CHAPTER VI

MATERIALS CONSERVATION ANALYSIS

INTRODUCTION

PURPOSE OF MATERIALS CONSERVATION

The materials conservation analysis on the Housing and Urban Development (HUD) Building at 451 7th Street, SW, Washington, DC (Building #DC0092ZZ), was prepared between June and December of 1994. The purpose of this analysis is to provide the information required to stabilize, preserve, restore and maintain the significant materials of the building. Restoring and preserving the original appearance of the building's materials and details will return the building to its original appearance, thus expressing the original intent of the administration and designers who created the building. Proper maintenance will preserve the appearance of the materials, thus slowing the rate of deterioration and substantially extending the building material's life.

GENERAL CONDITION STATEMENT

The HUD Building has been altered very little since it was completed in 1968. The majority of the original building fabric is intact and in good condition, thus the building has retained much of the integrity of its original design. The exterior elevations of the building have remained virtually unchanged with the exception of the alteration of the entrances and the addition of expanded metal enclosures at the stairs. Minor renovations and additions have altered the interior spaces of the building. The exterior surfaces of the building are cast concrete and granite panels. These surfaces are lightly soiled and, other than small areas of exposed corroding steel in the concrete, are in good condition. The paint finish in the metal railing at the west elevation is failing and the metal railing is corroding. The majority of the original bluestone paving on the exterior of the building is in poor condition and approximately half of the paving has been replaced with stone not matching the original. A portion of the pavement of the east side of the building has been removed and the drives paved with asphalt. Two sections of the concrete screen walls at the northeast corner of the building have also been removed. The original landscaping has been followed with minor alterations when the handicapped ramp and playground were recently constructed. The original exterior light fixtures and stanchions have been removed and the revolving doors at the northeast and southeast corners have been removed and replaced with new swinging doors.

The interior of the building is largely intact and, although soiled, is in good condition. The alterations involving the removal of original fabric from significant spaces were: the renovation of the Cafeteria in 1993 where two original partition walls were removed and

"capitals" were added to the concrete columns; the removal of the original granite guard's desk from the southeast entrance; and partitioning off of the Library. Partitions have been added in the northeast and southeast entrance lobbies to create vestibules. Creation of a handicapped stall in the public toilets has also involved the removal of an original toilet and metal partition in one pair of toilets on each floor at each core. The Secretary's (or Administrator's) Suite has also been altered with the addition of partitions to create additional offices, thus changing the original character and organization of the suite. The cherry paneling in the offices and conference rooms has been finished with gloss varnish, altering the original natural finished appearance of the wood. The ash paneling in the offices and conference rooms has been stained a variety of colors, also changing the appearance of the original wood's natural finish. The original unpainted concrete in the lobbies and stairwells on the interior of the building is in good condition although typically soiled. The exposed concrete has been painted in the Cafeteria and at the soffits above the elevators on the second through tenth floors. Original painted plaster and metal surfaces in the building are in good condition and have been recently painted although the colors do not match the original colors. Numerous coats of wax applied to the bluestone flooring on the first floor have changed the original rough blue-grey appearance of the stone to a smooth shiny black appearance.

CONCEPT FOR TREATMENT OF EXISTING FABRIC AND REPLACEMENT OF MISSING FABRIC

The decision to replace, repair or restore a missing or deteriorated element is determined by the location or zone in the building in which the item or element exists. Each elevation and space within the building is assigned to one of three zones based on its historical or architectural significance. These assignments are described in detail in Chapter IX.

The exterior elevations and interior public spaces along with the wood paneled offices and conference rooms are identified as Restoration Zones. The goal for these elements is to restore them as nearly as possible to their original form and condition. Treatment concept of the deteriorated existing fabric in these areas is to retain all of the existing original material possible and repair, refinish or restore the material to its original appearance and function. Replacement of materials that are severely deteriorated or are no longer suitable for use is to be done with materials matching the originals. The concept for missing original elements in the restoration zones is to replace the missing materials with materials matching the originals. If defects in the original design or change in the function of the space makes replacing the missing element not feasible, then the goal is to make the necessary alterations compatible with the existing original materials and design.

The second zone classification is the Rehabilitation Zone, which are areas of lesser importance but which contain some significant architectural materials and details. These significant details can include both original permanent materials and original "renewable" materials. Renewable materials are finishes typically replaced periodically, such as carpet, vinyl tile, paint and wall coverings. The concept in the Rehabilitation Zones is to retain the existing significant architectural materials, details and finishes. Alterations to these spaces are acceptable, provided the significant fabric is not damaged, altered or removed.

Repair and refinishing of the significant permanent fabric shall not damage the material's original finish. Replacement of renewable significant fabric should be done with materials that match as closely as possible to the original material. Missing materials in the Rehabilitation Zones are not recommended for replacement with materials matching the originals.

The third classification is the Renovation Zone which are areas that do not contain significant materials or elements. Here the concept is to make repairs and replacements as necessary without giving preferential treatment to the retention and repair of the existing fabric.

BUILDING FABRIC ANALYSIS METHODOLOGY

Building analysis included on-site survey of the existing building, review of the original drawings and specifications to determine original finishes and later alterations, research into the types of deterioration observed, and research to determine the alternatives and appropriate types of treatments. All of the exterior elevations of the building were surveyed from the ground using binoculars. The roof and penthouse walls were surveyed from the roof. The plaza paving was also surveyed. The interior spaces surveyed include: north and south lobbies, elevator lobbies, cafeteria, public toilets, stairwells, library, Secretary's (or Administrator's) and Deputy Secretary's Suite on the tenth floor, Departmental Conference Room on the tenth floor, Commissioner's or Executive Office Suites on the fourth through ninth floors, typical corridors, typical office spaces, and typical toilet rooms. Types of deterioration observed during the survey were researched to determine the causes of the deterioration and establish possible alternative solutions. Typical alternatives discussed are no treatment, repair and replacement. Preventive measures are discussed where appropriate. Actual on site testing of materials is limited to cleaning tests of the exterior concrete and granite and the interior concrete surfaces. Recommendations for treatment are based on compatibility of the appearance of the repair with the original appearance, the cost of the repair, the life expectancy of the repair and the future maintenance costs expected due to the repair.

SIGNIFICANT MISSING OR DETERIORATED BUILDING COMPONENT METHODOLOGY

Survey of the missing and deteriorated components of the building was performed along with the building fabric analysis. The condition of the deteriorated and altered elements was recorded and the cause of the deterioration or reason for the alteration determined. Original drawings and early photographs were reviewed to determine the original appearance and materials of the missing and deteriorated elements. Alternatives including no treatment, change in the design, or change in the materials were evaluated. Recommendations for repair or replacement are based on compatibility of the appearance of the repair with the original appearance of the element, the cost of the repair, the life expectancy of the repair and the future maintenance costs expected due to the repair.

INDIVIDUAL BUILDING MATERIALS

GRANITE

LOCATIONS OF GRANITE

Cherry Hill granite with a flamed "thermal" finish covers the exterior walls of the stair towers on the corners of the building (Illus. Nos. 6-43 - 6-46) and the exterior walls of the building on the first floor (Illus. Nos. 6-47 - 6-48). A polished finish was used in the date stone at the center of the east elevation and also for the original guard's desk at the southeast entrance lobby. The Cherry Hill granite is a dark grey stone with white, grey and gold flecks. The granite was quarried and fabricated in St. Peters, Pennsylvania by the French Creek Granite Company. This quarry is now owned and operated by the North Carolina Granite Corporation, P.O. Box 151 Quarry Road, Mount Airy, North Carolina 27030. Samples of the Cherry Hill granite from North Carolina Granite were very similar to the granite on the building although the sample had no white flecks as seen in the original granite.

The panels on the stair towers are shown on the original drawings as having a 3 inch nominal thickness. The wall panels on the first floor are shown with a 2 inch nominal thickness. The panels are shown to be held in place with stainless steel disk anchors secured into dovetail slots cast into the poured in place concrete walls. Stainless steel relieving angles were installed at each floor level of the corner stair towers to support the granite. The original drawings required two anchors top and bottom and one anchor on each side of each stone panel, however, this arrangement was difficult to install and was revised to require anchors only at opposite sides of the panels. Joints in the stone panels were specified to be pointed with grey mortar and raked back 1/4 inch. Joints at relieving angles on the stair tower were pointed with sealant. The granite soffit stone at the bottom of the stair tower wall was originally shown to be "L" shaped, cut from a single piece of stone. This soffit detail was difficult for the granite fabricator to do so the "L" shaped piece was made from two pieces of granite epoxied together. By 1972, several of the bottoms of these "L" shaped pieces had come off. As a result, all of the soffit pieces were anchored with metal expansion anchors and exposed stainless steel cap nuts (Illus. No. 6-8). The granite joints were also repointed and sealed at this same time.

