with Existing Problems

Since aluminum and vinyl sidings are typically marketed as home improvement items, they are frequently applied to buildings in need of maintenance and repair. This can result in concealing problems which are the early warning

signs of deterioration. Minor uncorrected problems can progress to the point where expensive, major repairs to the structure become necessary.

If there is a hidden source of water entry within the wall or leakage from the roof, the installation of any new siding will not solve problems of deterioration and rotting that are occurring within the wall. If deferred maintenance has allowed water to enter the wall through deteriorated gutters and downspouts, for example, the cosmetic surface application of siding will not arrest these problems. In fact, if the gutters and downspouts are not repaired, such problems may become exaggerated because water may be channeled behind the siding. In addition to drastically reducing the efficiency of most types of wall insulation, such excessive moisture levels within the wall can contribute to problems with interior finishes such as paints or wallpaper, causing peeling, blistering or staining of the finishes.

It cannot be overemphasized that a cosmetic treatment to hide difficulties such as peeling paint, stains or other indications of deterioration is not a sound preservation practice; it is no substitute for proper care and maintenance. Aluminum and vinyl siding are not directly at fault in these situations since property owners should determine the nature and source of their problems, then make appropriate repairs. The difficulty arises when owners perceive the siding as the total solution to their required maintenance and forgo other remedial action.

### Durability and Cost

The questions of durability and relative costs of aluminum or vinyl siding compared to the maintenance cost of historic materials are complex. It is important to consider these questions carefully because both types of siding are marketed as long lasting, low maintenance materials. Assuming that the substitute sidings are not damaged, and that they will weather and age normally, there will be inevitable changes in color and gloss as time passes. A normal application of aluminum or vinyl siding is likely to cost from two to three times as much as a good paint job on wood siding. A sensitive application, retaining existing trim, will cost more. Therefore, to break even on expense, the new siding should last as long as two or three paintings before requiring maintenance. On wood two coats of good quality paint on a properly prepared surface can last from 8 to 10 years, according to the U.S. Department of Agriculture. If a conservative life of seven years is assumed for paint on wood, then aluminum and vinyl siding should last 15 to 21 years before requiring additional maintenance, to break even with the maintenance cost for painting wood siding. Once painted, the aluminum and vinyl siding will require repainting with the same frequency as wood.

While aluminum siding can dent upon impact and the impact resistance of vinyl siding decreases in low temperatures and, therefore, is susceptible to cracking from sharp impact, these materials are generally not more vulnerable than wood siding and shingles. All siding materials are subject to damage from storm, fire, and vandalism; however, there is a major difference in the reparability of wood siding versus substitute materials such as aluminum and vinyl. Although they can all be repaired, it is much easier to repair wood siding and the

repair, after painting, is generally imperceptible. In addition, a major problem in the repairability of aluminum and vinyl siding, as mentioned above, is matching color since the factory finishes change with time. Matching the paint for wood siding has a greater likelihood of success.

## Energy

Because of high fuel costs, there is a concern for energy conservation in historic materials as well as in substitute materials. Because aluminum and vinyl siding can be produced with an insulating backing, these products are sometimes marketed as improving the thermal envelope of a historic building. The aluminum and vinyl material themselves are not good insulators, and the thickness of any insulating backing would, of necessity, be too small to add to the energy efficiency of a historic building. What energy savings did accrue as a result of a siding application would probably be as much the result of the creation of an air space between the old and new siding as the addition of insulating material. If the historic wood siding were removed in the course of installing the aluminum or vinyl siding (even with an insulating backing), the net result would likely be a loss in overall thermal efficiency for the exterior sheathing.

Preservation Briefs Number 3, "Conserving Energy in Historic Buildings," notes that the primary sources of energy loss in small frame buildings are the doors, windows and roof. It is, therefore, more cost-effective to apply storm windows, weatherstripping and attic insulation than to treat the sidewalls of these structures. There are numerous publications on energy retrofitting which explain techniques of determining cost-effectiveness based on utility costs, R-factors or materials and initial cost of the treatment. Persons interested in this approach may wish to read "Retrofitting Existing Houses for Energy Conservation: An Economic Analysis" published by the National Bureau of Standards, or the U.S. Department of Housing and Urban Development booklet "In the Bank or Up the Chimney." One such study in Providence, Rhode Island, determined that for a two-story house, twenty-five feet square, the payback period for twenty-three storm windows, two storm doors and six inches of attic insulation (R-20) was 4.4 years while the payback period of aluminum siding with an R-factor of 2.5 was 29.96 years. Most of the information which is available supports the position that aluminum or vinyl siding will not have a reasonable payback on an energy-saving basis alone.

