HISTORIC LANDMARK COMMISSION

STAFF REPORT

Trudell/Thompson Window Replacement
PLNHLC2010-00057
249 South 1100 East
May 5, 2010

Planning and Zoning Division
Department of Community and Economic Development

Applicant: Ruth Ann Trudell & Joan Thompson - Property Owners

Staff: Lex Traughber, (801) 535-6814, lex.traughber@slcgov.com

Tax ID: 16-05-256-002

Current Zone: R-2 (Single & Two-Family Residential District)

Master Plan Designation:
Central Community Master Plan, Low Density Residential (1-15 dwelling units per acre)

Council District:
District 4 – Luke Garrott

Lot Size:
Approximately .19 Acres

Current Use:
Single-Family Residence

Applicable Land Use Regulations:
- 21A.34.020 G

Notification:
- Notice mailed on 4/22/10
- Agenda posted on the Planning Division and Utah Public Meeting Notice websites 4/22/10
- Property posted on 4/23/10

Attachments:
A. Historic Photos

Request

The applicants propose to retroactively request approval for replacement windows, and request approval for the installation of additional replacement windows at the subject property. The applicant would also like to replace the upper porch level patio door.

Staff Recommendation

Based on the discussion and findings listed in the staff report, it is Planning Staff's opinion that the request does not meet applicable standards and guidelines, and recommends that the Historic Landmark Commission deny the petition with the exception of the replacement windows on the rear façade.

B. Site Plan & House Photos C. Photos – Front Façade D. Photo – North Façade E. Photo – Rear Façade F. Photos – South Façade G. Anderson Double-Hung Window Specifications H. Anderson Picture Window Specifications I. Anderson Door Diagram	

VICINITY MAP

Background

Project Description

The subject home, built in 1895, is a contributory structure in the University Historic District. The structure has undergone significant alterations over the years as shown in the attached photos from 1936 and 1980 (Exhibit A).

Prior to submitting an application for a Certificate of Appropriateness, several windows in the home had recently been replaced. The replacement windows are from the Renewal by Anderson product line. These windows are manufactured using a composite material made of reclaimed wood fiber and a thermoplastic polymer.

At this time, the applicant seeks to retroactively obtain approval for the windows that have already been installed, seeks approval for additional windows, and seeks approval for a new door on the upper porch on the front façade of the home. A site plan and general photos of the home have been included to establish orientation (Exhibit B). The following is a list of activities that have already taken place, as well as further alterations that the applicant would like the Commission to consider for approval:

Windows recently replaced:
- Front façade, upper-level porch windows: Side-by-side, double hung, Anderson windows with internal grid.
- Rear façade, upper-level windows: one picture, one awning, and one double hung window, all by Anderson.

Proposed replacement windows:
- South façade, upper-level: Double casement wood window, proposed to be replaced with an Anderson picture window.
- South façade, lower-level: Side-by-side double hung-wood windows to be replaced with side-by-side Anderson windows.
- North façade, lower-level: Steel frame casement window to be replaced with an Anderson picture window.
- Front façade, lower-level porch windows: Side-by-side, double-hung, Anderson windows with internal grid.

Proposed door replacement:
- Front façade, upper-level porch door: Sliding glass door to be replaced with an Anderson sliding glass door of the same design/style.

Comments

Public Comments

No public comment regarding this application was received as of the date of the preparation and distribution of this staff report.

Analysis and Findings

Options

Approval: If the Commission finds that the proposed project meets the standards of the ordinance, the application should be approved provided the replacement windows conform to the requirements of the Uniform Building Code and all other applicable City ordinances. This option would require the Commission to state alternative findings to support the motion to approve the windows and sliding glass door.

Denial: If the Commission finds that the proposed project does not meet the standards of the ordinance the application should be denied.

Continuation: If the Commission finds that additional information is needed to make a decision, then a final decision may be postponed with specific direction to the applicant or Planning Staff regarding the additional information required for the Commission to take future action.

Findings

ZONING ORDINANCE AND DESIGN GUIDELINES

21A.34.020 H Historic Preservation Overlay District

G. **Standards For Certificate Of Appropriateness For Alteration Of A Landmark Site Or Contributing Structure:** In considering an application for a Certificate of Appropriateness for alteration of a landmark site or contributing structure, the Historic Landmark Commission, or the Planning Director, for administrative decisions, shall find that the project substantially complies with all of the following general standards that pertain to the application and that the decision is in the best interest of the City:

1. A property shall be used for its historic purpose or be used for a purpose that requires minimal change to the defining characteristics of the building and its site and environment;

Discussion for Standard 1: The use of the property will not change.

Finding for Standard 1: The proposal meets this 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;

Discussion for Standard 2: As previously noted, the subject home has been significantly altered over the years, particularly the front façade. When considering the replacement of the existing windows on the front façade, Planning Staff asserts that the single or double-hung window configuration as shown in the attached historic photo from 1936, is an appropriate window style for the subject home. Planning Staff asserts that the proposed double-hung windows for the front façade honor the historic character of the structure. This type of window is typical of, and consistent with, the architectural style and age of the subject home. Photos of the existing and proposed front façade windows are attached for review (Exhibit C). Specification and technical information for Anderson Double-Hung Windows is also attached (Exhibit G).

Planning Staff's main concern with the proposed side-by-side double-hung windows is that there is no significant mullion feature separating the windows. Essentially, the proposed windows are separated by the width of the window frames. Typically, a more substantial mullion would separate side-by-side windows of this nature. Further, a window grid pattern is not evident on any of the historic photos that Planning Staff has been able to obtain. An internal grid (sandwiched between the double panes of glass) has been installed on the upper-level front façade windows. Planning Staff asserts that a grid pattern is not consistent with the historic characteristics of the windows that were in this home in 1936. Therefore, the grids should be removed from the newly replaced windows, and should not be included in any further replacement windows. To Planning Staff's knowledge, internal grid patterns are never appropriate for windows on the primary façade (and perhaps secondary or rear facades) for structures in the City's historic districts, nor have they ever been approved.

The proposed picture window on the north façade of the home does not honor the historic character of the property (Exhibit D). Instead of a picture windows in this location, Planning Staff has suggested either two side-by-side double-hung windows with a mullion, or a window with a transom. For reference, technical specifications for Anderson Picture Windows are attached (Exhibit H).

The windows that were recently replaced on the rear of the home, in general, retain and preserve the historic character of the property (Exhibit E). The new awning window and the new double-hung window are of the same configuration as the windows shown in the attached photograph from 1980. The new picture window is inconsistent with the more characteristic single or double-hung window pattern, however since it is on the rear of the building and not visible from the street, Planning Staff asserts that this particular window is acceptable.

Findings for Standard 2: In general, the side-by-side double-hung windows installed, and those proposed, on the front façade retain and preserve the historic character of the subject home. The absence of a substantial mullion feature between these windows is inconsistent with the historic configuration of windows of this nature, and therefore somewhat detracts from retaining and preserving the historic character of this property. To be more historically characteristic, a substantial mullion feature is needed. Because of the lack of this feature in the windows installed and those proposed on the front façade, Planning Staff asserts that these windows do not meet this standard. Further, any simulated light grid pattern in the installed or proposed windows does not reflect, retain, or preserve the historic character of the home and should therefore be removed and/or eliminated as proposed. Finally, the picture window proposed on the north façade does not meet this standard, as it does not reflect, retain, or preserve the historic character of the property.

The windows that were installed on the upper story of the rear façade, in general, do retain the historic character of the property and therefore should be allowed to remain.

3. All sites, structures, and objects shall be recognized as products of their own time. Alterations that have no historical basis and which seek to create a false sense of history or architecture are not allowed;

Discussion for Standard 3: The finished and proposed windows on the front, north, and rear facades do not create a false sense of history. In general, the newly replaced and further proposed windows more accurately reflect the original historic character of the home in their style and dimensions. As noted previously however, there are outstanding issues related to the windows.

Finding for Standard 3: The windows replaced, and those that are proposed to be replaced, do not create a false sense of history, and in general more closely reflect the original historic character of the home in their style and dimensions.

4. Alterations or additions that have acquired historic significance in their own right shall be retained and preserved;

5. Distinctive features, finishes and construction techniques or examples of craftsmanship that characterize a historic property shall be preserved;

6. Deteriorated architectural features shall be repaired rather than replaced wherever feasible. In the event replacement is necessary, the new material should match the material being replaced in composition, design, texture and other visual qualities. Repair or replacement of missing architectural features should be based on

accurate duplications of features, substantiated by historic, physical or pictorial evidence rather than on conjectural designs or the availability of different architectural elements from other structures or objects.

Applicable Design Criteria for Standard 6 in relation to the front façade, north façade, and rear facade windows:

3.5 Match a replacement window to the original in its design: If the original is double-hung, then the replacement window should also be double-hung, or at a minimum appear to be so. Match the replacement also in the number and position of glass panes. Matching the original design is particularly important on key character-defining facades.

3.6 Match the profile of the sash and its components, as closely as possible to that of the original window: A historic wood window has a complex profile—within its casing, the sash steps back to the plane of the glazing (glass) in several increments. These increments, which individually only measure in eighths or quarters of inches, are important details. They distinguish the actual window from the surrounding plane of the wall. The profiles of wood windows allow a double-hung window, for example, to bring a rich texture to the simplest structure. In general, it is best to replace wood windows with wood on contributing structures, especially on the primary façade. Non-wood materials, such as vinyl or aluminum, will be reviewed on a case-by-case basis, and the following will be considered: will the original casing be preserved? Will the glazing be substantially diminished? What finish is proposed? More importantly, what is the profile of the proposed replacement window?

3.7 In a replacement window, use materials that appear similar to the original: Using the same material as the original is preferred, especially on key character defining facades. However, a substitute material may be considered in secondary locations if the appearance of the window components will match those of the original in dimension, profile and finish.

Discussion of Standard 6 in relation to the front, north, and rear façade windows: The double-hung windows chosen for the front façade generally meet the design criteria for replacement windows. The style is likely similar to the originals based on historic photos, and the profile of the windows generally meet the criteria as well. The window's wood composition material is one that has been allowed in the past and is therefore appropriate in this instance. To reiterate previous discussion, the issue with the proposed side-by-side double-hung windows on the front façade rests primarily with the lack of a substantial mullion feature, and the inclusion of a simulated divided-light grid pattern.

The rear façade windows in general meet these criteria as well. As previously noted, a single or double-hung window would have been a better choice for the picture window that was installed, but the picture window appropriate in this particular case because of the location.

The proposed picture window on the north façade does not meet criteria 3.5, as it is highly unlikely that the original window in this location was a picture window. It is more likely that the window was of the single or double-hung variety, hence Planning Staff's suggestion that this type of window be used in this location.

Findings for Standard 6 in relation to the front, north, and rear façade windows: In general, the windows installed, and those chosen for installation, on the front and rear facades of the home, meet Standard 6 based on duplications of features that are substantiated by historic pictorial evidence. The configuration of the front façade windows are somewhat problematic because of the lack of a mullion

feature and the inclusion of a simulated divided-light grid pattern. The picture window chosen for the north façade does not meet this standard.

Finding for Standards 4 and 5 in relation to the front, north, and rear façade windows: These standards are not applicable to these windows.

Applicable Design Guidelines for Standards 4, 5, and 6 in relation to the south façade windows:

3.0 Repair of Historic Windows: Whenever possible, repair historic windows, rather than replace them. In most cases it is in fact easier, and more economical, to repair an existing window rather than to replace it, because the original materials contribute to the historic character of the building. Even when replaced with an exact duplicate window, a portion of the historic building fabric is lost and therefore such treatment should be avoided. When considering whether to repair or replace a historic window, consider the following:

First, determine the window's architectural significance. Is it a key character-defining element of the building? Typically, windows on the front of the building and on sides designed to be visible from the street, are key character-defining elements. A window in an obscure location, or on the rear of a structure may not be. Greater flexibility in the treatment or replacement of such secondary windows may be considered.

Second, inspect the window to determine its condition. Distinguish superficial signs of deterioration from actual failure of window components. Peeling pain and dried wood, for example, are serious problems, but often do not indicate that a window is beyond repair. What constitutes a deteriorated window? A rotted sill may dictate its replacement, but it does not indicate the need for an entire new window. Determining window condition must occur on a case-by-case basis, however, as a general rule, a window merits preservation, with perhaps selective replacement of components, when more than 50 percent of the window components can be repaired.

Third, determine the appropriate treatment for the window. Surfaces may require cleaning and patching. Some components may be deteriorated beyond repair. Patching and splicing in new material for only those portions that are decayed should be considered in such a case, rather than replacing the entire window. If the entire window must be replaced, the new one should match the original in appearance.