TYPES OF GRANITE DETERIORATION AND CAUSES

The granite end walls of the building are moderately soiled with slight streaking under some of the vertical joints (Illus. Nos. 6-43 - 6-46). The granite clad walls of the first floor are lightly soiled (Illus. Nos. 6-47 - 6-48). These walls are also streaked and appear to have been cleaned unevenly. The granite walls of the first floor are also stained with tape adhesive stains, marker graffiti stains, diesel exhaust stains and glue stains from signage (Illus. No. 6-2). The granite walls are also scuffed from car bumpers and from removal and relaying of the bluestone paving.

Several of the granite panels at the tops of the walls of the corner stair towers are dislocated (Illus. No. 6-1). This movement was probably caused by water in the wall freezing and forcing the panel out of alignment. There does not appear to be any water entering the wall at this time.

The original polished granite guard's desk has been removed and a new desk made of stucco to match the concrete installed near the location of the original desk. See "POLISHED GRANITE GUARD DESK" below.

GRANITE: ALTERNATIVE SOLUTIONS

Soiled, Scuffed and Stained Granite

- No Treatment. This could allow permanent staining and future damage to the granite walls. Graffiti not removed immediately after it is done often encourages other "graffiti artists" to add to the graffiti. The oil stains from the vehicle exhaust may permanently stain the granite if not removed. If automobiles are allowed to scuff the granite walls they may eventually chip or spall the walls if the walls are not protected.

- Clean the granite walls evenly and remove stains and soiling. This alternative will restore the original appearance of the walls but will do nothing to prevent future staining or damage.

- Apply a coating to allow the easy removal of stains and graffiti. "Anti Graffiti" coatings are typically expensive, often alter the appearance of the material, need to be reapplied periodically, and still require personnel to remove the graffiti. A serious graffiti problem must exist to make this alternative viable.

- Periodically inspect granite walls and remove graffiti. Inspection and removal of graffiti by trained building maintenance personnel using tested and approved methods will help prevent the unsightly accumulation of graffiti.

- Install wheel blocks to prevent car bumpers from scuffing the granite walls and car exhaust from staining granite walls. Preventing contact between automobiles and the granite walls will prevent scuffing of the walls and possible future damage.

Dislocated Granite Panels

- No Treatment. The joints around the dislocated panels have been pointed and sealed preventing water from entering the joints in the future. Because the condition of the anchorage is unknown, this is not a viable option.

- Inspect dislocated panels. Inspect the panels that are out of alignment to determine the cause of the movement and the condition of the anchors. This option may require further work.

- Remove and reinstall dislocated granite panels. Because the panels are only slightly out of alignment, they are not noticeable from the ground. Removal and reinstallation is only necessary if the anchorage needs to be replaced.

GRANITE: RECOMMENDATIONS

- Clean the granite walls evenly and remove stains and soiling following the procedures under Chapter X, Guideline Specification for "Exterior Masonry Cleaning."

- Periodically inspect granite walls and remove graffiti. Using trained building maintenance personnel, follow tested and approved methods to remove the graffiti without damaging the granite. See Chapter X, Guideline Specification for "Exterior Masonry Cleaning."

- Install wheel blocks to prevent car bumpers from scuffing the granite walls and car exhaust from staining granite walls. Wheel blocks should be compatible with the existing materials, design and detailing of the building.

- Inspect the panels that are out of alignment to determine the cause of the movement, the extent of the movement and the condition of the anchors.

EXTERIOR CONCRETE

LOCATIONS OF EXTERIOR CONCRETE

There are two types of exposed concrete on the exterior of the building: cast-in-place concrete and precast concrete (called Architectural Cast Stone on the original drawings and in the original specifications). The precast concrete has a smoothed formed finish and is used for the window wall panels on the second through tenth floors (Illus. Nos. 6-37 - 6-42) and site elements such as the light standards, stanchions and screen walls. Cast-in-place concrete is used for the concrete "trees" or pilotis that support the upper floors of the building, the sign "banner," retaining walls around the basement garage entrances, retaining walls at the west side of the building, walls at the loading dock entrance, first floor walls at the corner stair towers, ends of the screen walls, the walls of the penthouse (Illus. No. 6-36) and the portions of the first floor walls adjacent to the building entrances.

Three different finishes are used on the exterior cast-in-place concrete. The majority of the exterior cast-in-place concrete has a wood formed finish created by the use of random width (4"-6") tongue and groove vertical boards. This random width formed surface is

used on the retaining walls, banner, first floor walls at corner stair towers, and penthouse walls. The four faces of the pilotis have the same formed finish except the joints between the boards have a "V" groove and the form boards were set at 45 degrees on the major faces and horizontally on the sides. The chamfered corners of the pilotis have a smooth plywood formed finish. Walls and pilotis are divided into sections by 3/4 inch wide by 3/4 inch deep recessed joints and large sections of walls have round recesses remaining from the formwork support cone-ties. The cast-in-place concrete walls at the exterior walls of the first floor, adjacent to the building entrances, have a bush hammered finish matching that used on the walls at the interior of the building. The wall surfaces are divided into panels with 1-1/2 inch wide by 3/4 inch deep joints. The faces of the panels were bush hammered to within 1 inch of the edges of the panel to create a rough finish. A 4 inch high by 3/4 inch deep recess at the bottom of the wall creates a base for the wall.

Original Concrete specifications, Section 8 of "Specifications and Bid Forms," contained 25 pages describing the cast-in-place and precast prestressed concrete, materials, testing, reinforcing, formwork, placement, and finishing. There are numerous pieces of correspondence written during the construction of the building that indicate several problems with the appearance of the cast-in place concrete. A memorandum regarding the Architectural Concrete, dated 21 September, 1966 and written by Herbert Beckhard, described the concrete tree columns as "most satisfactory" but that pour joints were not properly located and honeycombing existed in the other concrete. Another letter from Mr. Beckhard, dated 29 March, 1968, addressed the "rusting condition at the 'tree' columns." This letter referred to the rusting at the soffits of the "trees" and recommended experimenting with non-glossy epoxy and acrylic coatings in an attempt to prevent further staining. The letter also recommended that this work not be performed by the general contractor but the "tree columns be turned over to GSA in a clean condition and GSA can pursue the problem from that time on." Non-corrosive reinforcing supports would have prevented this rusting and although zinc-coated steel spacers and chairs were required by the Concrete specification, they were not used. The photograph of one of the concrete "tree" columns taken in 1968 when the building was completed (Illus. No. 3-53) shows "dots" of the exposed steel supports on the smooth faces of the concrete. Several areas that appear to be concrete patches can also be seen on the smooth faces of the concrete.

Section 17, Architectural Cast Stone, of the "Specifications and Bid Forms" contains only three pages describing the precast concrete used in the exterior wall panels, stanchions, light standards, and screen walls. These specifications describe the materials and fabrication requirements but do not describe the required appearance of the cast concrete. A letter from Herbert Beckhard, dated February 23, 1967, states that the white color of the screen walls was not desired and that these items should match the poured concrete. Another letter from Mr. Beckhard, dated May 2, 1968, noted that he was not satisfied with the appearance of the screen walls and that the joints in the precast screen walls should be flush and not raked back as shown on the drawings. This flush pointing was not done and the joints remained raked back to accentuate the triangular precast screen wall units. These joints should remain raked back to conceal the crack in the mortar joints; flush joints may also accentuate any irregularities in the wall and alignment of the precast walls.

TYPES OF CONCRETE DETERIORATION AND CAUSES

Concrete beams under the northwest corner of the building at the second floor level that support the corner stair tower are cracked in their centers (Illus. No. 6-8). The cracks are hairline on one beam and are very narrow, $\pm$1/6 inch wide. The cracks are caused by the forces on the concrete beam exceeding the tensile strength of the concrete. As a result the concrete beam cracked at its center, at the location of the maximum tensile stress. The steel reinforcing is resisting the tensile stresses in the concrete beam.

The concrete is typically lightly soiled but has areas of moderate to very heavy soiling. The amount of soiling of the exterior wall panels varies from almost no soiling to moderate soiling on the sides, head and sill of the recessed window wall panels not washed by the rain. Variations in the amount of soiling on the precast wall panels is due to the direction from which the rain and wind wash the building and deposit soil. The back and sides of the cast-in-place concrete pilotis are also soiled more heavily than the front of the pilotis which are washed by the rain (Illus. No. 6-3). The concrete under the large louvers at the penthouse are stained with dirt that has washed off of the soiled exhaust louvers by the rain (Illus. No. 6-9). The back sides of the screen walls under the first floor of the building are very heavily soiled (Illus. No. 6-12).