## Summary

The intent of this brief has been to delineate issues that should be considered when contemplating the use of aluminum or vinyl sidings on historic buildings and assessing under what circumstances substitute materials such as artificial siding may be used without damaging the integrity of the historic building or adversely changing its historic character. Many property owners are faced with decisions weighing the historic value of their building and its maintenance cost against the possible benefit of aluminum and vinyl siding materials. To assist in making these decisions, "The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings"

have been published and are available from National Park Service Regional Offices and State Historic Preservation Offices. Further, since rehabilitation projects for income-producing historic buildings often seek tax benefits under the 1981 Economic Recovery Tax Act, as amended, it is essential that all work, such as the replacement of exterior siding, be carried out in conformance with the Standards and be consistent with the building's historic character to insure that the tax benefits are not denied.

As stated earlier, the application of aluminum and vinyl siding is frequently considered as an alternative to the maintenance of the original historic material. The implication is that the new material is an economical and long-lasting alternative and therefore somehow superior to the historic material. In reality, historic building materials such as wood, brick and stone, when properly maintained, are generally durable and serviceable materials. Their widespread existence on tens of thousands of old buildings after many decades in serviceable condition is proof that they are the original economic and long-lasting alternatives. All materials, including aluminum and vinyl siding can fall into disrepair if abused or neglected; however, the maintenance, repair and retention of historic materials are always the most architecturally appropriate and usually the most economically sound measures when the objective is to preserve the unique qualities of historic buildings.

The appropriate preservation decision on the use of a substitute material in the rehabilitation of a historic building must always center on two principal concerns: the possible damage or destruction of historic building materials; and, the possible negative impact on the historic character of the building and the historic district or setting in which the building is located. Because applications of substitute materials such as aluminum and vinyl siding can either destroy or conceal historic building material and features and, in consequence, result in the loss of a building's historic character, they are not recommended by the National Park Service. Such destruction or concealment of historic materials and features confuses the public perception of that which is truly historic and that which is imitative.

24/16

Poplar Grove Baptist Church

14621 Jones Lane

1.93 Acres

- Late 19th century rural vernacular church featuring a gabled facade and three-story entrance tower with no steeple.
- Current 1883 building stands on the site which has been occupied since the early 1800's by a church in the Poplar Grove community.
- The recommended .267 acre environmental setting includes the church, cemetery and the major trees which define the historic churchyard.

24/19-1

Darnestown Presbyterian Church

13800 Darnestown Road

9.73 Acres

- Begun as a rural, vernacular, frame building in 1856, the church parlor and bell tower added in 1897, impart a Gothic feeling to the present structure.
- The approximately 6-acre environmental setting equates to the historic churchyard and includes the cemetery to the rear of the church property, the parking area and yards to the east and south of the church as well as the stone fence which runs the length of the church's frontage along Darnestown Road.

The Darnestown Presbyterian Church is a rural vernacular frame building. The Cornerstone for the original section of the church was laid in 1856. Due to a lack of funds, the church was built very simplistically, without the present bell tower or stained-glass. In 1897 the church parlor and bell tower were added to the front. The new parlor included the church's first stained-glass window. One by one the original double hung wooden sash windows were replaced with stained-glass the last of which was done in 1905. Between 1951 and 1953 the church building was expanded and renovations were made to the old portion (mostly to the interior).

Before the building of the church the congregation met at the Pleasant Hills Church (located on the Pleasant Hills Farm). This church was a mixture of denominations, being the only church in town. The presbyterians, desirous of their own church, formed a separate congregation in 1855.<sup>21</sup> John Duffief contributed the original three acre lot and construction began.<sup>22</sup> The church was generously supported by grants from Andrew Small in 1865 and 1867. This money provided the salary of the minister and parsonage (and for the building of an academy on the church grounds). The church has been well maintained and must look very much as it did after the front additions were made in 1897.