WJE

VANGUARD LOFTS
Chicago Facade Ordinance Critical Examination

1250 West Van Buren
Chicago, Illinois

Final Report
9 August 2006
WJE No. 2006.0847

Prepared for:
First Properties, LLC
760 North Ogden Avenue
Chicago, Illinois 60622

Prepared by:
Wiss, Janney, Elstner Associates, Inc.
330 Pfingsten Road
Northbrook, Illinois 60062
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Expires 11/30/06

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INTRODUCTION

At the request of First Properties LLC, Wiss, Janney, Elstner Associates, Inc. (WJE) performed a façade inspection for the building at 1250 West Van Buren Street, in Chicago. The purpose of the inspection was to fulfill the requirements of Chapter 13-196 of the Municipal Code of Chicago (the Chicago Façade Ordinance) currently in effect which includes the identification of visibly unsafe and imminently hazardous conditions that need to be immediately addressed, as well as the identification of existing conditions that may require repairs in the near future.

BACKGROUND INFORMATION

Name and Address of Building

Vanguard Lofts
1250 West Van Buren Street
Chicago, Illinois 60607

Site Plan of Building

The site is bounded on the south by Van Buren Street, on the west by South Throop Street, on the north by a public alley, and on the east by an adjacent building, see Figure 1.

Principal Occupancy of the Building

The primary occupancy of the building is Class A-2 multiple dwelling residential: condominiums at the first seven floors, and a one-story elevator penthouse.

Name and Address of Owner of the Building

Owner:

First Properties LLC

Managing Agent:

First Properties
760 North Sheridan Road
Chicago, Illinois 60622

Contact: Loretta Wheeler
(312) 829-8900

Description of the Building

Number of stories - 7 stories above grade plus a mechanical penthouse

Height - Approximately 101 feet

Age - Approximately 79 years (built in 1927). The building was converted to a loft-style condominium building in 1998, where the building was completely renovated, including alterations and limited repairs to the exterior.

Plan dimensions - The building is rectangular in plan, approximately 100 feet (east and west elevations) by 160 feet (north and south elevations).

Exterior wall construction - The exterior wall construction consists of header-bonded load bearing masonry mass walls (3 - 4 courses thick) with punched openings for aluminum windows and glass block. Painted steel lintels provide support for the masonry at all opening locations. Projecting steel balconies with wood decks are present along the north and south elevations, with a single balcony along the west elevation. Limestone accents and sills are located along the north, south and west elevations. A 4 feet 6 inch parapet with limestone copings is located along the south and west elevations, and the parapet along the east and north elevations are 2 feet 8 inches tall with clay tile copings.

Overall Photographs

Overall photographs of the building have been provided in Figures 2 through 5.

CRITICAL EXAMINATION REPORT

Status

The condition of the façade as observed during our inspections is "Safe with Repair." Several of the conditions noted, however, will need to be addressed in the near future. Also provided within this report are recommendations for ongoing repairs in the future to prevent accelerated deterioration of the exterior wall assembly.

Inspection Dates

The building was inspected by Kevin A. Kalata and Everett VerSchave of Wiss, Janney, Elstner, Associates on 12-14 July 2006.

Narrative

The building was observed up close by a swing stage and with binoculars per the City of Chicago Department of Buildings Exterior Wall Critical Examination criteria. The extent of the drops included all

- When the building was renovated in 1998, the brick masonry was skim-coated and spot tuck pointed with new red mortar. Very little of the original mortar is exposed. The new mortar appears to be in good condition, as there are very few cracks and few areas of loose mortar. Where the original mortar is exposed, commonly at the parapet, the mortar is cracked and loose.
- The red bricks appear to be original and are in good condition. Very few bricks were observed to be cracked, spalled, or illustrating signs of accelerated deterioration. Small areas of spalled bricks were located and removed adjacent to corroding steel bars that penetrate the exterior wythe along the north and west facade.
- The masonry at the parapets is in poor condition. Sounding the masonry within the parapet illustrated probable deterioration of the mortar in many locations. There is also displacement in select areas of the parapet and the overall parapet is slightly leaning towards the roof. Moisture expansion of the brick masonry has also led to bowing of the parapet walls near the corners of the building. Inspection openings were created at the parapet at the west and south elevations. WJE found that the brick units were in good condition and the header courses were not cracked, though the mortar was found to be deteriorating and in poor overall condition (Figure 12).