Stains from corroding steel reinforcing and reinforcing bar chairs and supports are found on both the precast and cast-in-place exterior concrete (Illus. Nos. 6-37 - 6-42). This staining appears on a small percentage of the precast concrete wall panels (Illus. No. 6-7) but occurs on all of the concrete pilotis, creating distracting patterns of rust (Illus. No. 6-4). The cause of the corrosion is insufficient concrete cover or lack of concrete cover over the steel. The natural high alkalinity of concrete causes a passivating film to form on the surface of the steel, creating a protective covering over the steel. Lack of concrete cover or thin cover allows the corrosive elements in the environment and moisture to penetrate the concrete and corrode the steel, resulting in the rust stains. Corroding steel bands that have been attached to the precast concrete light standards to attach signs are causing staining on the posts (Illus. No. 6-14).

Spalling from corroding steel reinforcing occurs in the sides and faces of many of the concrete pilotis (Illus. No. 6-4). Corrosion of the reinforcing in the precast copings of the screen walls has caused many of the copings to crack into two pieces (Illus. No. 6-4). Several of these copings are missing and several have been replaced with precast concrete lintels (Illus. No. 6-11). There are several minor spalls on the precast concrete wall panels probably caused by corroding steel reinforcing in the wall (Illus. No. 6-5). The cause of the spalling of the concrete is an insufficient cover of concrete over the steel. Moisture has penetrated the thin layer of concrete covering the steel and caused the reinforcing steel to corrode and expand in volume which forces the outer thin layer of concrete to spall off. (These spalling pieces of concrete will eventually fall and may damage the cars parked below or hit pedestrians.)

The joints in the centers of the screen walls under the northeast and southeast wings of the building are typically cracked. The cracks occur on the column line and are a result of the slight movement of the floor structure on either side of the column.

The surface of the exposed edges of the precast concrete wall panels has weathered, causing the surface to be rough and creating numerous hairline cracks, while the recessed sides of the panels retain their smooth formed finishes.

Honeycombing can be seen on the undersides of the pilotis, particularly in the crotch area of these column (Illus. No. 4-23). This condition is due to the separation of the aggregate from the sand and cement matrix during placement of the concrete or the leaking of the fine sand and cement out of the formwork joints, leaving a void around the larger aggregate.

Numerous areas on the concrete penthouse walls have been patched with a concrete patch (Illus. Nos. 6-36 - 6-37). Corroding steel reinforcing with insufficient concrete coverage caused the original concrete to spall (Illus. No. 6-31). These spalls were patched with materials not matching the color or surface texture of the original concrete. Several of these patches are now spalling due to the continued corrosion of the steel.

EXTERIOR CONCRETE: ALTERNATIVE SOLUTIONS

Cracks in Concrete Beams

- No Treatment. The crack in the concrete does not effect the structural stability of the beam because the tensile stresses in the beam are being resisted by the steel reinforcing. The crack does, however, provide a path for air and moisture to access the interior of the concrete and react with the steel reinforcing. No treatment will allow the moisture and air to corrode the steel resulting in iron stains on the concrete, spalling of the concrete and eventually compromising the structural stability of the beam.

- Repair Crack. Filling the crack will not increase the structural capacity of the beam but will prevent moisture and air from penetrating the beam and causing the deterioration of the reinforcing steel and concrete.

- Replace Beam. Stabilization of the beam can be achieved by filling the crack. Replacement of the beam is not necessary.

Soiled Concrete

- No Treatment. The majority of the building's exterior concrete surfaces are only lightly soiled and are not causing the deterioration of the concrete, objectionable staining or disfiguring the appearance of the building. For these areas, no treatment may be a viable option. For the heavily soiled concrete elements such

as the screen walls on the ground floor, under the building, the heavy soiling detracts from the appearance of the building and will permanently stain the concrete if not removed.

- Clean Concrete. Cleaning the concrete is not necessary for the majority of the exterior concrete surfaces. Cleaning the heavily soiled surfaces, particularly the back sides of the pilotis and walls under the arcade, is necessary to prevent the permanent staining of these features and restore the appearance of the surfaces. Cleaning all the concrete is necessary, however, if a water repellent treatment is to be applied to the concrete.

Rust Stains on Concrete

- No Treatment. The rust stains have no direct adverse affect on the concrete other than being unsightly. However, the staining indicates another potentially severe problem of corroding steel embedded in the concrete that will eventually cause more severe damage to the concrete.

- Remove Rust Stains. Removal of the rust stains will improve the appearance of the concrete, but unless the cause of the staining is eliminated, the rust stains will return quickly. This is a short term solution to the problem.

- Remove Rust Stains and Coat Metal. Remove the rust stains and apply a coating to prevent the corrosion of the metal. The coating should be formulated to match the color and texture of the exposed concrete and have no adverse affect on the vapor transmission of the concrete. This treatment will slow the return of the rust stains but the coating will eventually fail and the corrosion of the metal will continue or the coating will have to be reapplied. The coating, unless it is carefully selected and applied, may not match the concrete and thus appear as patches. It may be as objectionable as the rust stains themselves.

- Remove Rust Stains and Corroding Embedded Steel. Removal of the corroding steel to a depth of $\pm$1-1/2" below the surface of the concrete and patching the resulting hole with concrete will prevent the corrosion of the steel. The large number of small corroding chairs in confined areas may result in a polka-dot appearance on the concrete. Also it may be very difficult to duplicate the appearance of the concrete color, surface texture, wood grain pattern and joint patterns. Though removing the corroding steel will provide a permanent solution to the rust stain problem, the visible patches on the surface of the concrete and the cost of applying patches that match the original concrete surface make this option expensive.

Spalling Concrete due to Corroding Steel Reinforcing

- No Treatment. Left untreated, the steel will continue to corrode. The result will be the continued spalling of the concrete and deposition of rust stains on the

surface of the concrete. As the outer layer of concrete is spalled off, moisture will penetrate deeper into the concrete and accelerate the deterioration of the concrete and embedded steel. Falling pieces of spalled concrete may hit persons or property as they fall and are potentially dangerous.

- Patch Spalled Concrete. Patching the spalled concrete requires that the deteriorated concrete be removed, the corrosion removed from the steel and the steel coated to prevent it from corroding. A concrete patch must be placed to re-embed the steel and protect it from moisture and corrosive elements in the environment. On the architectural concrete surfaces, the patches must duplicate the appearance of the concrete color, surface texture, wood grain pattern and joint patterns. Where the steel is close to the surface of the concrete, additional corrosion protection must be applied to the steel instead of mounding up the patch material to provide the required thickness of cover over the steel.

- Replace Concrete. The deterioration of the concrete and corrosion of the steel is only cosmetic and is not a structural deficiency. Replacement of the spalled concrete elements would result in the removal of the original fabric.

Open Joints Recessed Joints and Cracks at Screen Walls

- No Treatment. The cracks in the screen walls appear to be the result of movement in the structure. The cracks occur in the deeply recessed joints of the wall and are typically not noticeable. Allowing the cracks to remain will accommodate future movement without detracting from the appearance of the screen walls.

- Fill Cracks. Filling the cracks with mortar may be a temporary repair if movement of the structure continues to cause the cracks to reappear. Mortar may also restrain the walls causing cracking or spalling in the precast concrete units.

- Repoint all recessed joints at screen walls with flush joints as requested by the building's architect. The recessed joints conceal the cracks that will inevitably occur at the movement points in the screen walls. Flush joints may also accentuate irregularities in the wall and in the alignment of the precast units.

Weathering of Precast Concrete Wall Panels

- No Treatment. The weathering of the precast concrete wall panels is a natural process that is occurring due to the action of temperature, moisture and airborne chemicals on the concrete. No treatment will allow this natural process to continue, resulting in the deterioration of the concrete surface.

- Water Repellent Coating. To retard the concrete's natural aging process, it is necessary to keep moisture and the deleterious materials that the moisture transports out of the concrete. One way to stop the moisture is to apply a water repellent coating. These coatings are typically clear and do not change the

appearance of the concrete. They are also vapor permeable and will allow moisture in the concrete to escape without damaging the concrete. Water repellent coatings are not permanent and may need to be reapplied. The concrete must also be cleaned prior to applying this type of coating. Water repellent coatings might also effect the ability of mortar and sealants to adhere to the concrete so application sequence and materials selections is a consideration. This option is costly but may reduce the rate of concrete deterioration and make cleaning of the concrete easier.

- Paint Coating. A paint coating may be applied to the concrete to prevent moisture from entering the concrete. Paint coatings are opaque and will alter the color and texture of the concrete. Paint coatings will also require reapplication which will obscure the detail of the formwork markings on the concrete and require the eventual removal of paint build-up.