3.0 Energy Conservation: In some cases, owners may be concerned that an older window is less efficient in terms of energy conservation. In winter, for example, heat loss associated with an older window may make a room uncomfortable and increase heating costs. In fact, most heat loss is associated with air leakage through gaps in older windows that are a result of a lack of maintenance, rather that loss of energy through the single pane of glass found in historic windows. Glazing compound may be cracked or missing, allowing air to move around the glass. Sash members also may have shifted, leaving a gap for heat loss.

The most cost-effective energy conservation measures for most historic windows are to replace the glazing compound, repair wood members and install weather stripping. These steps will dramatically reduce heat loss while preserving historic features.

If additional energy savings are a concern, consider installing a storm window. This may be applied to the interior or the exterior of the window. It should be designed to match the historic window divisions such that the exterior appearance of the original window is not obscured.

Applicable Design Criteria for Standards 4, 5 & 6 in relation to the south façade windows:

3.8 Use a storm window to enhance energy conservation rather than replace a historic window: Install a storm window on the interior where feasible. This will allow the character of the original window to be seen from the public way. If a storm window is to be installed on the exterior, match the sash design of the original windows. A metal storm window may be appropriate if the frame matches the proportions and profiles of the original window. It should fit tightly within the window opening without the need for sub-frames or panning around the perimeter. Match the color of the storm window sash with the color of the window frame; do not use an anodized or a milled (silvery metallic) finish. Finally, set the sash of the storm window back from the plane of the wall surface as far as possible.

Discussion for Standards 4, 5, and 6 in relation to the south façade windows: From the photographs submitted (Exhibit F) and a site inspection, the existing windows appear to be repairable and are character defining features of the building. The windows on this façade, proposed for replacement, are wood windows of the casement and single-hung varieties. While these windows may not be original, they are certainly older windows and contribute to the historic character of the home. These windows appear to have acquired historic significance in their own right and therefore should be retained and preserved. They display distinctive features and construction techniques, and are examples of craftsmanship that characterize a historic property. Planning Staff contends that these windows are not beyond repair and therefore should be preserved and maintained, rather than replaced.

If the Historic Landmark Commission makes the determination that it is appropriate to replace these windows rather than repair them, Planning Staff suggests that a picture window is not an appropriate replacement style for the wood casement windows on the upper-level, and that the single-hung windows on the ground level be replaced with single or double-hung windows with a substantial mullion and no grid pattern.

Finding for Standards 4, 5 and 6 in relation to the south façade windows:: Replacement of the wood windows on the south façade of the home does not meet Standards 4, 5, and 6, nor the applicable Design Guidelines and Criteria.

7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.

Discussion for Standard 7: This proposal does not involve chemical or physical treatments.

Finding for Standard 7: This criteria is not applicable.

8. Contemporary design for alterations and additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant cultural, historical, architectural, or archaeological material, and such design is compatible with the size, scale, color, material, and character of the property, neighborhood, or environment;

Applicable Design Guidelines for Standard 8:

3.0 Background: Windows are some of the most important character-defining features of most historic structures. They give scale to buildings and provide visual interest to the composition of individual facades. Distinct window designs in fact help define many historic building types.

3.0 Window Features: The size, shape, and proportions of a historic window are among its essential features. Many early residential windows in Salt Lake City were vertically-proportioned, for example. Another important feature is the number of "lights," or panes, into which a window is divided.

Discussion for Standard 8: In general, the window replacements on the front and rear facades meet this standard, as they are compatible with the size, scale, material and character of the property. The picture windows proposed for the north and south facades are not compatible with this Standard in terms of honoring the historic character of the property.

Finding for Standard 8: The proposal does not fully meet this standard.

9. Additions or alterations to structures and objects shall be done in such a manner that if such additions or alterations were to be removed in the future, the essential form and integrity of the structure would be unimpaired. The new work shall be differentiated from the old and shall be compatible in massing, size, scale and architectural features to protect the historic integrity of the property and its environment;

Finding for Standard 9: This criteria is not applicable in this case.

10. Certain building materials are prohibited including the following:
a. Vinyl or aluminum cladding when applied directly to an original or historic material, and
b. Any other imitation siding material designed to look like wood siding but fabricated from an imitation material or materials;

Discussion for Standard 10: This project does not include altering the siding of the dwelling.

Finding for Standard 10. This criteria is not applicable.

11. Any new sign and any change in the appearance of any existing sign located on a landmark site or within the H historic preservation overlay district, which is visible from any public way or open space shall be consistent with the historic character of the landmark site or H historic preservation overlay district and shall comply with the standards outlined in part IV, chapter 21A.46 of this title;

Discussion: The project does not include signage.

Finding. This criteria is not relevant.

12. Additional design standards adopted by the Historic Landmark Commission and City Council.

ANALYSIS OF THE SLIDING GLASS DOOR ON THE FRONT FAÇADE UPPER PORCH

Of the extensive alterations that have occurred on this home over the years, the alterations to the front façade are the most significant. The installation of a sliding glass door has no relevant context in the historic integrity of this home. Sliding doors of this nature did not exist in 1895 when the home was built.

The applicant would like to replace this sliding door with a like door of the same color scheme as the windows. A diagram of the door proposed is attached for reference (Exhibit I).

ZONING ORDINANCE AND DESIGN GUIDELINES

21A.34.020 H Historic Preservation Overlay District

G. **Standards For Certificate Of Appropriateness For Alteration Of A Landmark Site Or Contributing Structure:** In considering an application for a certificate of appropriateness for alteration of a landmark site or contributing structure, the historic landmark commission, or the planning director, for administrative decisions, shall find that the project substantially complies with all of the following general standards that pertain to the application and that the decision is in the best interest of the city:

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;

Applicable Design Criteria for Standard 2:

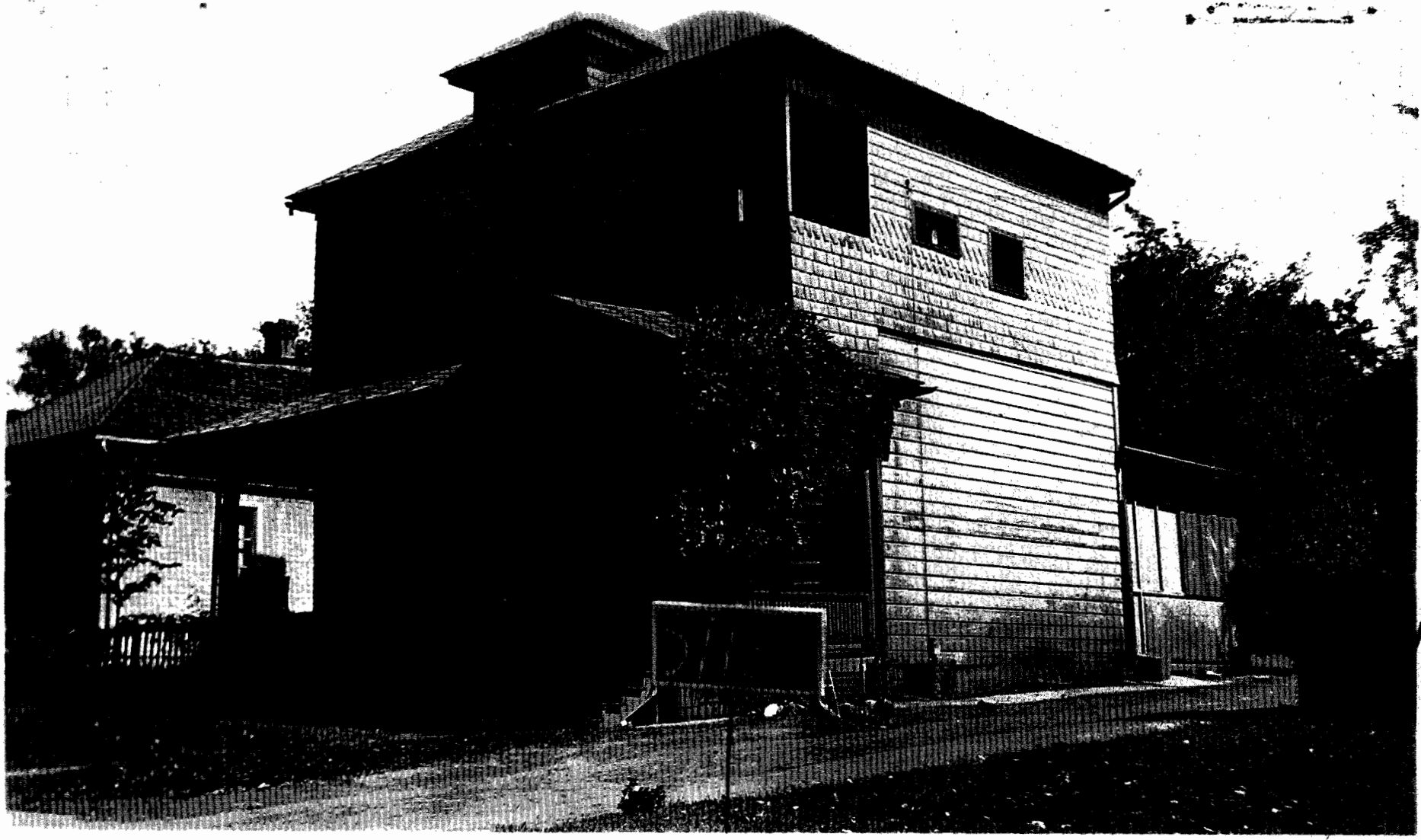
4.4 When replacing a door, use a design that has an appearance similar to the original door or a door associated with the style of the house.

Discussion for Standard 2: There is no way to determine if a doorway was ever originally in the home in this particular location; what the opening size may have been, or what any original door may have looked like, due to the fact that this was once an interior portion of the house. Therefore, it is impossible to make a determination of what a replacement door should be, based on what may have been there originally.

While Planning Staff concurs that the replacement of this door would perhaps be a visual improvement, Planning Staff asserts that a sliding glass door is inappropriate from a historic perspective. Planning Staff suggested the installation of a French door to replace the sliding door. A French door is more in keeping with the historic character and style of the home, and therefore more appropriate.

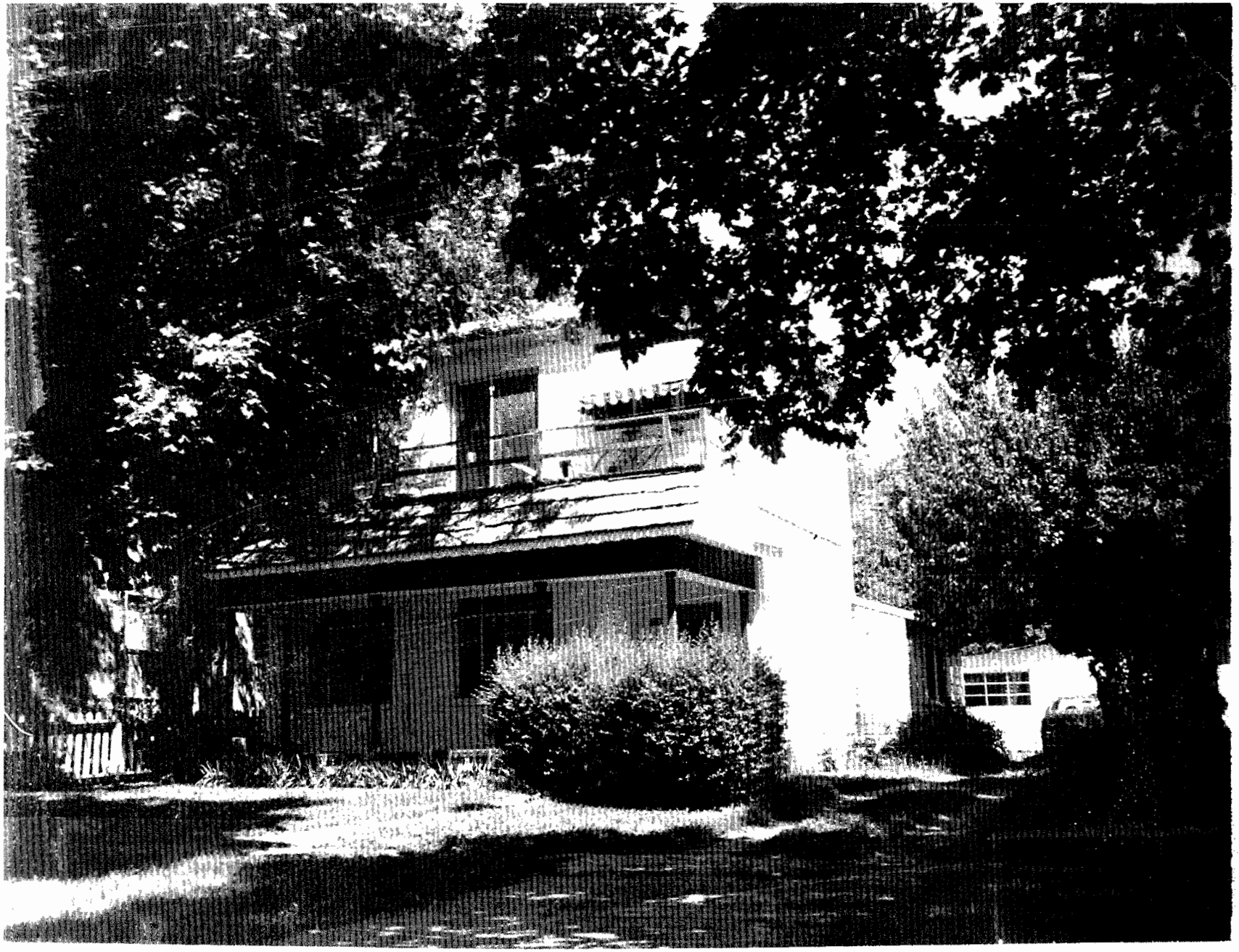
Finding for Standard 2: The replacement of the front façade sliding glass door with a like door is inappropriate, and does not retain, preserve, or contribute to the historic character of the property.