At the north elevation, WJE observed the following conditions:

- The façade was also face-grouted and spot tuck pointed during the 1998 building renovation. The mortar along this elevation was in fair to good condition; however, WJE located several intermittent areas of loose, flaking or cracked mortar, likely due to poor pointing repairs. This condition will increase the water infiltration into the wall and expedite the deterioration of the masonry.
- The brick was in fair condition. WJE located some individual units that have cracked or spalled in areas across the elevation. This deterioration appears to be due to anticipated aging of the brick from either freeze-thaw, or iron mixed into the clay of the brick units themselves.
- Similar to the west and south facades, the masonry parapets are in poor condition. Similar signs of leaning and bowing related to moisture expansion were observed. The masonry has bowed out at several locations above the 7th floor window heads. Despite this condition, no mortar was cracked, illustrating that the movement was not recent. Sounding the masonry at the parapet also illustrated probable deterioration of the mortar in many locations. The opening conducted at one location in this parapet revealed substantial deterioration of the mortar, see Figure 13.

Limestone

Limestone was present at the following areas: coping units, decorative pier caps along the west and south elevation, water table above the second floor at the west and south elevations, and window sills along all elevations. Generally, all visible limestone was in good condition. Very few cracks were located within the limestone units themselves, and WJE located only one area where the limestone has spalled (Figure 14). Mortar joints at the limestone units were in fair condition, though several cracks were found, allowing increased water into the wall system. The limestone coping units are also in good condition, but the sealant within the coping joints has begun to fail adhesively and cohesively, see Figure 15.

Steel Lintels

The masonry above each of the window and door heads throughout the building is supported by a steel lintel, either existing from the original construction or installed during the recent renovation. Most of the steel lintels appeared to be in good condition; however, some areas of minor to moderate corrosion were noted. WJE observed the following conditions:

- All exposed steel lintels exhibited minor surface corrosion, due to the fact that none of the exposed steel was painted.
- Moderate rust scaling was noted at several of the original steel lintel locations throughout the building. Some of the discernible rust jacking was up to 1/2 inch thick, though no cracking or displacement of the masonry appeared to be caused by the corrosion. Inspection openings were created at two locations where an increased amount of rust scaling. These openings revealed that the remaining steel was in good condition with little section loss of the steel, see Figure 16.
- The steel lintels that were installed during the renovation are in good condition and showed no signs of rust scaling. PVC membrane flashing with rope weeps were observed at most of these window heads, see Figure 17.
- The window lintel along the south elevation at the 7th floor, second from the west, had experienced full section loss along a 1/2 inch length of the steel plate directly adjacent to the masonry jamb, see Figure 18. Because the lintels are riveted (not loose-laid) and because the corrosion was significant at only one small area along the lintel, it is not considered an immediate safety concern, but should be addressed in the near future.

Windows

All of the original windows were replaced during the 1998 building renovation with new aluminum windows. The windows were all punched window openings with composed of different sizes. All windows appeared to be in good condition. WJE observed the following conditions:

- WJE located one cracked window pane, at the 4th floor along the west elevation. The crack was along the exterior pane and had not extended far from the corner of the window pane.
- The window perimeter sealant was generally good condition; some isolated adhesive failures were noted.
- Some of the preformed gaskets along the exterior side of the window panes were not set into their respective tracks. This condition appears to be related to ultraviolet exposure, which over time results in gasket shrinkage and brittleness. Despite this condition, none of the window panes were found to be loose.
- Many of the windows exhibited some slight surface corrosion.

Balconies

Part of the renovation included installing steel balconies on the north and south elevations and a single balcony on the west elevation. Each of the balconies is supported at four points by steel plates mechanically anchored to the wall with bolts. WJE observed the following conditions:

- The wood decking was fastened to wood nailers that have been screwed to the steel framing of the balconies. The wood decking was loose at the 4th floor, west-most balcony, along the south elevation, as the nails had appeared to pull out and the deck boards had curled up, see Figure 19.
- The steel framing, railing, and balusters of the balconies appeared to be in good condition. Some small areas of surface corrosion were noted where the paint was chipped or cracked.
- At the 4th floor balcony at the southeast corner of the building, WJE noted that one of the anchors securing the support plate to the masonry wall was missing and sealant was installed where the pre-drilled hole in the anchor was located (Figure 9).

- At the 7th floor along the north elevation, 4th balcony from the west façade, WJE noted a missing nut for the clevis through-bolt (Figure 10).

Glass Block

Glass block is installed along the west elevation to provide natural light to bathrooms. At locations at the 4th, 6th, and 7th floor along the west elevation, several of the exterior "panes" of the glass block are cracked (Figure 20). The cause of the cracks was not evident during the inspection, as the mortar between the blocks appeared to be in good condition and no signs of an impact were observed. Two glass blocks at the 6th floor along the west elevation are also broken. WJE removed all loose glass that was found at these units. All remaining glass block appeared to be in good condition.