Honey Combed Concrete

- No Treatment. The honey combed concrete is the result of separation of the sand and cement matrix from the larger aggregate during placement of the concrete. The voids occur on the undersides and corners of the cast-in-place concrete elements and, other than being visible defects in the original construction of the building, do not appear to have any adverse effect on the concrete. No treatment is a viable option.

- Patch Concrete. Because the honey combed concrete is not having an adverse effect on the concrete structure and because inconspicuous patching may be difficult, this treatment is not necessary.

Deterioration of Previous Patches

- No Treatment. The previous patches appear to have been improperly prepared and applied and as a result, they are experiencing premature failure. Left untreated, the patches will spall and the steel will corrode.

- Replace Concrete Patches. Patches applied to a properly cleaned and prepared surface will protect the steel reinforcing and restore the appearance of the original concrete surface.

EXTERIOR CONCRETE: RECOMMENDATIONS

- Concrete Testing: To provide for the long term preservation of the exterior concrete, to identify potential locations of deterioration and to determine the optimum treatment for the concrete, detailed evaluation and testing should be performed. The testing should determine the mechanical properties, chemical make-up and physical condition of the concrete. Testing will help to identify

future problem areas, estimate the life expectancy of the concrete and aid in the selection of treatments to retard the deterioration of the structure and deterioration of the concrete surface. The goal is to determine treatments that will preserve the existing appearance of the concrete, reduce future costly and potentially disfiguring repairs and preserve the surface detailing of the existing concrete.

- Repair cracks. Fill cracks in concrete to prevent moisture corroding the embedded steel. See procedures under Chapter X, Guideline Specification for "Concrete Patching and Repair."

- Clean heavily and moderately soiled concrete to restore the appearance of the concrete and reduce the potential for permanent staining of the concrete. Clean all concrete if water repellent coating is to be applied. See procedures under Chapter X, Guideline Specification for "Exterior Masonry Cleaning."

- Remove steel bands and remove rust stains from precast concrete light standards. See procedures under Chapter X, Guideline Specification for "Exterior Masonry Cleaning."

- Remove rust stains and patch spalled concrete. Remove rust stains. Remove deteriorated concrete, remove corrosion from the embedded steel and coat steel with a corrosion inhibitor. Prepare the concrete surface and apply a patching material matching the color, texture, and surface detailing of the original concrete. See procedures under Chapter X, Guideline Specification for "Concrete Patching and Repair."

- Remove cracked and broken precast copings at the screen walls and replace missing copings at the screen walls with new precast concrete copings to match the originals. See Chapter X, Guideline Specifications, "Precast Concrete."

- Based on testing results, clean all concrete, coat concrete with a breathable water repellent coating to keep moisture out of the concrete and thus slow the deterioration of the concrete.

BLUESTONE

LOCATIONS OF BLUESTONE

The original bluestone used in the building was New York State Bluestone in a full range of colors (except reds and purples) with a natural cleft surface and grey mortar joints. The original paving was one inch thick and was laid in "European Bond" with random width courses running in the east-west direction. Some, if not all of the paving was Elk Brook Bluestone supplied by Johnston & Rhodes Bluestone Company, East Branch, New York, (607) 363-7595. The coursing of the exterior plaza paving aligns with and continues into

the lobbies of the building. The interior bluestone flooring was to be sealed with a commercial penetrating sealer and the surface of the stone waxed and buffed. No finish was specified for the plaza paving. The original specifications only describe the bluestone under Interior Stone (Section 40). Because the use of bluestone paving on the exterior of the building was a change made after the beginning of construction, new specifications for the exterior stone paving were not prepared. Fabrication and installation of the exterior bluestone paving appears to have been performed following the interior flooring specifications.

Bluestone is used on the exterior of the building to pave the plaza on the east side of the building and to pave the area under the colonnade on the other three elevations. Drawings from GSA show the paving on the west and south sides of the building has been removed and relaid or replaced with new pavers to match the originals as part of work done in 1989. The paving on the north side of the building appears to be original. The pavers on the east plaza are new pavers to replace the original paving as part of work done in 1977. This replacement paving has numerous red and purple stones not matching the original paving colors. Pointing mortar of the replaced stone paving matches the original grey pointing mortar.

Bluestone is used on the interior of the building for the flooring in the north and south entrance and elevator lobbies. The flooring at the building entrances has been removed and relaid as part of the entrance renovations. Trench drains have been installed at these entrances and the relayed paving sloped to direct water away from the entrances to these new drains.

TYPES OF BLUESTONE DETERIORATION AND CAUSES

The bluestone paving on the east plaza is cracked, broken, loose and missing (Illus. No. 6-16). Sections of the paving were being removed and relaid during this survey. Cars and trucks driving and parking on the paving has caused the damage, according to the contractor performing the paving replacement. The setting bed under the one inch thick pavers appeared to be sand. Stanchions originally prevented vehicles from driving and parking on the plaza. Removal of the stanchions has allowed cars and trucks to drive and park on the plaza paving and damage the stone. The use of the same one inch thick pavers and setting methods on the exterior of the building as was specified for the interior stone flooring is not sufficient for this traffic bearing exterior exposure. Once the paver has been cracked by the weight of a vehicle, then moisture runs under the paving where it freezes to loosen and dislodge the paver. The replacement paving does not match the color of the original paving. Removal of the original paving and the addition of the asphalt covered drives to the basement parking garages has significantly altered the original appearance of the plaza (Illus. No. 6-13). Differential settlement between the building, which is on a mat foundation, and the underground garage, which is on footings, has caused the pavers at the face of the building on the east elevation to buckle. This buckling of the pavers and settling of the building has resulted in water ponding at the face of the building and entering the joints of the pavers.

The bluestone paving under the building arcade has been painted with yellow and blue stripes to mark off parking spaces. The paving has also been stained with tar that is oozing out from under the banner and oil dripping from cars (Illus. No. 6-15).

The bluestone flooring on the interior of the building has been coated with numerous coats of wax (Illus. No. 6-24). The shiny black wax build-up is approximately 1/32 of an inch thick and has covered the original multi-colored and textured bluestone flooring. The wax coating is beginning to spall in several high traffic areas such as the entrance to the cafeteria (Illus. No. 6-23). Floor mats have been installed in the traffic paths concealing much of the floor.

BLUESTONE: ALTERNATIVE SOLUTIONS

Cracked, Broken, Dislocated, and Loose Paving

- No Treatment. Continued moisture penetration under the loose and broken paving will cause further damage to the paving and potentially cause leaks in the lower level of the building.

- Remove and reinstall the loose pavers. The original one inch thick paving system and replacement one inch thick paving systems with a sand bed are not suitable for an exterior, traffic bearing installation. The paving should be removed and installed on a new rigid substrate in a system designed to allow traffic. Discard red and purple pavers that do not match the original pavers and replace with new pavers matching the original.

- Remove existing paving and install new pavers to match existing. Replacing the original paving with new pavers will result in the replacement of original historic fabric. The existing paving is suitable for reuse if the setting system is properly designed.

Stained and Painted Bluestone

- No Treatment. Stains allowed to remain on the bluestone will eventually stain the stone.

- Clean exterior pavers. Removing the oil and tar stains will restore the appearance of the bluestone paving and will prevent the tracking of oil and tar into the building. The parking lines painted on the paving are necessary for the orderly parking around the building.

Thick Coating Build-up on Paving

- No Treatment. The thick coating build-up is not detrimental to the stone pavers but has altered the original appearance of the interior stone floor significantly.

The original range of grey-green stone with grey joints and a matte finish is now a uniform dark grey-black with a gloss finish.

- Remove thick coating build-up and restore original finish. Removing the thick wax build-up from the surface of the stone and applying a clear penetrating matte finished sealer and waxed finish will restore the original appearance of the stone and considerably lighten the color of the floor.

BLUESTONE: RECOMMENDATIONS

- Remove and reinstall the loose pavers. Remove and install on a new rigid substrate in a system designed to allow traffic. Discard red and purple pavers that do not match the original pavers and replace with new pavers matching the original per Chapter X, Guideline Specifications for "Bluestone Paving Repair and Replacement."

- Clean exterior pavers. Remove the oil and tar stains from the paving. See procedures under Chapter X, Guideline Specification for "Exterior Masonry Cleaning."

- Remove thick coating build-up and restore original finish. Remove the thick wax build-up from the surface of the stone and apply a clear penetrating matte finished sealer and waxed finish as per Chapter X, Guideline Specifications for "Bluestone Paving, Cleaning and Finishing."