Exhibit A –
Historic Photos



1936

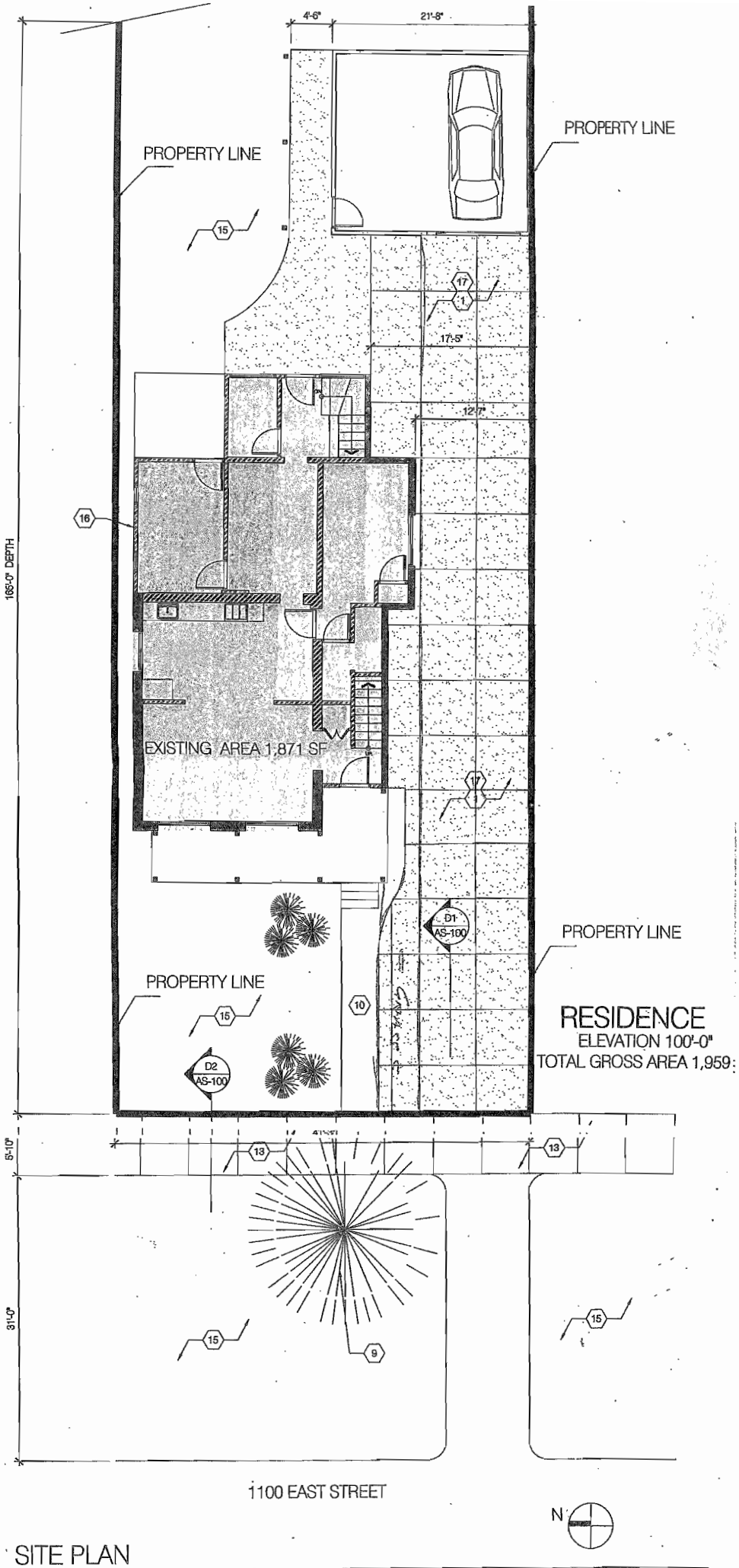
14-05-256-002



249 South 1100 East

Exhibit B –

Site Plan & House Photos



SITE PLAN

1/8" = 1'-0"