Clay Tile Coping

Clay tile coping is present along the north and east parapets. Most of the individual copings themselves appear to be in good condition; however, mortar was set at the laps in the copings. This mortar is cracked, loose, and is missing in many locations, see Figure 21. At several locations, the individual clay tile copings were broken and mortar was filled in where the clay tile was broken. The remaining clay tile copings appeared to be in good condition.

Miscellaneous

WJE observed water staining and potential decay at a roof timber at the top floor of the northeast stair tower, see Figure 22. The staining is likely due to a broken clay tile coping along the parapet above the stained wood member, see Figure 23.

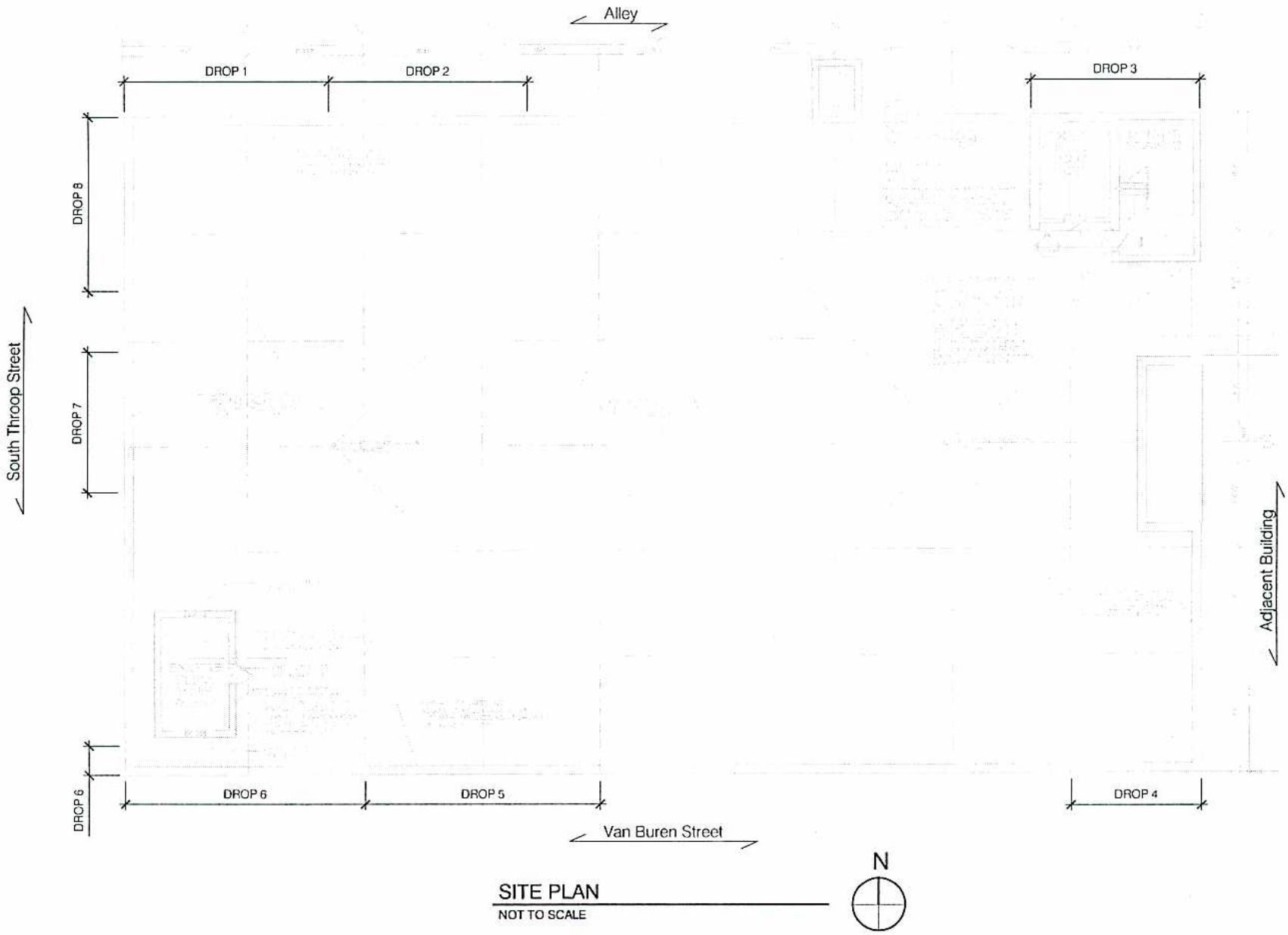
CONCLUSIONS AND RECOMMENDATIONS

All existing hazardous conditions have been removed from the façade during the course of the critical examination. All remaining conditions are considered "safe with repair." We recommend the following monitoring and repair plan.