INTERIOR CONCRETE

LOCATIONS OF INTERIOR CONCRETE

Exposed concrete was used as the interior finish material on the walls of the first floor entrance lobbies, elevator lobbies on the second through tenth floors and for the walls and floors, walls and stairs in the stairwells. Exposed concrete columns were also used in the cafeteria. The formwork used on the interior concrete was butt jointed, tongue and groove random width (4"-6") form boards. The wall surfaces in the entrance and elevator lobbies are divided into panels with 1-1/2 inch wide by 3/4 inch deep joints. The faces of the panels were bushhammered to within 1 inch of the edges of the panel. This gives the surface of the panel a rough finish, faintly showing the vertical lines of the form boards and having a smooth margin around the entire panel (Illus. No. 6-18). The cone tie form support holes were filled with concrete and bushhammer finished to match the adjacent wall surface. The concrete jambs at the elevator doors, sides of the display case, and jambs at openings are smooth plywood formed surfaces. A 4 inch high by 3/4 inch deep recess at the bottom of the wall creates a base for the wall.

The northernmost and southernmost bank of elevators on the second through tenth floors has a concrete soffit above the doors. This soffit was shown on the original drawings to be board formed with a bushhammered finish. The finish on the round concrete columns in the cafeteria and entrance lobbies is bushhammered. The finish of all of the formed concrete walls, ceiling and underside of stairs in the stairwells is a butt jointed board form surface. The resulting concrete surfaces show the graining of the board formwork as well as the joints between the boards. Round cone-tie holes, remaining after removal of the formwork supports are uniformly spaced on the these walls (Illus. No. 6-21). The concrete floors and treads in the stairwells is a smooth finish. The smooth finished interior face of the precast concrete wall panels on floors two through ten can also be seen on the inside face of the exterior wall. This concrete surface was originally primed and painted Yellowish White to match the adjacent wall surface (see Chapter V, Paint Analysis).

A memorandum documenting a site visit on December 19, 1967 and written by Herbert Beckhard described the concrete forming and placement. Item number 6 in the memo described deformation in the concrete walls caused by the form boards slipping out of alignment 1 inch or more. It was suggested in the memo that the walls be bushhammered as required in the finish schedule and then examined to determine if the resulting finish is acceptable. This was apparently done as 1 inch lips and recesses occur on many of the bushhammered walls in the upper floor elevator core areas.

TYPES OF INTERIOR CONCRETE DETERIORATION AND CAUSES

The concrete walls in the building are typically soiled. This soiling is from dust, dirt and tobacco smoke that has accumulated on the walls (Illus. No. 6-18). There are also areas of staining on the walls. Glue stains are typically located on the concrete walls next to the call buttons of the elevator lobbies (Illus. Nos. 6-22 and 6-32). Bluestone and vinyl tile floor cleaner and wax has been splashed onto and applied to the recessed concrete base of the walls during the floor maintenance operations leaving dark stains at the bottoms of the concrete walls (Illus. Nos. 6-21 and 6-24).

Rust stains occur under the drinking fountain at the northeast corner of the second floor. This was apparently due to a leak in the drinking fountain (Illus. No. 6-20).

Mortar patches have been placed at the tops on the drinking fountains at the northeast and northwest corners of the fifth floors. It is not clear whether the original recess in the concrete wall was too big or the drinking fountain installed was too small. One of the mortar patches is loose.

The exposed concrete columns in the cafeteria and exposed concrete soffits above the elevator doors at the second through tenth floor have been painted white.

INTERIOR CONCRETE ALTERNATIVE SOLUTIONS

Soiled Stained and Rust Stained Concrete

- No Treatment. Soiled and stained concrete has resulted in the darkening of the walls of the lobbies. The black stain at the bottom of the wall from the floor maintenance procedures make it difficult to define where the floor plane and wall plane intersect. Stains and soiling give the concrete walls an unkept appearance.

- Clean Concrete. Removing the soiling and staining on the exposed concrete walls will restore the original appearance of the concrete and reduce the potential for permanent staining of the concrete.

Loose Mortar Patches

- No Treatment. The mortar patches will fall out of the wall when the cover of the drinking fountain is removed for maintenance.

- Replace Loose Patches. Replace to prevent them from falling out of the wall.

Painted Concrete

- No Treatment. The painted finish obscures the original texture, color and variations in finish of the concrete. The painted concrete will eventually require repainting as the paint finish ages and deteriorates.

- Remove Paint. Removing the paint coatings from the concrete will restore the original appearance of the concrete. The expression of the exposed concrete columns, walls and ceilings on the interior of the building is one of the defining elements of the building's architecture. Painting these concrete surfaces is not consistent with the design of the building. Painting the concrete also requires the periodic reapplication of the paint coatings. Exposed concrete only requires periodic cleaning.

INTERIOR CONCRETE RECOMMENDATIONS

- Clean the interior concrete walls evenly and remove stains and soiling following the procedures under Chapter X, Guideline Specification for "Interior Masonry Cleaning."

- Remove loose mortar patches and install new mortar patches to match the existing concrete color and finish as per Chapter X, Guideline Specifications for "Concrete Patching and Repair."

- Remove the paint from painted concrete following the procedures under Chapter X, Guideline Specifications, "Architectural Concrete - Paint Removal."

EXPOSED (UNPAINTED) ARCHITECTURAL METAL WORK

LOCATIONS OF ARCHITECTURAL METAL WORK

With the exception of the door and window frames which are discussed under the appropriate headings below, there is very little exposed metal on the HUD Building. (Note: metal hardware, lighting and painted metal are discussed below under the appropriate sections.) Exterior uses of exposed metal include the penthouse aluminum louvers which were specified on Drawing 5-1 to have a mill finish; stainless steel letters on the sign banner shown on Drawing 11-104, "Revised Banner Lettering," to have a satin finish; and the "Y" shaped cast bronze bumper guards at the bottom of the banner shown on Drawing 27-1, "Banner Plan Section and Details" to have a 20-A finish, a clear coated dark oxidized statuary bronze. Aluminum pipe railings with a clear coated satin finish have been placed around the roof terrace constructed in 1991. Aluminum handrails have been installed at the garage exit ramp to replace an earlier wrought iron railing.

Exposed metal on the interior of the HUD Building includes the stainless steel railings with a satin finish at the core stairs (Illus. No. 4-65); the aluminum frames with an anodized black fine satin finish at the lobby display windows (Illus. No. 4-47); the black anodized aluminum mail chutes and collection boxes in the elevator lobbies; and the natural finish cast aluminum Great Seals mounted on the walls of south entrance lobby (Illus. No. 4-46). The bronze bust of Catherine Wurster, located in the South Elevator Lobby (Illus. No. 3-62), is also exposed metal. The majority of the metals on the interior of the building are in good condition; they are clean and their finishes are not deteriorating or damaged.

TYPES OF METAL DETERIORATION AND CAUSES

The aluminum penthouse louvers are soiled, staining the concrete walls below (Illus. No. 6-9). Soil and dust settles on the sloping surfaces of the metal louvers and is then washed off the louver and onto the masonry below.

The stainless steel railings at the core stairs are soiled due to lack of maintenance.

METAL: ALTERNATIVE SOLUTIONS

Soiled Metal

- No Treatment. Although the soiling on the metal on the exterior of the building does not damage the metal, it does wash off the metal, soiling and staining the materials below.

- Clean Soiled Metals. Cleaning the soiled architectural metal railing at the interior of the building will restore the original appearance of the metal. Cleaning the

exterior metals will prevent soil that has collected on the metals from washing down and staining the materials below.

- Paint Soiled Metals. Prior to painting, the metal must be cleaned to create a surface to which the paint will adhere. Thus painting does not reduce the amount of work required to maintain the exposed metal. Soiled architectural metals are often painted by well meaning maintenance personnel instead of being cleaned. This alters the original appearance of the metal and requires that the metal be periodically cleaned and repainted.

METAL: RECOMMENDATIONS

- Clean soiled aluminum louvers at the penthouse per Chapter X, Guideline Specifications for "Interior and Exterior Aluminum Cleaning."

- Clean and refinish the soiled stainless steel stair railing at the core stairs per Chapter X, Guideline Specifications for "Stainless Steel Cleaning."

PAINTED METAL

LOCATIONS OF PAINTED METAL

Painted metal is used on the exterior of the building for railings and grates. A metal railing, fabricated of 3/4 inch by 2-1/2 inch smooth, flat bar stock, is mounted on the concrete retaining wall on the west side of the building (Illus. No. 6-17). The railing is detailed on the original Drawing No. 5-7, "Plaza Details and Screens," GSA Building #DC0092ZZ, Drawing No. 33. This drawing, as well as the Finish Schedule (Illus. No. 3-12), indicates that the railing, spacers and fasteners are to be "Genuine W. I." (wrought iron). The railing is fabricated in welded sections and sections are attached together at steel base plates with flat head, countersunk metal screws. The railings are anchored to the concrete retaining wall using countersunk screws. These railings were scheduled on the original drawings, and were determined through paint analysis to have been originally painted Yellowish White (see Paint Analysis, Chapter V). These railings are now painted black. The metal gratings at the areaways on the east and west sides of the building and at the lighting pits at the corners of the building (Illus. No. 4-32) are shown on the original drawings to be galvanized steel, painted gray. There is no sign on these grates indicating that they were ever painted. Metal railings have been added to the planting island in the parking area at the south end of the building. Painted metal access panels are used in the plaster ceiling of the arcade.