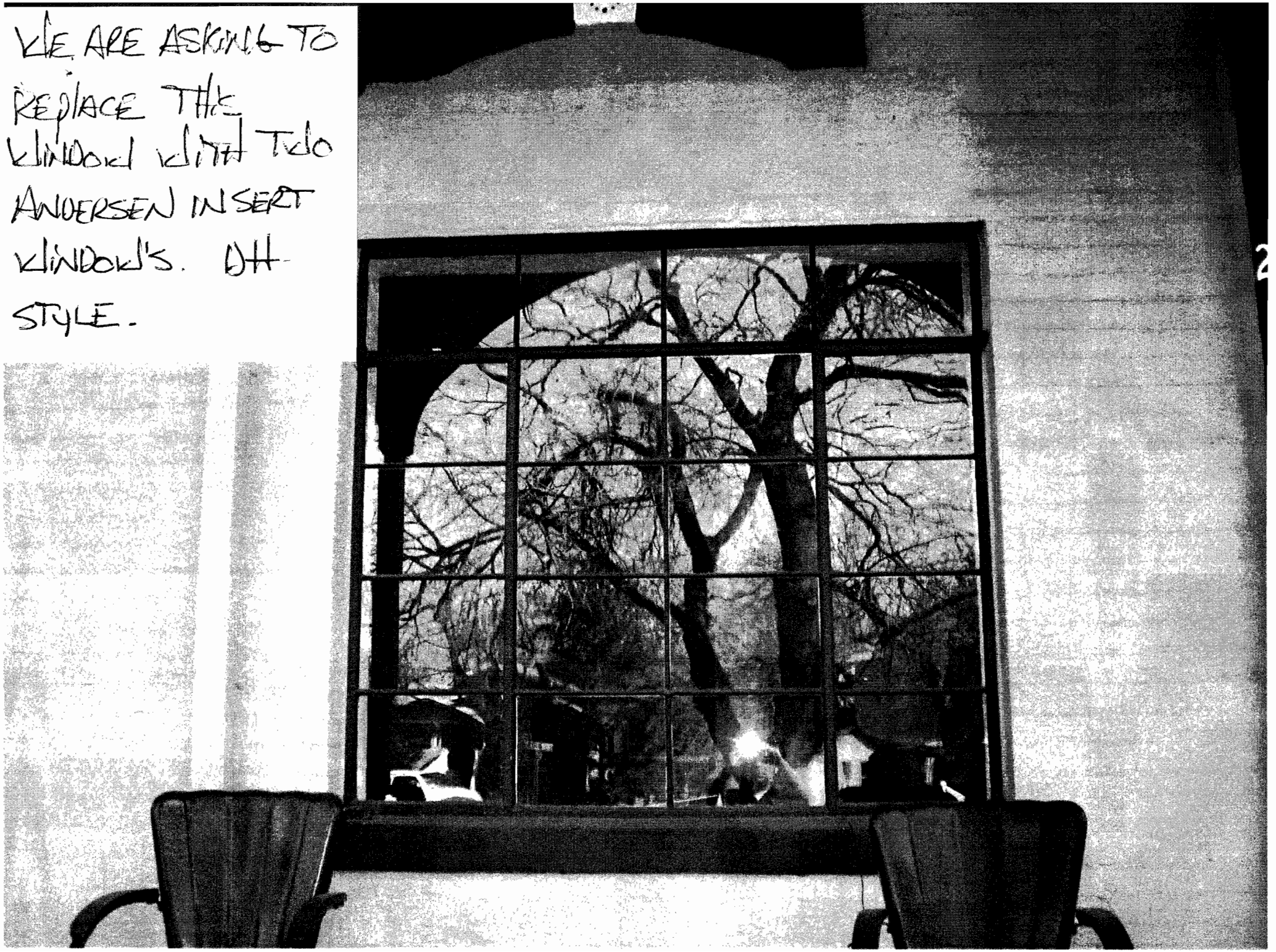

WOOD CASEMENT WINDOWS
SOUTH FAÇADE
WOOD DOUBLE-HUNG WINDOWS


219

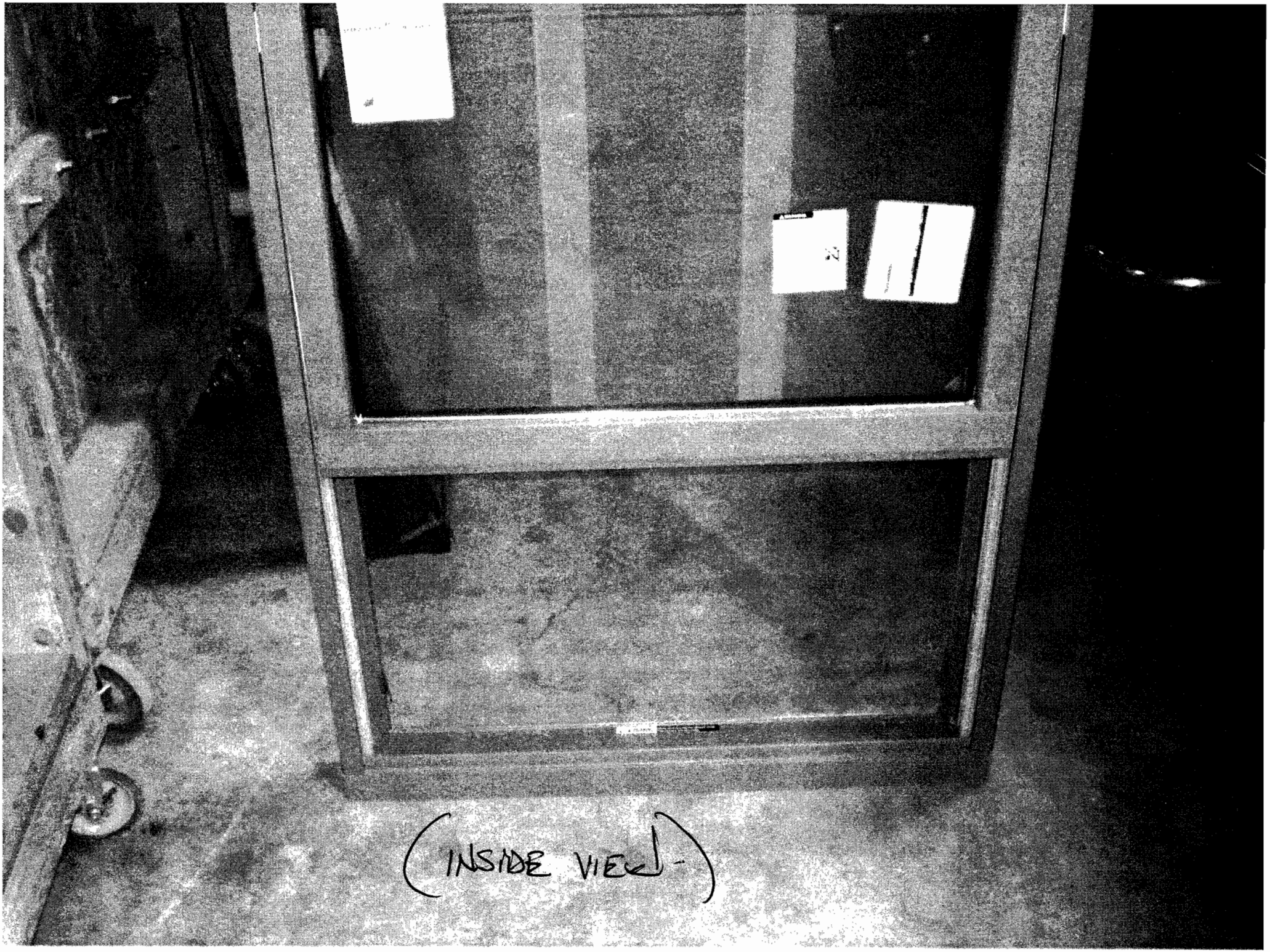
Exhibit C –

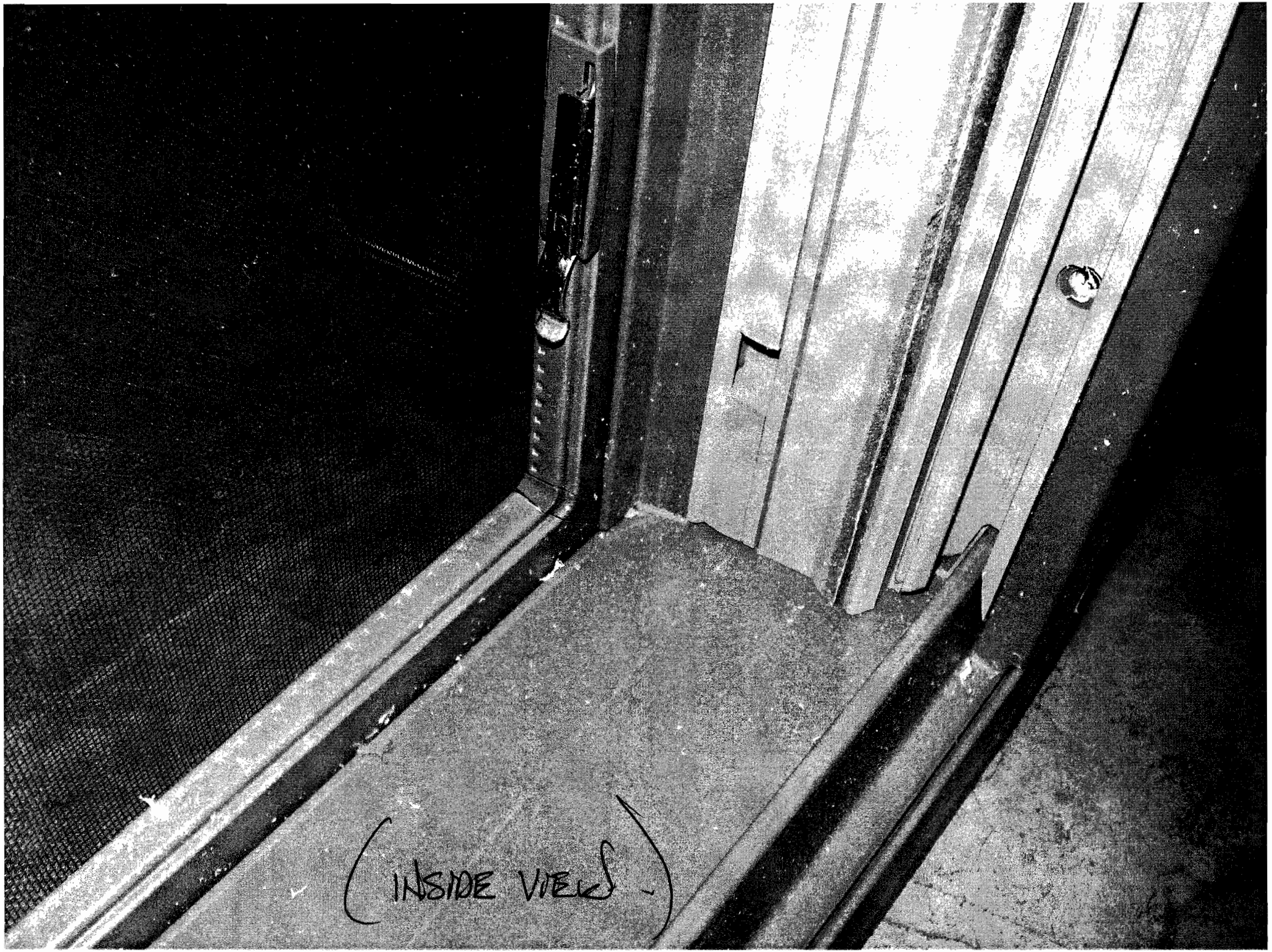
Photos – Front Facade

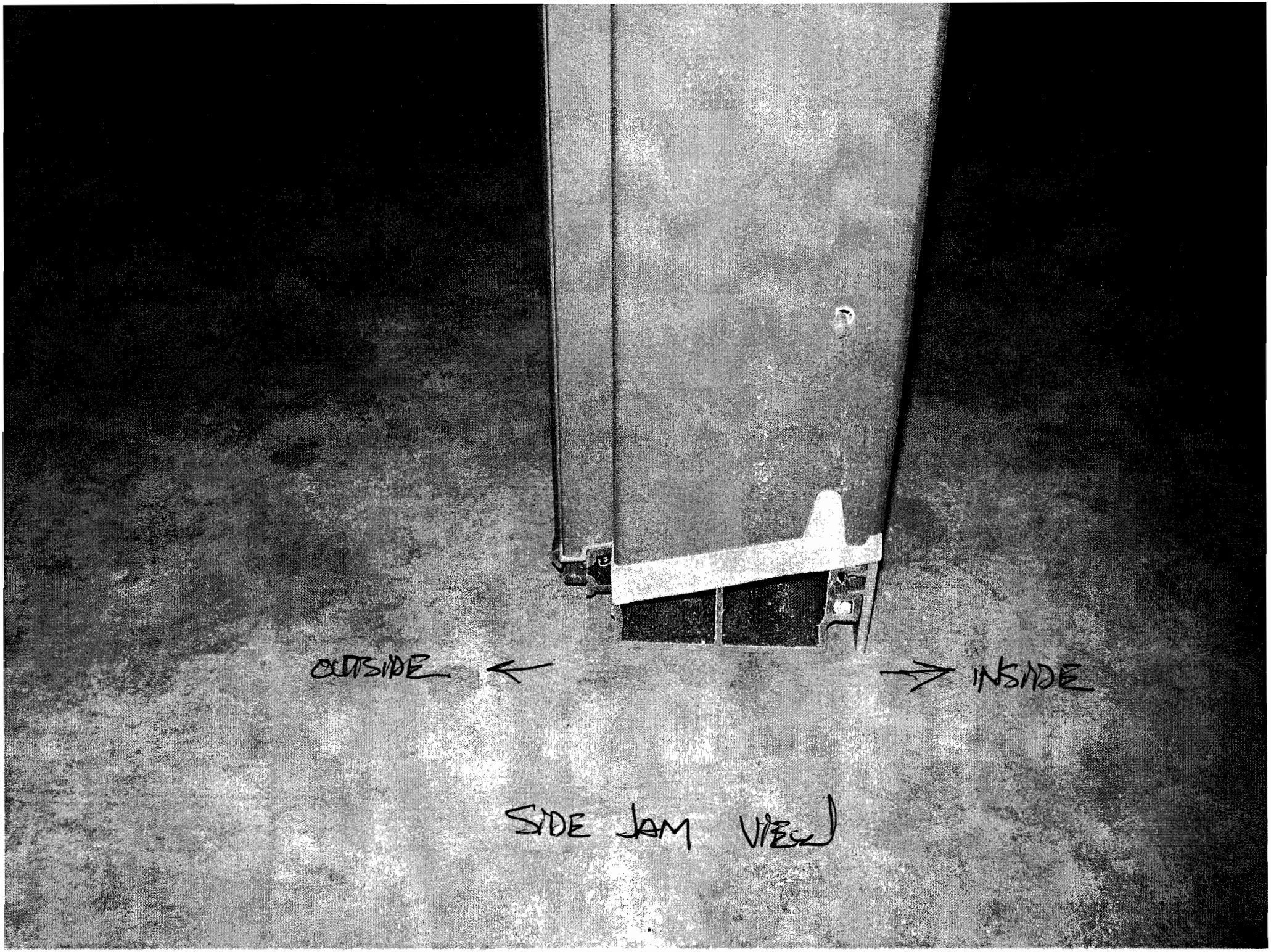
WE ARE ASKING TO REPLACE THE WINDOWS WITH TWO ANDERSEN INSERT WINDOW'S. DH-STYLE.



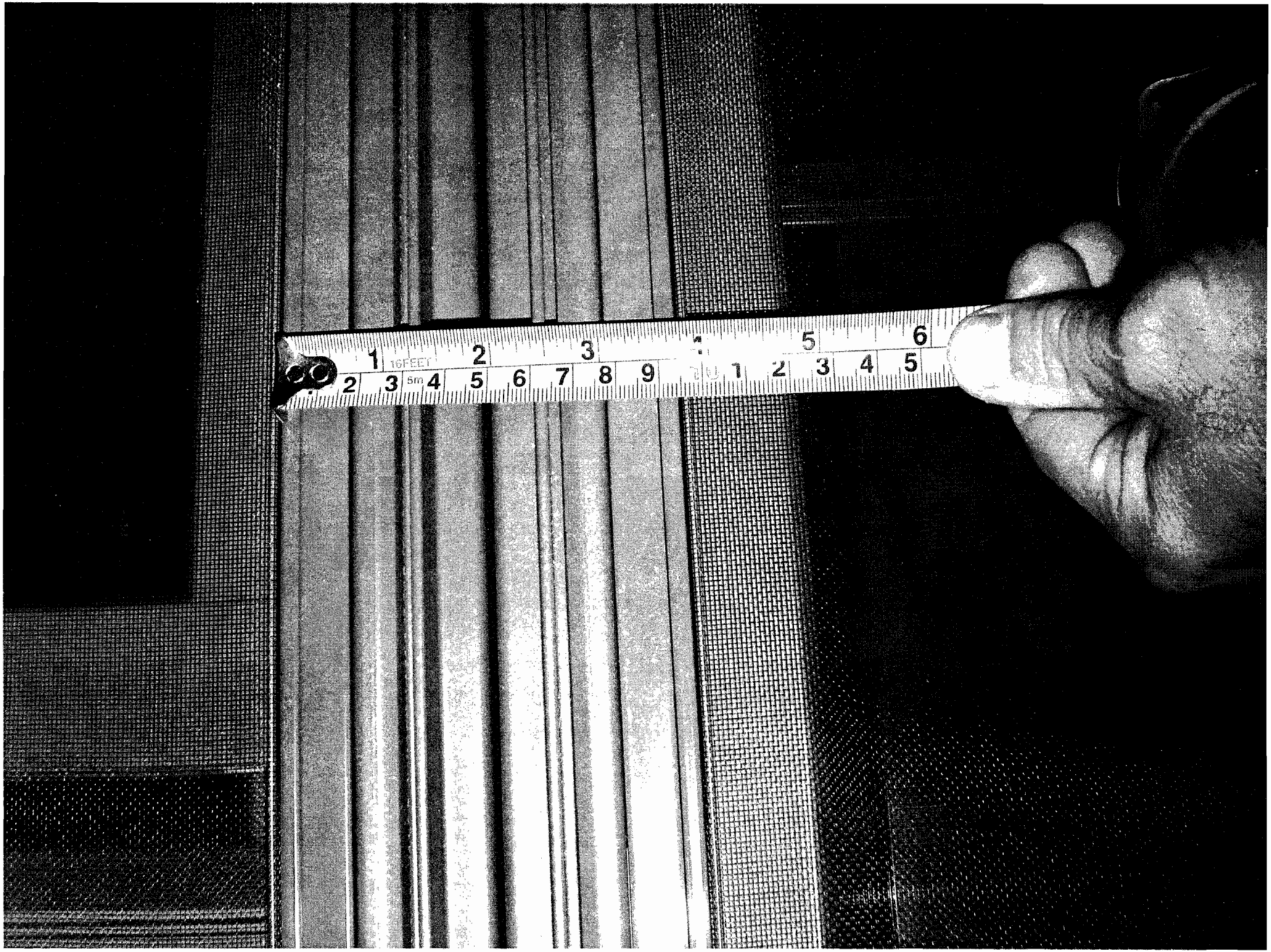

(OUTSIDE VIEW)


(INSIDE VIEW)


(INSIDE VIEWS)