Monitoring / Future Examination Program

Ongoing Inspections:
Due to the concerns mentioned above with the parapets and visible corrosion and rust jacking of several of the lintels on the building, we recommend that the exterior façade be monitored on a bi-annual basis in accordance with the City of Chicago Façade Ordinance. Monitoring can be performed with binoculars and high-powered spotter scope from grade level, and any noted significant new distress should be further inspected up-close with the use of a swing stage or from the balconies.

Critical Examinations:
In compliance with the façade ordinance, all building corners and 50 percent of the remaining wall areas are to have a close-up visual inspection at four year intervals, making the next required critical examination in 2010. If potentially hazardous conditions are observed during the Ongoing Inspections, close-up visual examination of those conditions will be required at that time.



SITE PLAN

NOT TO SCALE

Figure 1

Recommended Repair Program

2006 (Repairs within 30 days)

1. The cracked window pane, two broken glass blocks, and five cracked glass blocks should be removed and replaced.
2. The condition of the missing anchor bolt at the 4th floor balcony at the southeast corner of the building should be addressed. Due to the fact that the original anchors were tied into the floor structure, an alternate anchoring system may be required. This should be investigated by a licensed structural engineer.
3. The nut to the clevis through-bolt at the 7th floor of the north elevation should be installed.

2007 (Repairs within 1 year)

1. Rebuild deteriorated and displaced sections of masonry along the west end of the south elevation parapet and at bowed areas above the 7th floor window openings on the north elevation. The extent of work may increase from that which is shown as backup conditions are not fully known at this time. Areas of parapet which are to remain should be ground out and tuckpointed along the interior and exterior faces for additional stability and durability.
2. The cracked or broken clay tile copings at the penthouse should be replaced and further investigation should be performed to determine the integrity of the existing stained and potentially decayed wood beam at the northeast stair tower.

2008 (Repairs within 2 years)

1. Replace significantly corroded steel window head lintels at original window head locations primarily along the west end of the south elevation and the north end of the west elevation, and install new stainless steel pan and membrane flashing system. As mentioned above, the rust jacking at some locations will begin to cause problems within the brick masonry and the continuous loss of section of the steel lintels may create instability with the brick masonry above the lintels. The lintels should continue to be reevaluated during future inspections and examinations to identify additional repairs. We would recommend that the board consider implementing a preventative maintenance program that would include the installation of new flashings at all original lintel areas to reduce the potential for additional masonry distress and water infiltration.
2. The joints in the limestone coping stones should be routed and sealed. The mortar at the joints in the clay tile coping joints should be removed and replaced with sealant. The cracked clay tile coping units should also be replaced. This would reduce the amount of water entering the wall assembly at the parapet.

2010 (Repairs within 4 years)

1. All parapets areas which have not been addressed should begin a repair/rebuild program, starting with the most distressed areas at the time of inception. Over a period of 8 to 16 years, depending on observations during Ongoing Inspections and future Critical Examinations, all parapet areas on the building should be repaired or rebuilt. The new parapet should be designed with vertical expansion joints to accommodate movement of the brick due to thermal and moisture expansion and through-wall flashings should be installed below the coping stones to minimize water

penetration. WJE also recommends that the coping flashing be integrated with the roof counterflashing to prevent moisture penetration at the roof termination. The counterflashing should be a two-piece system to allow for it to be removed during roof repairs or replacement.

Comparison to Previous Critical Examinations

There were no previous critical examinations made available to WJE at the time of this report.

LIMITATIONS OF THE CRITICAL EXAMINATION PROGRAM

Because of the physical properties of exterior wall assembly and the limitations on detecting concealed internal wall distress, the Critical Examination Program may not find all "unsafe and imminently hazardous conditions" in the wall that are not visible from the exterior. Therefore, the performance of the Critical Examination Program and the submittal of a report on the program are not a representation that all "unsafe and imminently hazardous conditions" in the wall have been identified.