Painted metal fences enclosing bicycle parking areas have been added adjacent to the northeast and southeast entrances (Illus. No. 6-33). These fences extend from the corner of the glazed lobby to the garage stair enclosure and contain bike racks and various sports

equipment. Painted steel and expanded metal enclosures and doors have been constructed around the garage stairs next to the northeast and southeast entrances (Illus. No. 6-34). Painted steel and expanded metal doors have also been installed to the exterior openings at the first floor corner fire stairs. The expanded metal enclosures were installed for security to prevent unauthorized persons from hiding in the stair wells or entering the building at these locations.

Painted metal in the interior of the building was used for railings, toilet partitions and fan coil cabinet covers. Metal pipe railings in the corner stair towers (Illus. Nos. 4-64 and 6-21) and the metal railings fabricated of flat bar stock at the stairs to the parking garages (Illus. Nos. 4-66 and 6-22) are steel. Toilet partitions, which are painted blue, are also steel and were shown on the original drawings, and confirmed by the paint analysis, to have a white baked enamel finish. Fan coil cabinet covers on the exterior walls are sheet metal and were painted to match the adjacent wall color (see Paint Analysis, Chapter V). Elevator doors and frames are also painted steel and are discussed below under "Elevators."

TYPES OF PAINTED METAL DETERIORATION AND CAUSES

The metal railings in the corner stairs have been recently painted and are in good condition. The metal flat bare stock railings at the stairs to the parking garages appear to have their original painted finish, which is flaking and peeling off due to the deterioration and loss of adhesion of the paint coating. The metal railings on the exterior of the building have been painted black, not matching the original color. This paint coating is in poor condition and in some locations, particularly in the tops of the bars, the paint coating is completely gone and the steel is corroding. The railings are also corroding at the joints between sections of the railings. One section of this railing has been removed and a wood stair installed to provide access to the raised lawn on the west side of the building. The galvanized coating on the metal areaway grates is beginning to fail, causing the metal to corrode. The painted finish on the metal access panels, used in the plaster ceiling of the arcade is deteriorated and the metal is beginning to corrode (Illus. No. 6-35). The fences and expanded metal lath enclosures are typically soiled and the paint coatings are beginning to fail.

PAINTED METAL: ALTERNATIVE SOLUTIONS

- No Treatment. If the paint coatings are not replaced, the metals will continue to corrode, eventually requiring repair and/or replacement of the metal.

- Paint. Cleaning metal and removing corrosion and painting the metal will restore the surface of the items to their original appearance.

- Remove and replace painted metals. Removing the original railings and painted metal elements of the building and replacing with non-corroding metal such as

aluminum is not recommended. The original painted metal is historic fabric and should not be replaced. Non-original painted elements are not historic fabric and may be removed.

PAINTED METAL: RECOMMENDATIONS

- Clean, prime and paint original painted metals. Paint metals their original color based on the Paint Analysis, Chapter V per Chapter X, Guideline Specifications for "Exterior Painting" and "Interior Painting."

- Dismantle, remove corrosion, clean, prime, paint and reinstall painted "Genuine Wrought Iron" railing at west retaining wall as per Chapter X, Guideline Specifications for "Exterior Painting."

- Remove the metal fences around and bicycle storage areas adjacent to the northeast and southeast entrances and relocate to a less public location. The "Front Door" of the building is an inappropriate location for a bicycle and basket ball hoop storage lot.

WOOD

LOCATIONS OF WOOD

Both clear finished and painted wood are used in the HUD Building. The 1-1/2 inch diameter handrails in the core stairs are white oak with a clear varnish finish. The 2 inch square cherry handrail in the stairs to the parking garages has a oiled finish. Vertical cherry boarding that is 3/4" x 3" wide and has a "V" groove at the joints covers the walls of the Commissioner's Private Offices in the Executive Offices Suites on the fourth through ninth floors, the Secretary's (or Administrator's) and Deputy Secretary's Suite and the HUD Departmental (or Administrator's) Conference Room on the tenth floor. The doors in these spaces, as well as the built-in book shelves in the Secretary's (or Administrator's) Office, are also cherry to match the walls. The paneling has a flush cherry base and was specified to have an oiled finish. The finish approved and applied to the paneling was a matte finish which allowed the natural color and grain of the wood to be seen.

Ash plywood paneling covers the walls of the reception area, offices, large and small conference rooms in the Executive (or Commissioner's) Office Suites and is also used on the interior of closets in the HUD Departmental (or Administrator's) Conference Room. The plywood panels are approximately 2 feet 6 inches wide and are made of book matched plane sawn veneers in balanced matched panels. The paneling is attached with finish nails face nailed, set and filled. The joints between the panels are "V" grooved. A reveal at the bottom of the panel separates the wall paneling from the flush ash baseboard. The

original specification indicate that this ash paneling was to have a natural finish with a satin varnish (see Chapter V, Paint Analysis). The doors in these suites are flush birch veneer doors that have been stained and varnished in an attempt to match the ash wall paneling. Even though the building's original architect requested that the doors be painted or replaced with doors that match the paneling, the doors were never corrected.

Painted wood in the building consists of the doors and transom panels in all of the offices and toilets with the exception of the Secretary's (or Administrator's) and Deputy Secretary's Offices and the HUD Departmental Conference Room. The doors and transoms are flush, birch veneer, paint grade solid core wood.

Note: See Paint Analysis Chapter V for a detailed discussion of the interior paint and clear finishes.

TYPES OF WOOD DETERIORATION AND CAUSES

Wood paneling is typically chipped and the finish abraded at the bottoms of the walls and at the jambs of the door openings. Hitting the edges of the woodwork with cleaning equipment and vacuum cleaners is the cause of this damage (Illus. No. 6-26).

The finish of the ash paneling in the northwest corner of the room adjacent to Stair Tower No. 2 has been damaged due to a roof leak. The damage appears to be old and the roof leak repaired (Illus. No. 6-28).

All of the oiled cherry paneling has been refinished and coated with a gloss varnish with the exception of the interior of the closets, which still retain their original oiled finish. The gloss finish reveals the original milling and finishing imperfections that would have not been noticeable with the original matte oiled finish (Illus. No. 6-25).

The cherry parking garage handrail with the oiled finish is soiled due to lack of maintenance (Illus. No. 6-22).

The originally naturally finished ash paneling has been refinished with a variety of wood stain colors and gloss varnish. The ash base has typically not been refinished and has its original finish (Illus. No. 4-75).

The wood doors and transoms in the ash paneled offices are stained and varnished in an attempt to match the ash paneling finish. The staining is uneven and the finish does not match the adjacent materials. Even though this was done as part of the original construction of the building, the doors appear to be a mistake and detract from the original design. (Illus. Nos. 4-75 and 4-76).

WOOD: ALTERNATIVE SOLUTIONS

Chipped and soiled wood finishes

- No Treatment. The chipped and damaged finish that exposes the wood will allow the wood to be stained. The soiled wood will also become permanently stained if not cleaned.

- Clean and Repair Finish. Remove soil build-up and refinish deteriorated wood finishes to match the original finish.

- Replace Wood. The existing wood is original material. Replacing the wood would result in the loss of the historic fabric.

Finishes not matching the original finishes

- No Treatment. The existing gloss finish accentuates the wood's milling imperfections that would otherwise be unnoticeable with the originally specified matte finish. The existing gloss finish does not match the original finish.

- Refinish Wood. Refinish the wood and apply the originally specified finish. This will restore the original appearance of the rooms and hide the milling imperfections in the wood.

- Replace Wood. The existing wood is significant historic fabric. Replacing the wood is not necessary and would result in loss of historic fabric.

Wood doors, originally intended to be painted, have been stained and varnished

- No Treatment. The wood veneer doors do not match the wood grain or color of the adjacent wood paneling or the painted walls of the corridors. The doors are not evenly stained, giving them a splotchy appearance. The improperly finished doors look terrible against the adjacent wood paneling and detract from the otherwise neatly finished appearance of the spaces.

- Paint Wood Doors. Painting the doors and frames white to create a floor to ceiling panel that would contrast with the wood and recall the exterior wall finishes was the building's designer original intent. Painting the doors will fulfill this goal and eliminate the jarring appearance of the splotchy stained birch against the evenly stained and finished ash and cherry. Painting the doors and frames black was also an option suggested by the designers.