OUTSIDE
INSIDE
SIDE JAM VIEW


TWO DH WINDOWS SIDE
BY SIDE THIS IS THE LOOK
FOR LOWER FRONT


16FEET
5m

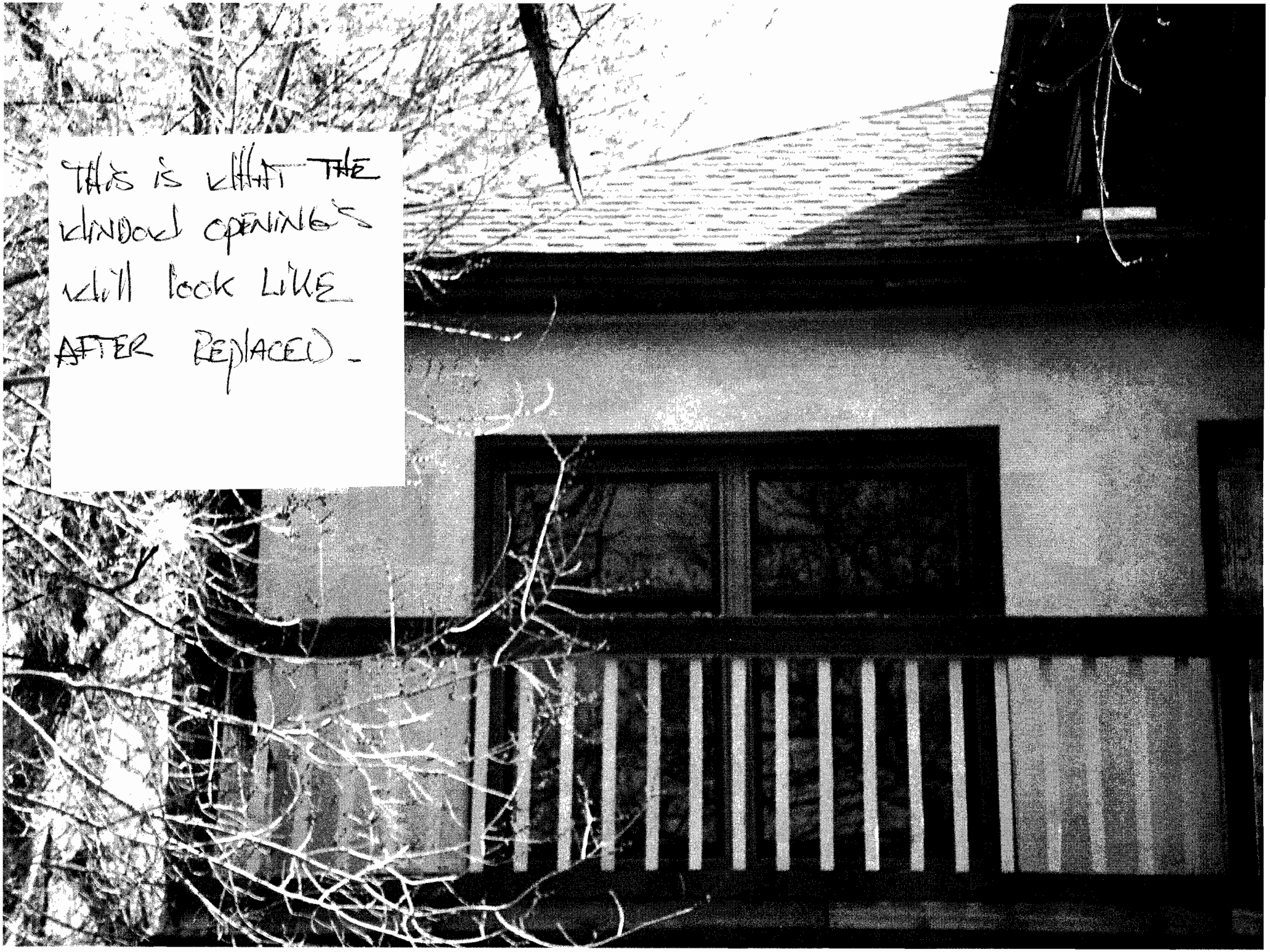

THIS IS WHAT THE
WINDOW OPENINGS
WILL LOOK LIKE
AFTER REPLACED.

Exhibit D –

Photos – North Facade

WE ARE ASKING TO REPLACE THIS WINDOW WITH AN ANDERSEN PICTURE WINDOW. (INSERT)

NORTH FAÇADE WINDOW

Exhibit E –

Photos – Rear Facade

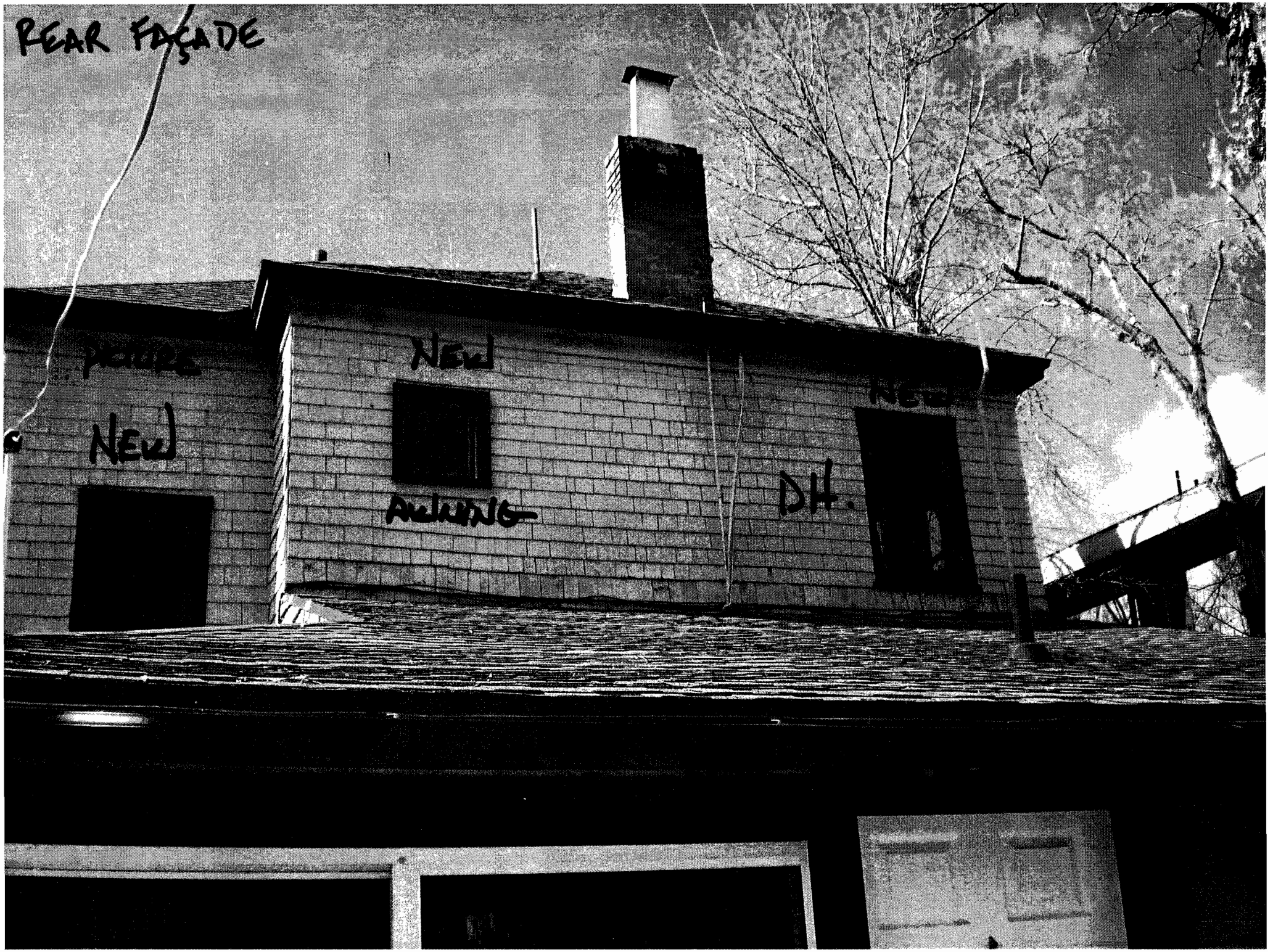
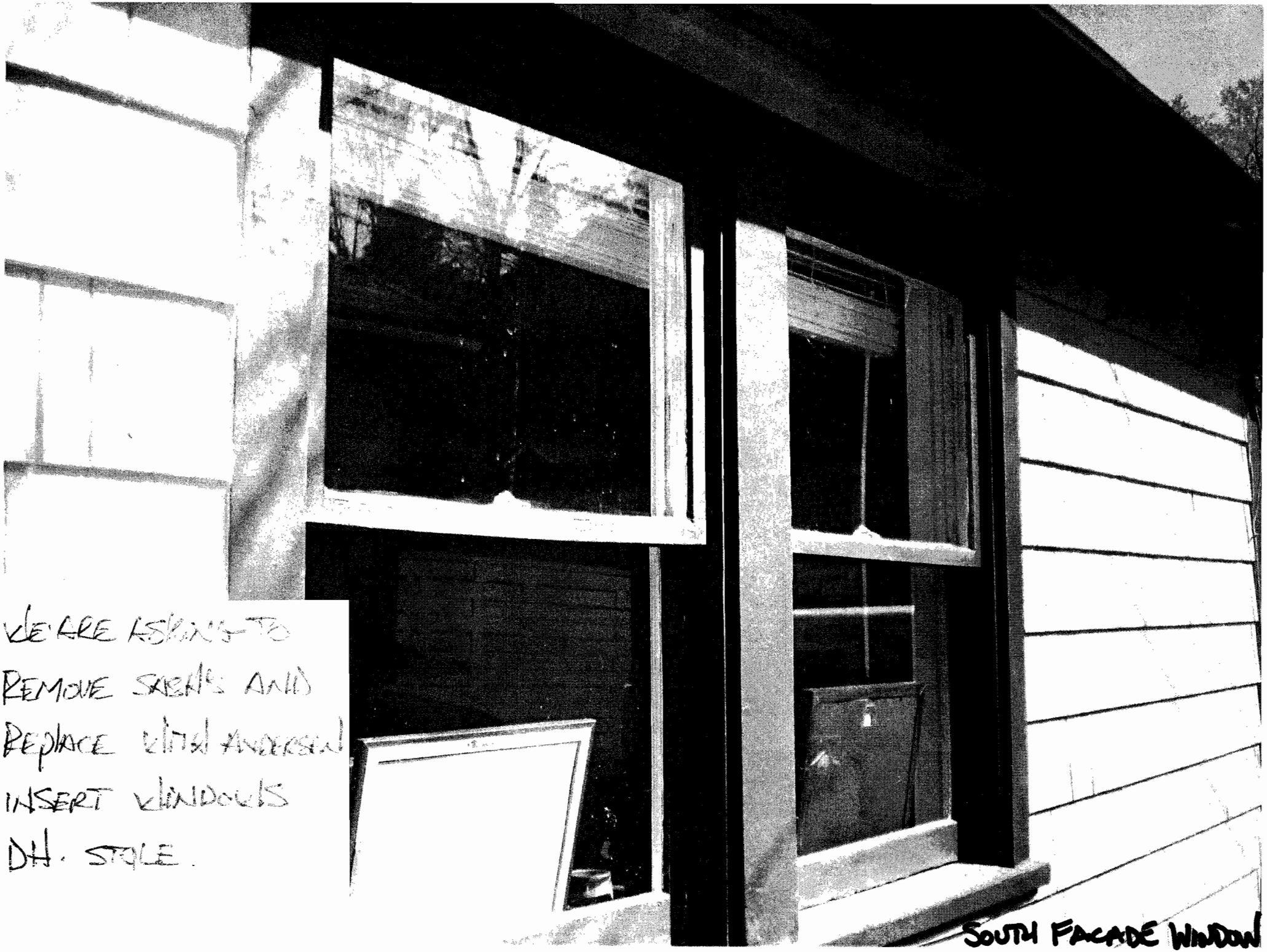

REAR FAÇADE
NEW
NEW
DH.