Figure 2. North elevation

Figure 3. West elevation

Figure 4. Southwest corner of building

Figure 5. South elevation

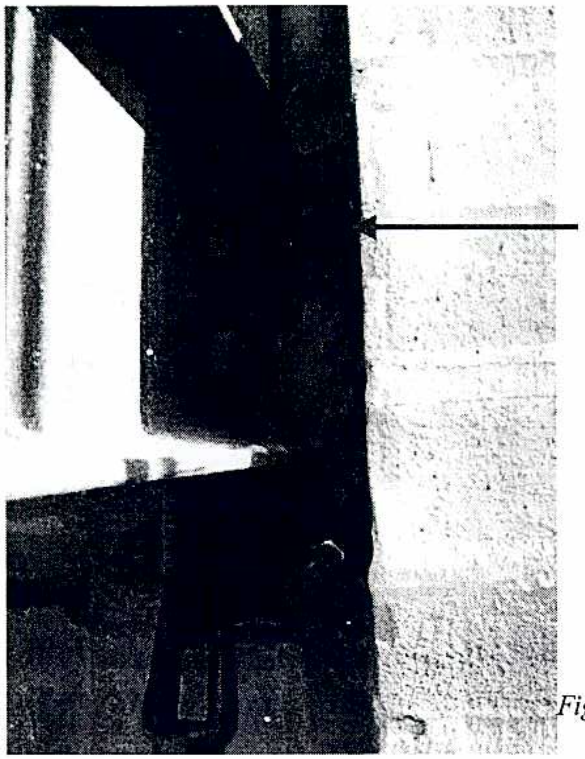


Figure 9. Mounting plate with missing bolt

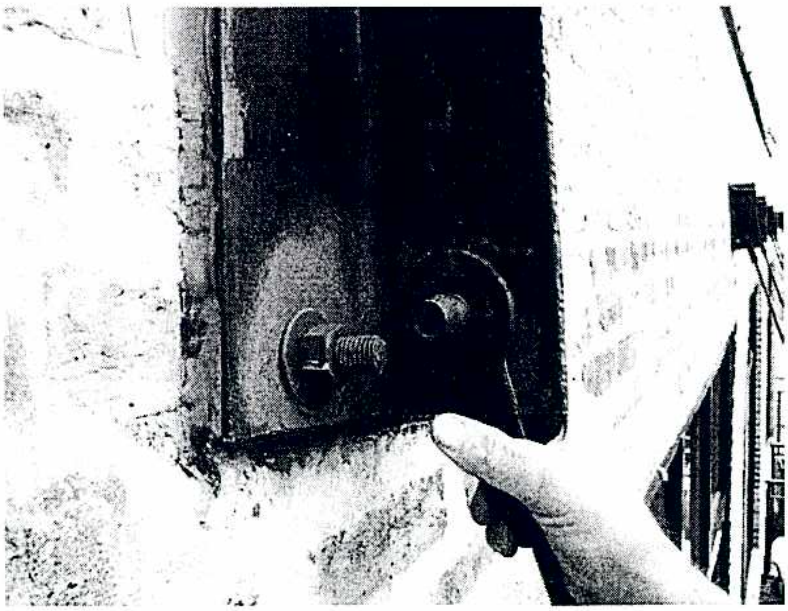


Figure 10. Missing nut at clevis through-bolt

Figure 11. Broken glass blocks at the 6th floor of the west elevation.

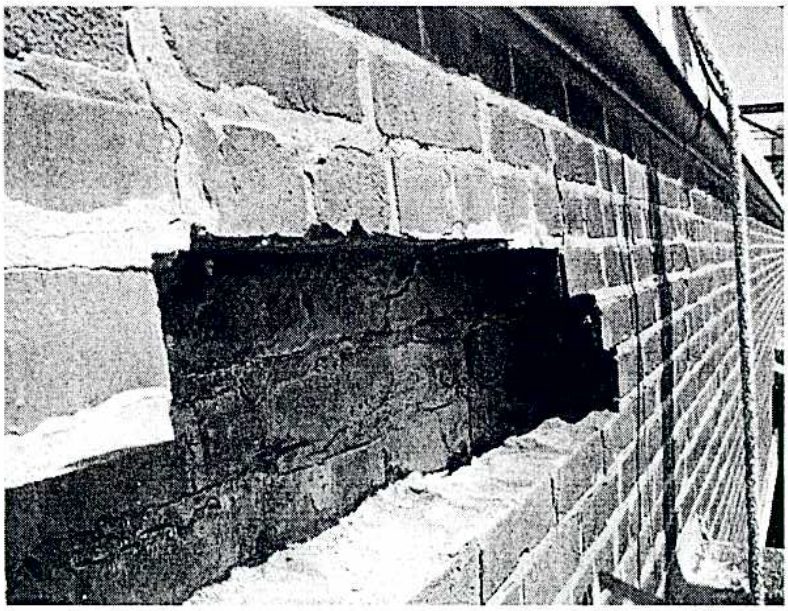


Figure 12. Inspection opening at parapet along south elevation.