- Replace Wood Doors. Replacing the doors with wood doors of the same ash species as the wall paneling was an option suggested by the building's original designer. The only problem is the "unhappy effect where an ash doors opens into

a cherry paneled room." This also does not continue the original building's designers theme of contrasting materials and finishes.

WOOD: RECOMMENDATIONS

- Clean soiled and stained wood. Remove soil from wood surfaces and restore or reapply the original finishes. See Chapter X, Guideline Specifications for "Wood Repair and Refinishing."

- Restore original finish. Remove existing gloss finishes, repair damaged wood, fill holes and scratches and apply a new finish to match the original natural finishes following an Architectural Conservator's testing and recommendations. See Chapter X, Guideline Specifications for "Wood Repair and Refinishing."

- Paint Wood Doors. Paint the doors and frames white to create a floor to ceiling panel that would contrast with the wood and recall the exterior wall finishes was the building's designers originally intent. See Chapter X, Guideline Specifications for "Interior Painting."

PLASTER

LOCATIONS OF PLASTER

Plaster finishes used in the building are described on the Finish Schedule drawing number 5-1. The Furring, Lathing and Plastering specifications Section #29 are generic and describe the systems and materials to be used. Plaster on lath is specified to be three coat system while plaster on concrete or masonry was to be a two coat system.

Plaster is used on the exterior of the building at the ceiling of the arcade. This is a white portland cement plaster with a sand finish on metal lath. Metal plaster stops and trim as well as the ceiling's metal access panels were painted white to match the plaster. White portland cement plaster with painted stops was also used on the interior of the building in the first floor entrances, lobbies, reception areas, corridors and vestibules, and on the second through tenth floor elevator lobby ceilings. Painted, smooth, hard, Keene's cement plaster was used on the toilet room walls above the tile wainscot and ceilings and on the walls of the kitchen areas, serving areas above the wainscot. Painted, smooth, white lime or gypsum plaster was used on the walls of the cafeteria and all other typical offices and all corridor walls where plaster walls occurred.

The existing plaster is typically in good condition. Some of the plaster partitions have been removed. Portions of the arcade plaster ceiling have been removed to allow the installation of the sprinkler system and new plaster installed to match original. All of the

interior plaster ceilings have been removed to allow the installation of the sprinkler system and replaced with gypsum board ceilings.

TYPES OF PLASTER DETERIORATION AND CAUSES

Plaster "spur" walls that divided the Cafeteria into three spaces have been removed. The intent was to create a much needed large meeting space in the building. Low walls have subsequently been built to again divide the space.

The original sand finished plaster ceilings of the first floor entrances, lobbies, corridors and reception areas have been removed to allow the installation of the new sprinkler piping and heads for the fire suppression system. These ceilings were replaced with a new painted gypsum board ceilings with a smooth finish. The original sloping and flat plaster ceilings of the second through tenth floor elevator lobbies have also been removed to allow the installation of the new sprinkler piping and heads for the fire suppression system. New gypsum board ceilings that are flat and hung 9 inches lower than the original ceilings have been installed. These ceilings have been finished with a sanded paint applied in circular patterns in an attempt to imitate the original sand finished plaster.

The sand finished plaster ceiling of the arcade is soiled due to automobile exhaust, insect nests and spider webs (Illus. Nos. 4-26 and 6-35). The interior ceilings are soiled around the air supply vents.

PLASTER: ALTERNATIVE SOLUTIONS

Demolish interior partitions

- No Treatment. The plaster spur walls that were removed do not appear to be a significant part of the original design of the building. The removal of the walls allows the Cafeteria to function as an assembly space and substitute for the auditorium that was planned but never constructed. This may be considered in keeping with the original design intent of the building.

- Replace Removed Plaster Partitions. If reconstructing the partitions is determined necessary, then the walls should match the original curving and tapering walls.

Plaster ceilings replaced with gypsum board

- No Treatment. The surface finish of the smooth and sand painted gypsum board does not match the sand finish of the original plaster ceilings. The taped joints are also obvious in the large flat areas of the smooth ceilings.

- Refinish Ceiling to match the Sand Finished Plaster. Refinishing the plaster ceiling with a sanded paint to match the original plaster ceiling finish will imitate the appearance of the original ceiling and help to hide the taped joints.

- Replace the Gypsum Board with Plaster. The expense of replacing the ceiling is not justified because the original appearance of the ceiling can be replicated by applying a finish to the existing gypsum board ceiling.

Soiled plaster ceilings

- No Treatment. The soiled plaster ceilings give the building an unmaintained appearance. Insects that nest in the corners of the arcade ceilings provide the food source for the spiders, thus encouraging the spiders to spin webs in the corners. The darkly soiled arcade ceiling also reduces the amount of light reflected into the building making the interior of the building darker than it should be.

- Clean soiled plaster ceilings. Cleaning the soiled plaster ceilings will restore the ceilings to their original appearance and reduce the insect population.

- Paint soiled plaster ceilings. Painting the soiled plaster ceilings will change the color and texture of the original unpainted and unfinished plaster ceilings. Cleaning the plaster will also be necessary prior to painting to provide a suitable surface for the painting. The ceiling will also need to be cleaned to remove loose paint and repainted regularly thereafter.

- Replace mechanical system air filters. Replacing the air filters in the mechanical system will reduce or eliminate the dust deposited on the interior plaster ceilings.

Lowered ceilings at the Second through Tenth Floor Elevator Lobbies

- No Treatment. The existing ceilings, although lower than the original ceilings, do imitate the original configuration of the ceiling in that the center section of the ceiling is higher than the ceiling at either side. It is assumed that lowering the ceiling was necessary to provide clearance for the installation of the sprinkler pipe.

- Remove the existing ceiling and install new ceiling at original height. Raising the ceiling to its original height may not be possible while still accommodating the existing sprinkler system. Raising the ceiling may require redesign, engineering, and reinstallation of the sprinkler system at significant expense.

PLASTER: RECOMMENDATIONS

- Refinish gypsum board ceilings of the first floor entrances, lobbies, corridors and reception areas to match the original sand finished plaster ceilings. See Chapter X, Guideline Specifications for "Interior Painting."

- Clean soiled plaster ceilings to remove soil, dust, dirt, insect nests and spider webs. Apply insect repellent to prevent nesting of bugs and spiders. See Chapter X, Guideline Specifications for "Exterior Masonry Cleaning."

- Replace mechanical system air filters more frequently to prevent air diffusers from depositing soil on the ceilings.

VINYL FLOOR TILE

LOCATIONS OF VINYL FLOOR TILE

Floor tile was used on the majority of the floors in the building. The original Flintkote #F-12 solid color "Provincetown Blue" floor tile in the cafeteria serving areas has been replaced with new 12"x12" white speckle floor tile. The original smooth Travertine Tile, 12"x12"x1/8" color No. 79AV-1 Centurian, is used throughout the remainder of the building for the upper floor corridors and offices. A light grey vinyl base is used at the walls. Johns-Manville, the company that manufactured the floor tile, no longer exists and floor tile exactly matching the original tile is no longer being manufactured.

The rows of floor tile are laid perpendicular to the length of the corridors. Joints in adjacent rows of tile are staggered. Where there is a curve in the corridor and where the elevator lobby floor meets the corridor floor, the direction of the floor tile changes, with the different floor patterns abutting each other at the joint.

The floor tile is typically clean, polished and in good condition. The life expectancy for vinyl floor tile is 10-15 years. The existing original floor tile is twice as old as would normally be expected. This is due to the exceptional level of maintenance and cleaning that removes the abrasive soil and dirt that causes the wear on the flooring. The floor tile cannot be expected to last forever and its future replacement should be anticipated.

TYPES OF VINYL FLOOR TILE DETERIORATION AND CAUSES

There are isolated areas where there are cracks in the floor tile. These cracks are associated with cracks in the floor slab, the result of structural movement (Illus. No. 6-30). Cracks and deterioration of the floor tile also occur at the locations in the floor where there are underfloor duct and conduits covered with metal panels. Movement of the cover plates is causing this damage.

Some of the damaged floor tile have been replaced with new tile not matching the color or pattern of the original floor tile. This replacement often occurs in the locations of the cracks mentioned above (Illus. No. 6-30).

VINYL FLOOR TILE: ALTERNATIVE SOLUTIONS

Cracked floor tile

- No Treatment. The cracked floor tile may become loose and broken, creating an uneven floor surface and potentially a tripping hazard.
- Repair crack. Filling the crack with a filler material may be a temporary repair until matching floor tile can be installed.
- Replace cracked floor and replace tile. Remove the cracked flooring, inspect the floor slab and repair structural crack. Install new floor tile matching the original floor tile.