Exhibit F –

Photos – South Facade


WE ARE ASKING TO
REMOVE SASH'S AND
REPLACE WITH ANDERSEN
INSERT WINDOWS
DH. STYLE.
SOUTH FACADE WINDOW

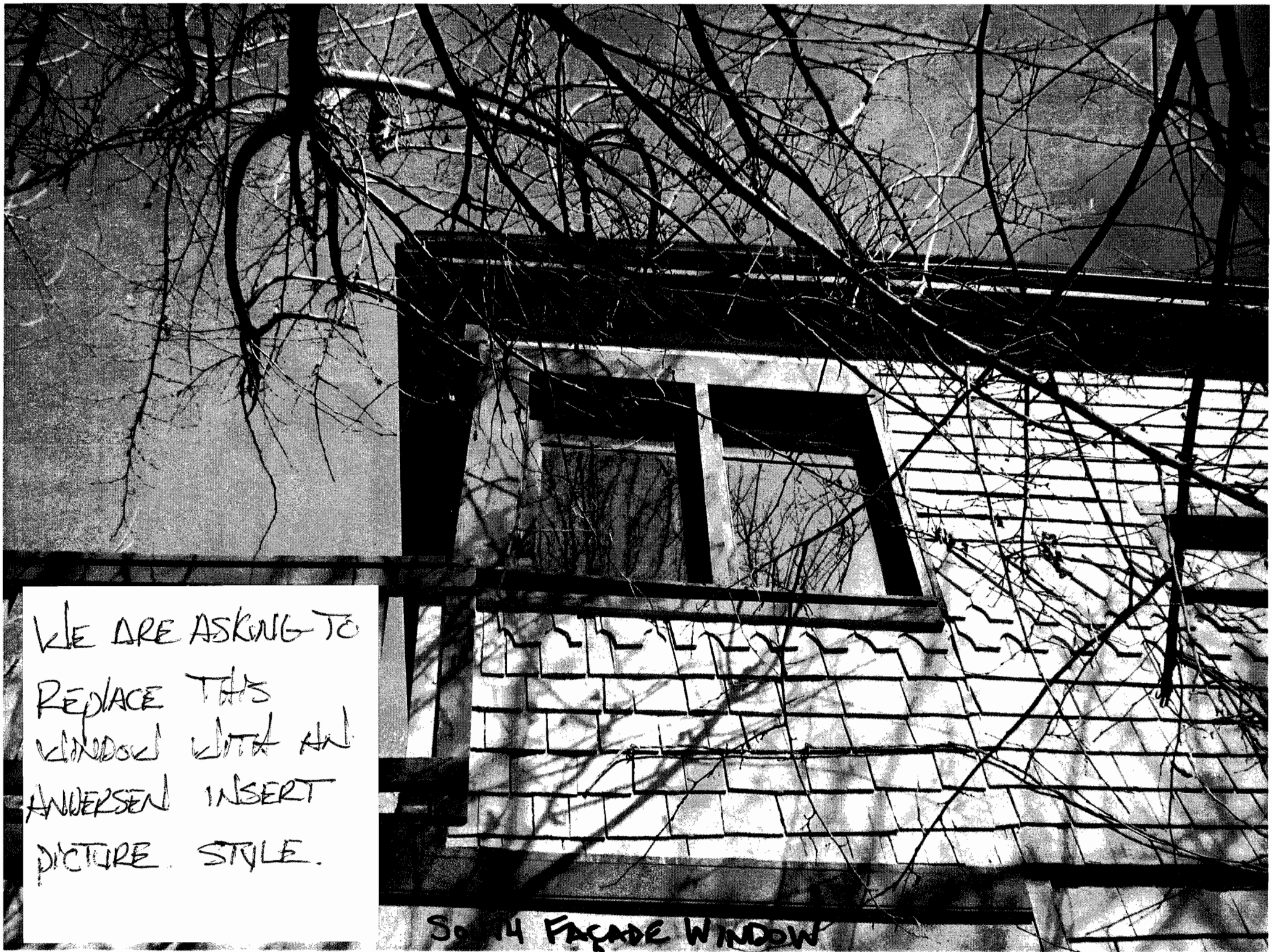

WE ARE ASKING TO
REPLACE THIS
WINDOW WITH AN
ANDERSEN INSERT
PICTURE STYLE.
SOUTH FAÇADE WINDOW

Exhibit G –

Anderson Double-Hung Window Specifications

DOUBLE-HUNG WINDOW

ADVANTAGES AND APPLICATIONS

A double-hung window consists of two vertically sliding sash in a single frame. Both sash are counterbalanced by a spring-powered block-and-tackle balance mounted on the side of each sash. Tilt latches for each sash allow inward tilting for easy cleaning. Upper and lower sash are securely closed by use of a cam-type sash lock. An insect screen is installed into the outside track.

ADVANTAGES

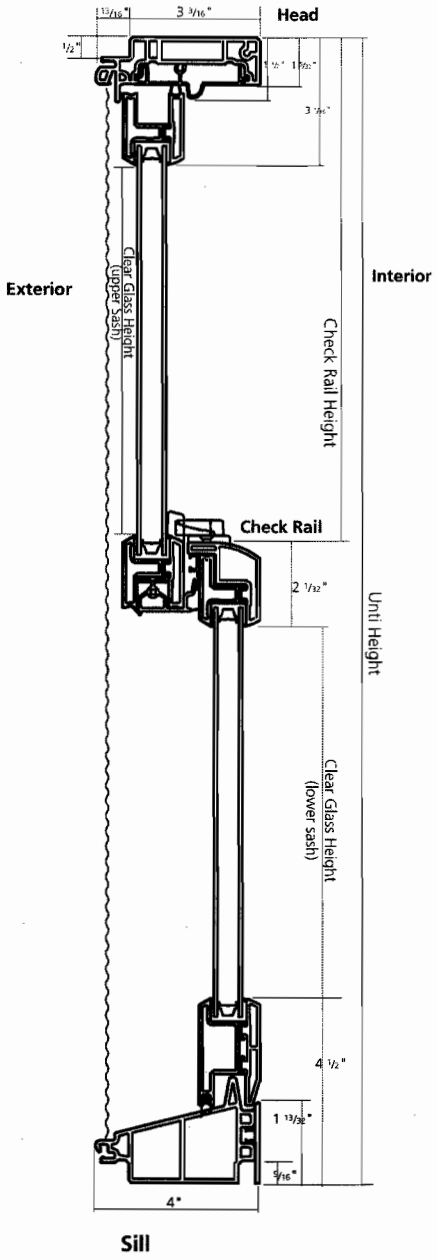
- Both sash can be operated for ventilation at top and bottom of window.
- Both sash can be tilted inward for easy cleaning.
- Patented Fibrex® material is stronger than vinyl, providing greater durability.
- Fibrex material with low-maintenance capstock gives a rich, low-luster finish to sash and frame, similar to painted wood.
- Smooth radius surfaces on the frame and sash are pleasing to the eye and easier to clean.
- Mortise-and-tenon appearance on the interior and exterior sash corners gives a traditional, hand-crafted look.
- Full-perimeter weatherstrip provides superior weathertightness while still allowing easy sash operation.
- Sash are counterbalanced by a spring-powered block-and-tackle balance mounted on the side and matched to the weight of each individual sash.

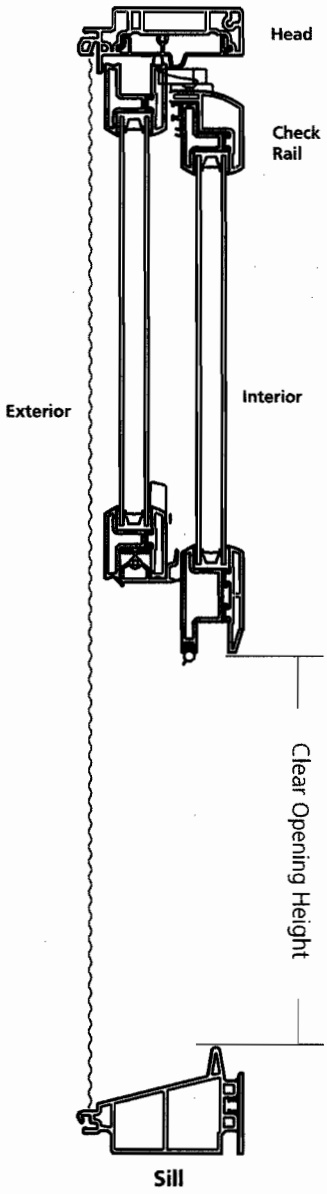
APPLICATIONS

- Excellent choice for homes and condominiums where traditional styling is important; appropriate for many restoration projects.
- Suitable in areas facing walkways, decks and other traffic areas because sash do not project outward.
- Convenient in areas where the sash need to be cleaned from the interior.
- Visually compatible with other Renewal by Andersen® products.

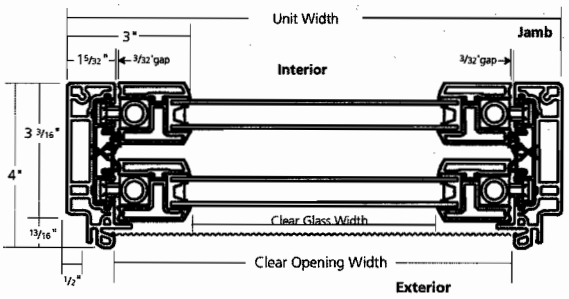
CLEAR OPENING AND CLEAR GLASS DIMENSIONS, cont.

DOUBLE-HUNG WINDOW | FLAT SILL INSERT





Window profiles shown for measurement purposes.

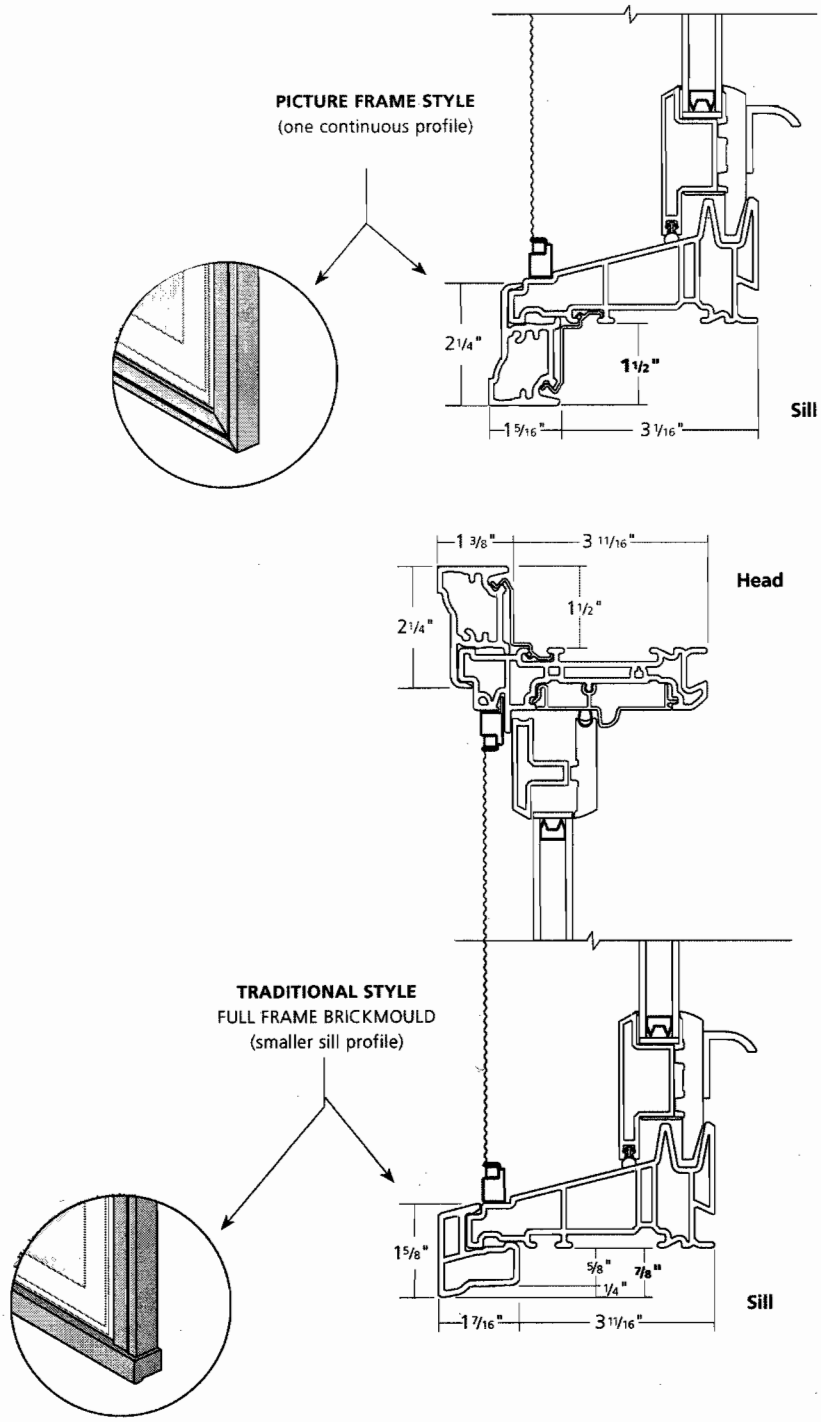


- **Exterior Brickmould** – Fibrex™ material brickmould is available as an exterior trim option for full-frame windows in picture frame and original style. Brickmould is available on insert frame windows in picture frame style only.

FULL FRAME BRICKMOULD

Full-frame brickmould is available in two configurations:

- **Picture Frame Style** – The same brickmould profile is used all the way around the window.
- **Traditional Style** – A thinner sill profile that runs completely under the side brickmould pieces is used reminiscent of old, traditional window installations.