Figure 13. Inspection opening at parapet along north elevation.

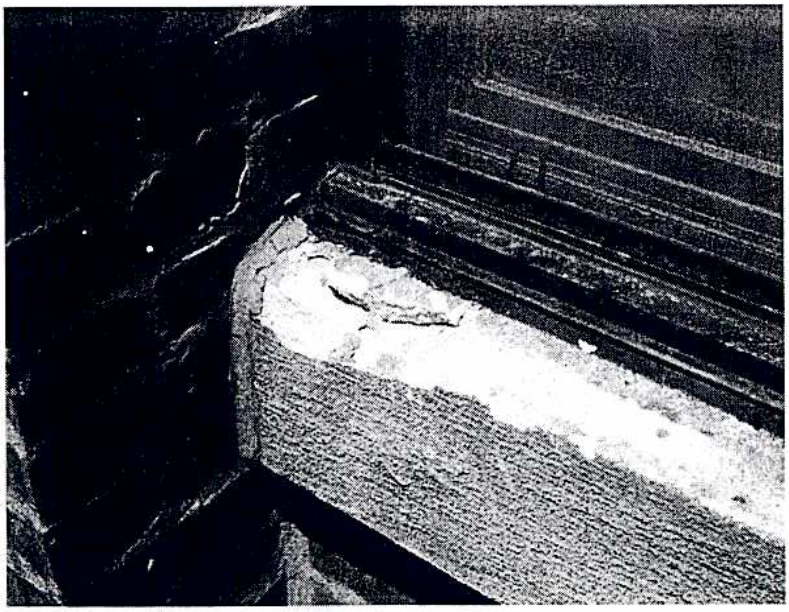


Figure 14. Isolated area of spall in limestone sill.

Figure 15. Failure of the sealant at joints in the limestone coping.

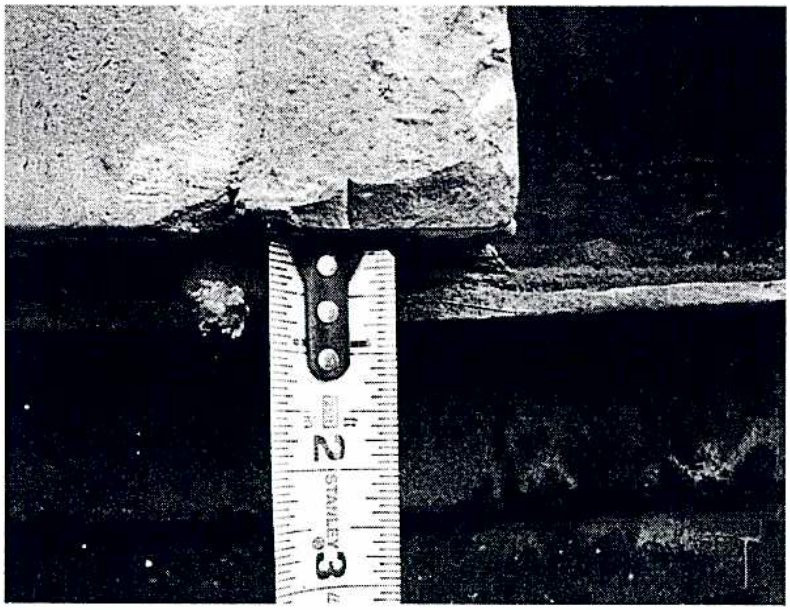


Figure 16. Rust jacking at steel lintel.

Figure 17. Steel lintel with PVC flashing membrane.