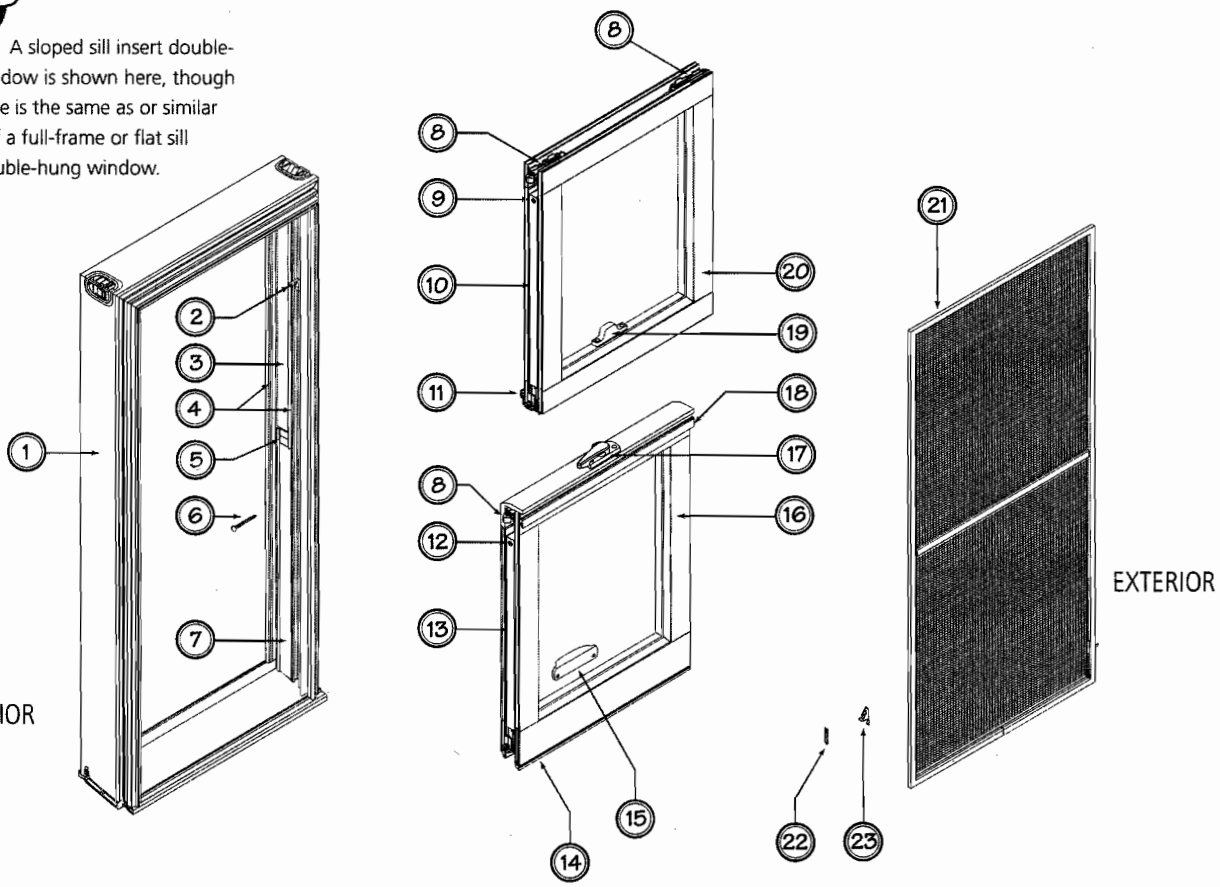


EXPLODED VIEW

DOUBLE-HUNG WINDOW

NOTICE!

A sloped sill insert double-hung window is shown here, though part usage is the same as or similar to that of a full-frame or flat sill insert double-hung window.



DOUBLE-HUNG COMPONENTS

1. Frame (insert)
2. Wash assist
3. Side jamb liner weatherstrip (upper)
4. Side jamb liner (interior and exterior sash tracks)
5. Side cover check rail weatherstrip
6. Balance end clip screw
7. Side jamb liner weatherstrip (lower) with integrated fin pile
8. Tilt latch
9. Upper balance screw
10. Balance (upper sash)
11. Exterior sash interlock (upper sash)
12. Lower balance screw
13. Balance (lower sash)
14. Bottom rail weatherstrip
15. Sash lift (optional)
16. (S2) lower (interior) sash
17. Sash lock
18. Interior sash interlock (lower sash)
19. Sash keeper
20. (S1) upper (exterior) sash
21. Insect screen
22. Universal insect screen latch retainer
23. Insect screen latch

STANDARD FEATURES

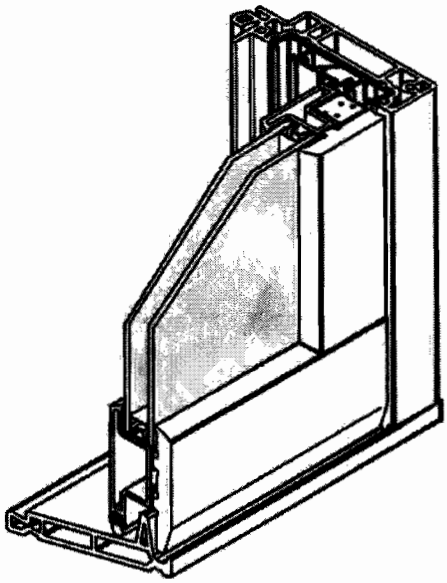
DOUBLE-HUNG WINDOW

NOTICE!

A sloped sill insert double-hung window corner section is shown here, though **standard features are the same as for flat sill insert or full-frame** double-hung windows.

Failure to follow our **painting and/or staining instructions** could hamper window performance and will nullify the Limited Warranty. See the General Guidelines section of this manual for more information.

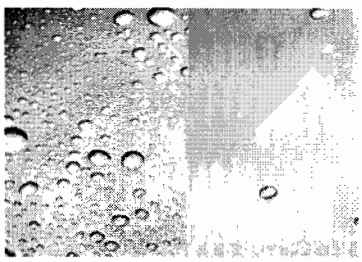
Described below are features that contribute to the casement window's low maintenance, energy efficiency, ease of operation, and pleasing appearance.



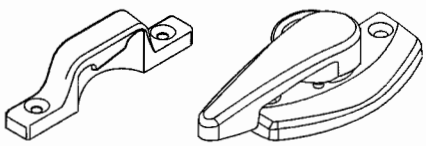
- Frame – Made of rigid Fibrex® material, a unique structural composite of wood fibers and a special thermoplastic polymer. Developed by Andersen®, Fibrex® material combines the strength and stability of wood with the low- maintenance features of our time-tested Perma-Shield® cladding.
- Sash – Constructed of Fibrex® material. Fusion-welding provides durable, watertight corners. The smooth, radiused sash compliments the frame. An exterior "fillet" bead of high-performance silicone sealant provides a watertight seal between glass and sash.
  - Glazing – High-Performance™ LoE⁴* glass with an inert, energy-efficient gas, is standard for every window. Glass is placed into sash before welding for a strong, weather-tight assembly. An exterior "fillet" bead of high-quality silicone sealant provides a watertight seal between glass and sash. See Options on next page for other glass choices.

    *LoE⁴ is a registered trademark of Cardinal IG Company.
  - Glass spacer – The patented low-conductivity spacer is made of stainless steel and resists heat transfer four to five times better than aluminum spacers used by many other manufacturers.
  - **Low-maintenance exterior coating**—A highly durable microscopic coating of titanium dioxide (TiO_2) is applied and bonded to the exterior glass surface during the glass manufacturing process. High-Performance Low-E4 glass is self-activating by exposure to sunlight. When activated by sunlight, it loosens dirt, dust and organic material which are then washed away by rain. The glass dries faster and reduces water spotting by up to 99%. (See illustration below.)

    The unique exterior coating works similarly to a rechargeable battery. Once the coating is activated or "charged," it will hold its activation for some time. The more sunlight it receives, the better the activation. When re-exposed to sunlight, the coating will recharge after periods of lower sunlight levels.



Regular Glass *High-Performance™ Low-E4® Glass*



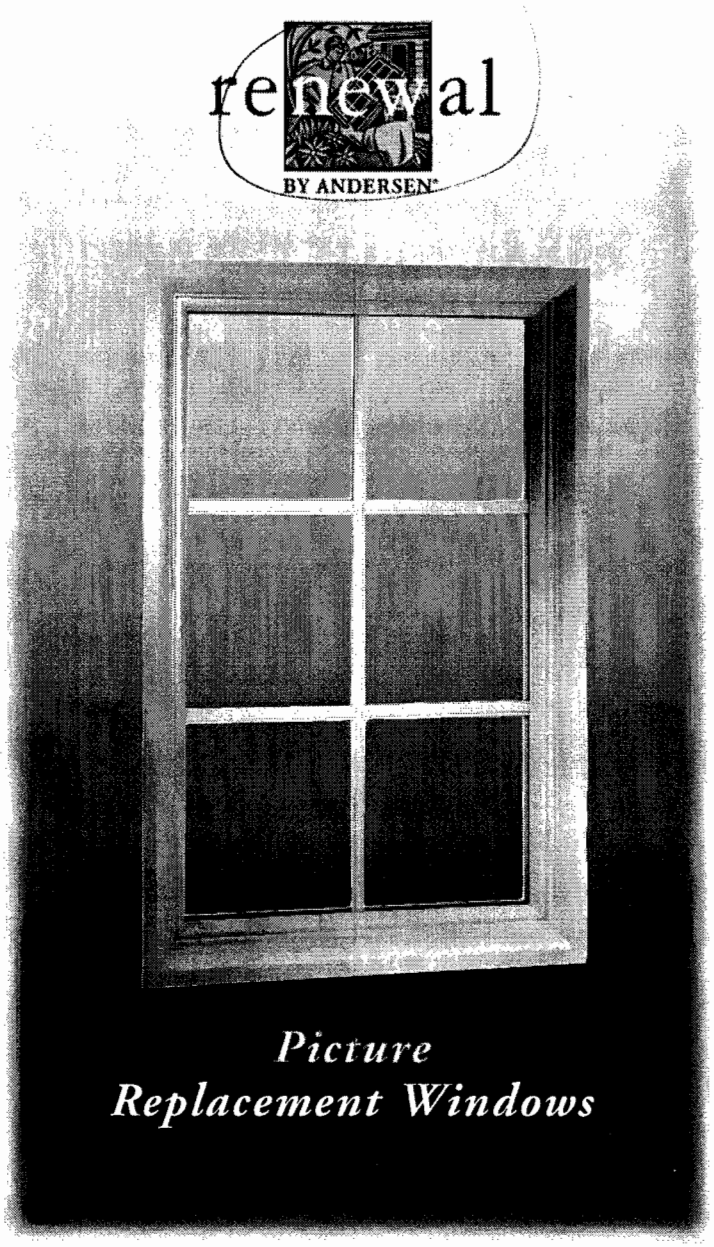
Keeper *Sash Lock*

Exhibit H –

Anderson Picture Window Specifications

Advantages and Applications

The picture window consists of a fixed lite of glass in a frame with fusion-welded corners. The sash profile complements all Renewal by Andersen® windows.



ADVANTAGES

- Full-perimeter silicone bed glazing provides a strong seal between glass and frame.
- Patented Fibrex® material is stronger than vinyl, allowing more glass area to show.
- Fibrex material with low-maintenance capstock gives a rich, low-luster finish to sash and frame, similar to painted wood.
- Smooth radius surfaces on frame and sash are pleasing to the eye and easier to clean.

APPLICATIONS

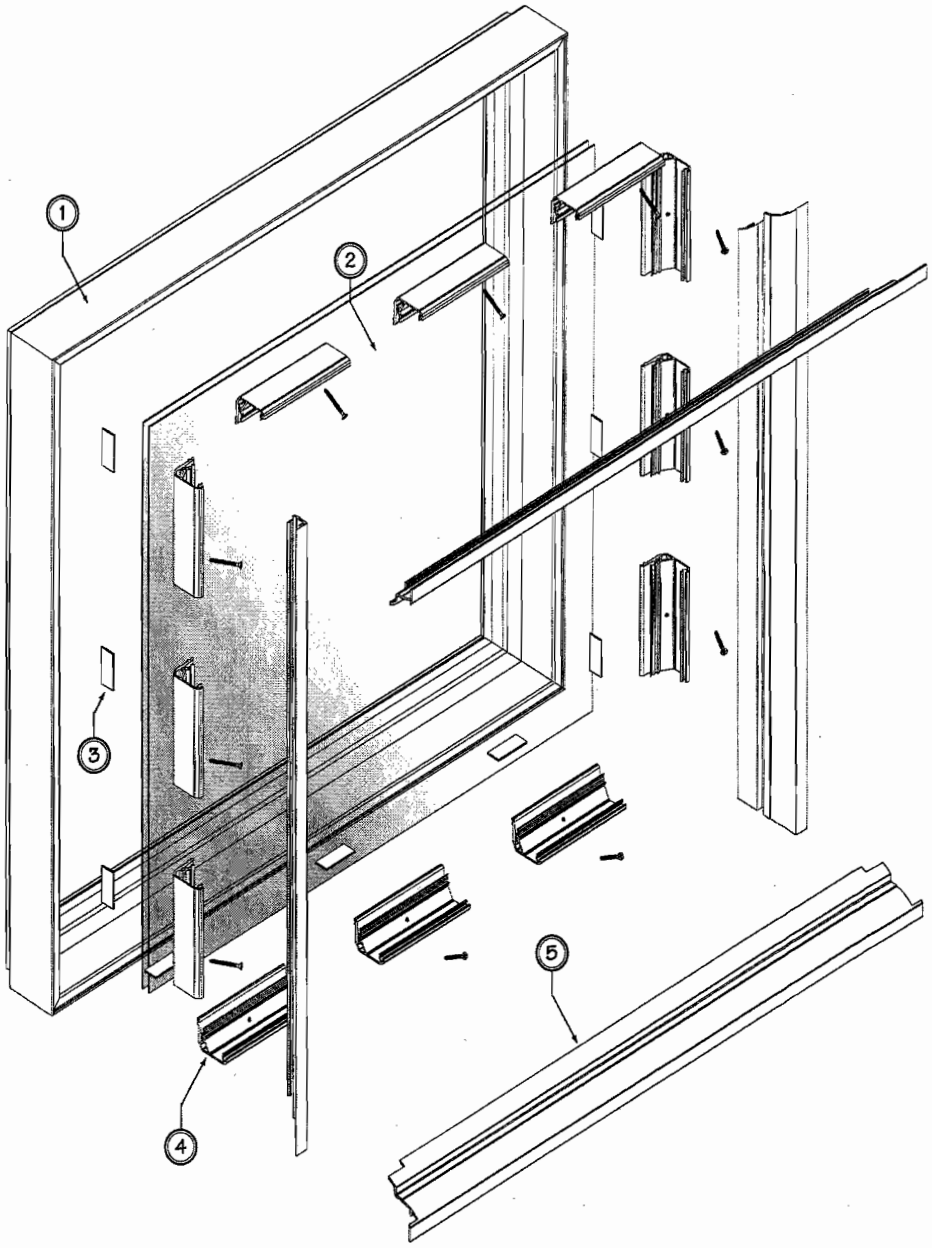
- Picture windows are the first choice when large viewing areas and daylight are desired and ventilation is not required.
- Effective in very large openings that cannot be filled with other styles of windows.
- Used extensively as stationary windows next to vent windows such as casements and double-hungs.
- Visually compatible with other Renewal by Andersen® products.