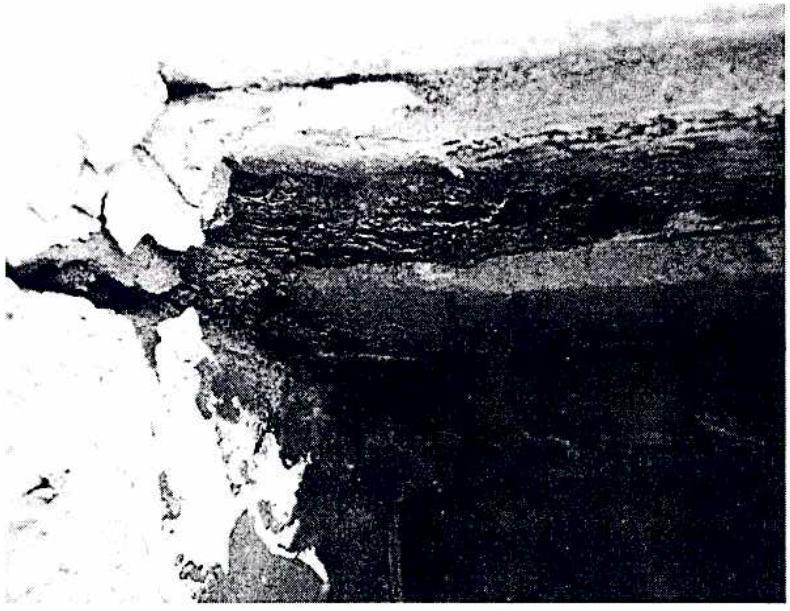


Figure 18. Corrosion of the steel lintel near the jamb

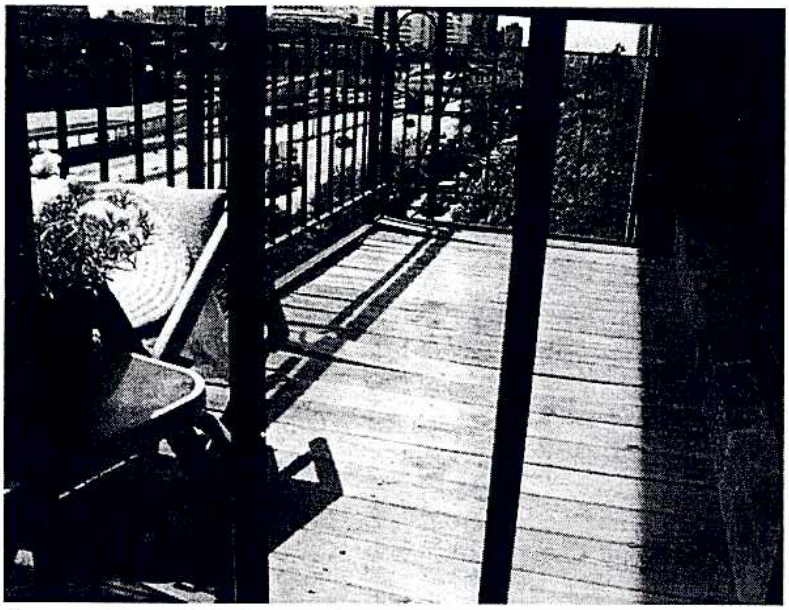


Figure 19. Wood decking curling where nails are no longer anchored into nailer below

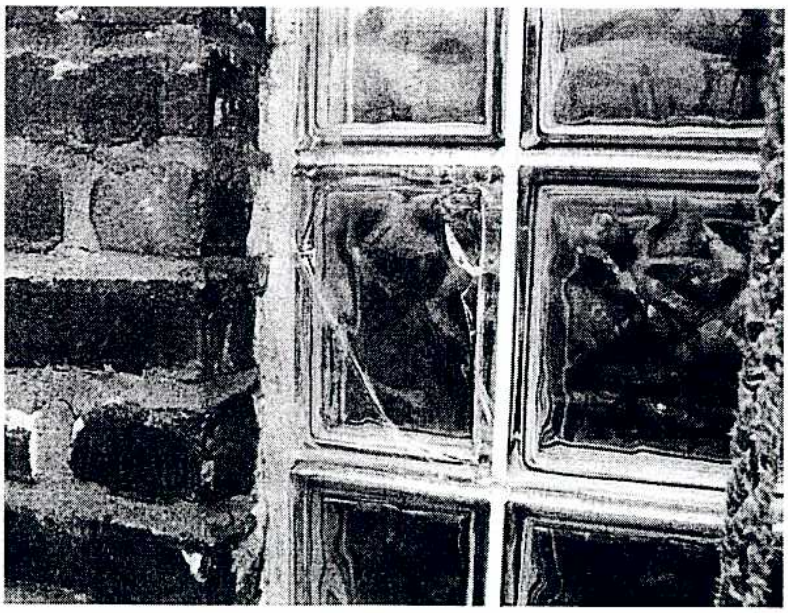


Figure 20. Cracked glass block along west elevation.

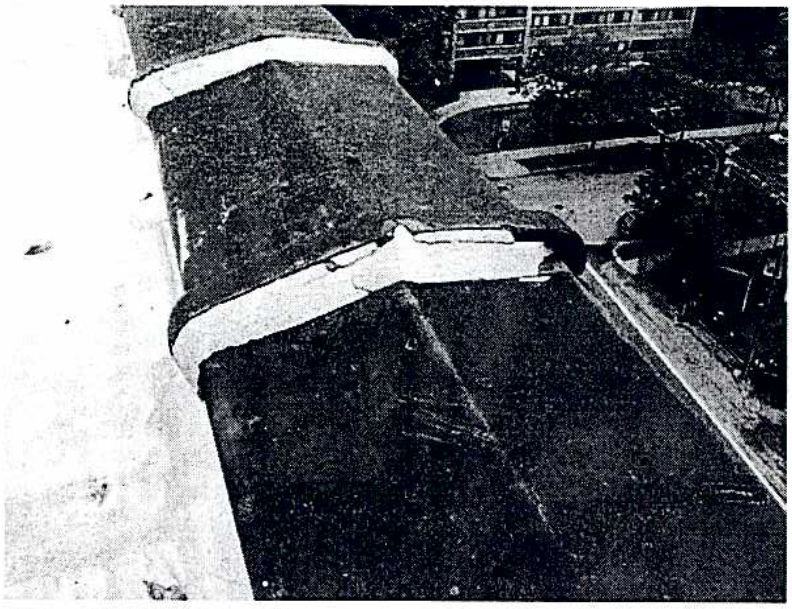


Figure 21. Cracked and loose mortar at lap joints in coping

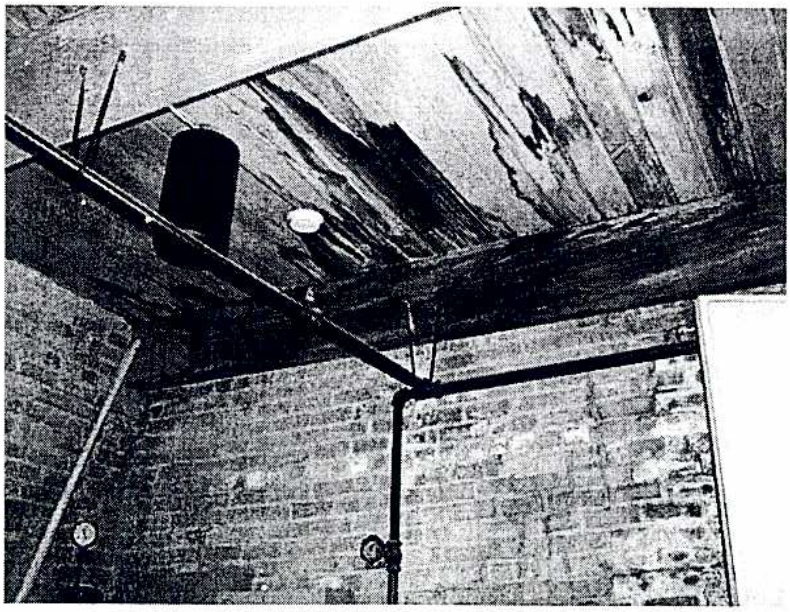


Figure 22. Staining and potential decay of wood beam at top floor of northeast stair tower

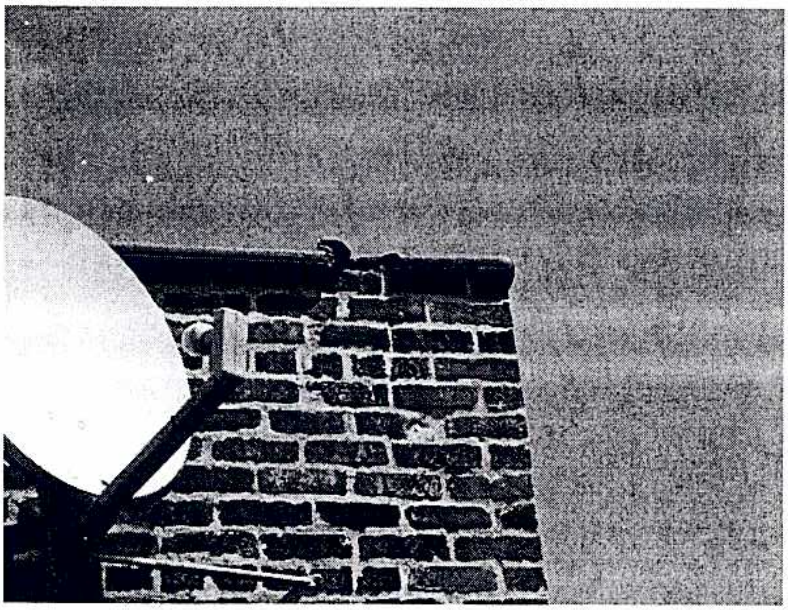


Figure 23. Broken clay tile coping above stained timber beam