DOWN STAIRS KITCHEN WINDOW (NORTH)
UPSTAIRS KITCHEN WINDOW (SOUTH)

Picture Window Exploded View

NOTICE!

Insert picture window shown although part usage is the same or similar to those of insert and full-frame picture windows.



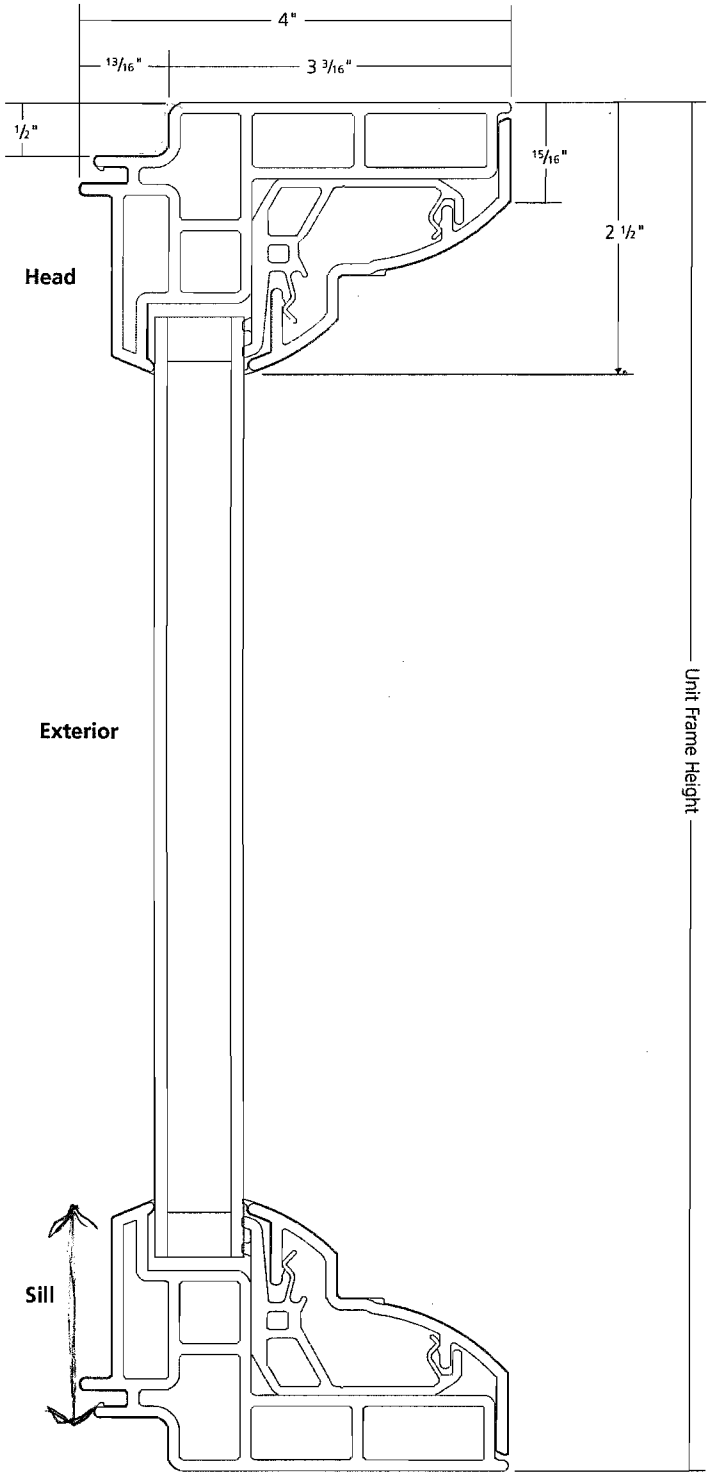
PICTURE WINDOW COMPONENTS

1. Frame (insert)
2. Glass
3. (Glass) set block
4. Glass stop
5. Glass stop cover

Window Opening and Dimensional Specifications—Insert Picture Window

NOTICE!

Window profiles shown for measurement purposes.



Full-Frame Picture Window

The full-frame picture window is a complete unit. It works well in replacement situations where the old window frame is deteriorated beyond repair or when the type of existing window frame doesn't allow for a insert double-hung window to be installed, such as old wood casement or metal frames. Full-frames are also necessary where brick mould is required on the exterior or extension jambs are required on the interior. Legs are also built in for use with gusset plates when mulling two windows together and/or installation flanges. For measuring information, please see the *Technical Measurement Manual.* For installation methods, please see the *Product Installation Manual.*

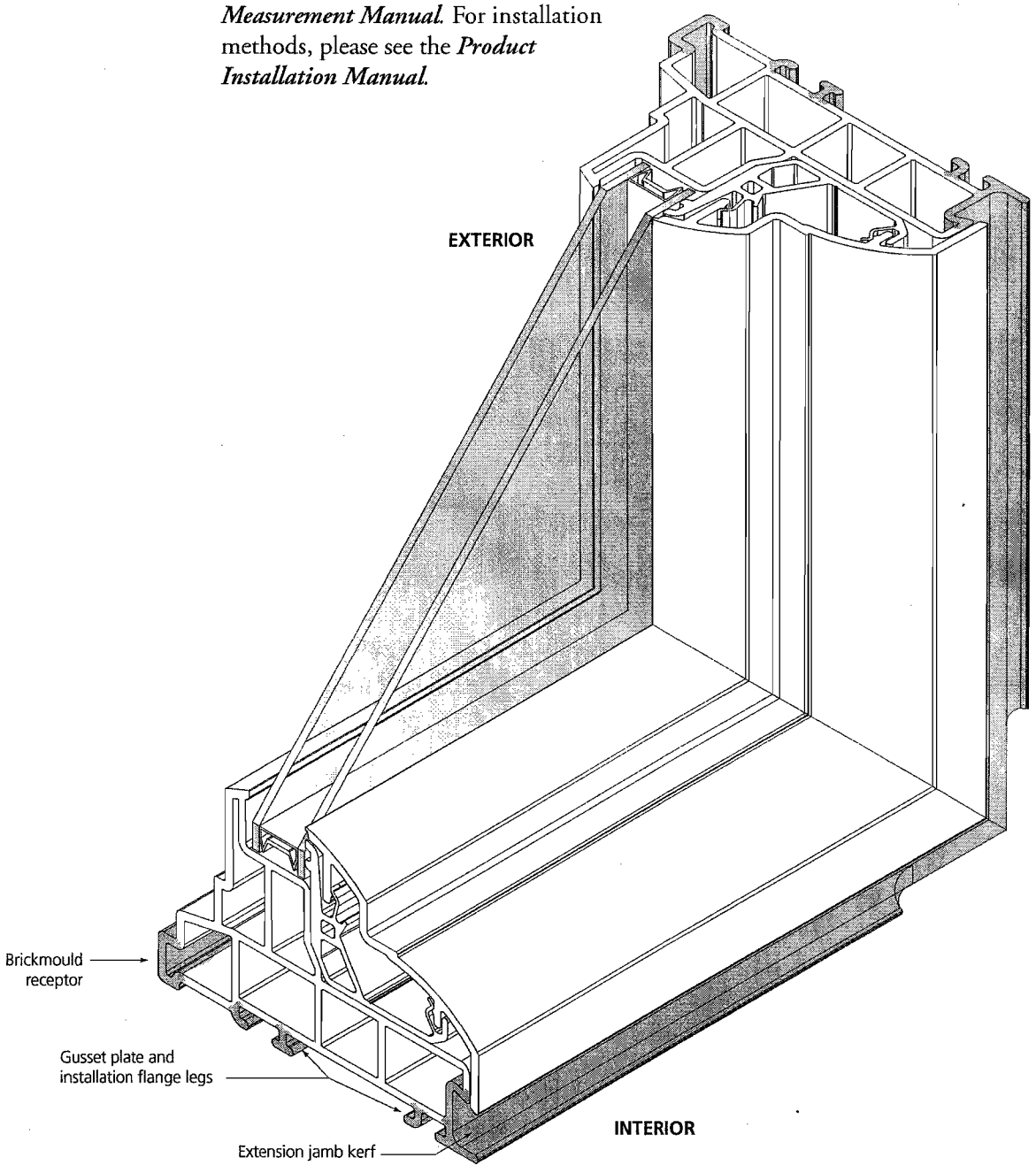
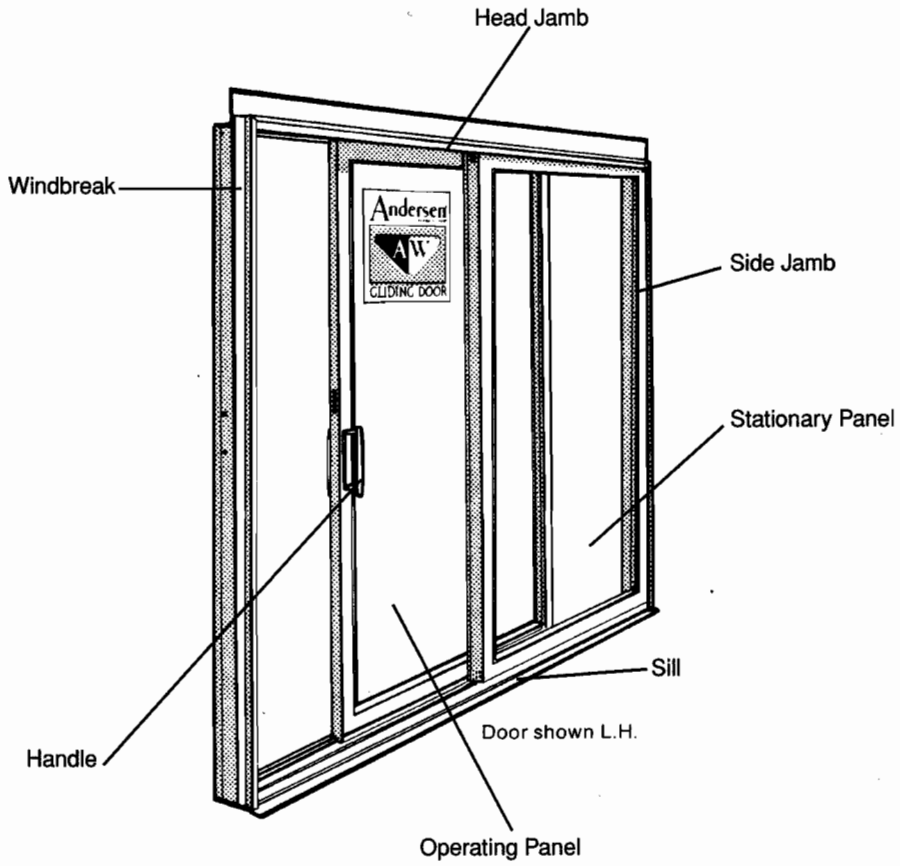


Exhibit I –
Anderson Door Diagram

2-Panel, 3-Panel and Sidelights

Parts Illustration

Parts Illustration - 2-Panel *(1982 to Present)*



Manufactured 1982 to Present

Perma-Shield Gliding Door (1982 to Present) Unit Parts - 2-Panel

Unit viewed from exterior.