New replacement floor tile not matching the original

- No Treatment. The mismatched floor tile makes the patches obvious and detracts from the original appearance of the floor. Cracks have also reappeared at the patches because the cause of the cracks has not been repaired.
- Replace mismatched floor tile with new tile. New replacement tile matching the original tile will restore the appearance of the floor.
- Replace all floor tile. As the floor tile continues to age and require more and more repair and replacement, total replacement of the flooring should be considered.

VINYL FLOOR TILE: RECOMMENDATIONS

- For the short term, replacing the damaged floor tile with new replacement tile matching the color and pattern of the original tile as closely as possible, will maintain the original appearance of the floor. See Chapter X, Guideline Specifications for "Vinyl Flooring Replacement."
- Future replacement of the floor tile with new tile matching the original should be planned within 5 years. Replacing all or large portions on the tile at one time would create a more uniform appearance and reduce visual inconsistency in the floor.

ACOUSTICAL TILE

LOCATIONS OF ACOUSTICAL TILE

Acoustical tile was use on the majority of the ceilings in the building. The tile, Acoustone, Glacier texture by United States Gypsum, was a deeply textured, white ceiling tile. Both 12"x12" and 24"x24" tile were used. All the tile were 3/4" thick, installed with a concealed spline so that the supporting grid was concealed and only the joints between the tile were visible. This tile is still manufactured and available from USG.

All of the original ceiling tile has been replaced when the fire suppression sprinkler system was installed above the ceilings. The ceiling tile in the Executive Office Suites and Secretary's and Deputy Secretary's Suites were replaced with tile which matches the original, 12"x12" rough textured white tile. The remainder of the replacement ceilings are typically 2'x4' smooth tile hung with an exposed "T" grid, and do not match the original appearance of the ceilings. All of the existing acoustical tile ceilings are in good condition.

TYPES OF ACOUSTICAL TILE DETERIORATION AND CAUSES

Although the replaced ceilings are in good condition, they do not match the original ceilings. The original ceilings were white, rough textured, and only articulated with the thin line of the joints of the square tile.

The replacement tile are smooth, rectangular and have an exposed grid. The exposed grid is the introduction of an architectural element that is not consistent with the original materials or design, which relied on the unarticulated planar qualities and rough texture of the ceiling. Installation of the exposed grid and 2'x4' tile also required that the original round recessed light fixtures be replaced with rectangular 2'x4' fixtures, further altering the appearance of the significant spaces.

ACOUSTICAL TILE: ALTERNATIVE SOLUTIONS

- No Treatment. The ceiling tile with the exposed grid alters the appearance of the original spaces. Restoration of the significant spaces requires the replacement of the exposed grid ceiling system.

- Replace ceiling tile system. Remove the existing exposed grid ceiling system and install a concealed spline system and rough textured ceiling tile matching the original ceiling tile.

ACOUSTICAL TILE: RECOMMENDATIONS

- Replace ceiling tile in Restoration Zones with ceiling tile matching the original, and hung with a concealed spline system. Replace ceiling tile in Rehabilitation Zone with ceiling tile hung with a concealed spline system. See Chapter X, Guideline Specifications for "Acoustical Tile Ceilings."

SIGNIFICANT ORIGINAL ARCHITECTURAL ELEMENTS (EXTANT AND MISSING)

FLAGPOLES

FLAGPOLES: ORIGINAL/EXISTING LOCATIONS

The original 40 foot tall flagpole installed at the south end of the east plaza (Illus No. 3-45) was removed and replaced with a new 80 foot tall aluminum flagpole in 1971. A matching 80 foot flagpole was also added at the north end of the east plaza at the same time.

FLAGPOLES: EXISTING CONDITIONS/SIGNIFICANCE

The existing flagpoles are in good condition. The early replacement of the original 40 foot flagpole with an 80 foot tall pole and the addition of another flagpole can be considered an early modification to the building that is compatible in location, material and detailing with the original building and so should be retained.

FLAGPOLE: RECOMMENDATIONS

Maintain existing flagpoles in their existing locations.

STANCHIONS

STANCHIONS: ORIGINAL LOCATIONS

Short triangular concrete stanchions or bollards with hexagonal bases were originally used on the site to prevent automobiles from driving onto the paving on the east elevation. A string of these precast concrete stanchions separated the area of the east plaza where automobiles could enter the underground garages from the pedestrian portions of the plaza (Illus. No. 3-45). Similar stanchions with rectangular bases were also located adjacent the concrete "trees" or pilotis on the north and south ends of the building to prevent automobiles from hitting the tree columns (Illus. Nos. 3-55 and 4-38).

STANCHIONS: EXISTING CONDITIONS/SIGNIFICANCE

All of the stanchions or bollards were removed from the east plaza because, according to the building manager's office, they were too low for drivers to see and were thus being hit by and causing damage to cars. The office noted that pedestrians also kept tripping on the stanchion's wide bases. An asphalt paved drive and curbs and movable concrete planters have been installed to control automobile traffic. The stanchions at the north and south ends of the building are in their original locations next to the pilotis and are in good condition although some of them are chipped or gouged and some have been knocked over and moved (see Illus. No. 6-13). Several concrete stanchions with hexagonal bases are currently stored on pallets in the subbasement (see Illus. No. 4-44). These stanchions are in very good condition and may be extra stock remaining from the original construction which were never installed.

The purpose of the stanchions was to control automobile parking and direct drivers to the underground parking on the otherwise unarticulated plaza. Their shape was inspired by the angular shape of the pilotis and their base by the hexagonal paving that was shown on the construction drawings but never installed. It appears that the use of the stanchions was out of necessity and the need to control traffic rather than as a primary element of the building or site design. The existing concrete stanchions, however, are significant fabric.

STANCHIONS: ALTERNATIVES

- No Treatment. The existing stanchions, located next the pilotis on the north and south elevations, which have been knocked over are a tripping hazard. If not reinstalled, they may sustain further damage.

- Reinstall damaged stanchions. Reinstalling the damaged stanchions in their original location will prevent autos from hitting the pilotis, prevent further damage to the stanchions and restore the appearance of the elevations.

- Reinstall missing stanchions in their original locations on the plaza. Because of the stanchions inherent design problems (too low to be see by drivers and a shape that causes pedestrians to trip), reinstallation will cause a repeat of the problems that necessitated their original removal.

STANCHIONS: RECOMMENDATIONS

- Reinstall the displaced stanchions next to the pilotis on the north and south elevations. See Chapter X, Guideline Specifications for "Precast Concrete."

EXTERIOR LIGHT FIXTURES

EXTERIOR LIGHT FIXTURES: ORIGINAL/EXISTING LOCATIONS

The original drawings, specifications and schedules describe and detail almost all of the original light fixtures. See the Light Fixture Schedule in Chapter IX for fixture types and locations.

Exterior lighting of the building included decorative fixtures mounted on concrete standards and floodlighting recessed in concrete pits to light the building. Decorative light fixtures Type "OA", consisting of 55 bulbs attached to an 18 inch diameter aluminum sphere and mounted on concrete light standards, were used to light the building and plaza. Each fixture was shown to have thirty one 75 watt floodlight bulbs, presumably to light the plaza, and twenty four 100 watt spotlight bulbs, presumably focused on the face of the building (Illus. No. 3-4). Seven of these light standards were placed on the plaza and one was placed at each of the north and south ends of the building (Illus. Nos. 3-45 and 3-47). A concrete "wing" was cast on the back side of the banner (Illus. No. 3-50) and sixty four 1000 watt adjustable light fixtures, Types OB-1, OB-2, OB-3 and OB-4, installed on the back of the banner and focused on the building (Illus. No. 3-3). A trough cast into the concrete banner base held four 1000 watt adjustable light fixtures, Types OB-1 and OB-3, that were focused to light the banner and building name (Illus. No. 3-3). Rectangular concrete pits placed at the corners of the building were constructed to hold spot lights, Types OB-1 and OC, to light the face of the building (Illus. No. 3-3). Recessed lights, Types A and B, were placed on the ceiling of the arcade to light the space under the building overhang (Illus. No. 3-26). Trough mounted spot lights, Type C-1, were mounted next to the east entrances (Illus. No. 3-27).

EXTERIOR LIGHT FIXTURES: EXISTING CONDITIONS/SIGNIFICANCE

Lighting the building exterior was a carefully considered and detailed element of the original design. Lighting was concealed to illuminate the east elevation and granite corner towers while the nine glowing orbs on the precast concrete standards beamed light in all directions. The plaza light standards were specifically designed and custom made for the HUD building and are a small but significant element of the exterior design and lighting scheme. Although the use of over 600 incandescent lamps to light the building may not be the most energy efficient method for exterior lighting, the number clearly indicates that night time illumination of the building was important to the original designers.

The original standard mounted light fixtures have been removed and replaced with clear globes with single bulbs inside. The building lighting in the concrete pits are missing their lamps, are unplugged and broken. The lighting mounted on the back of the banner is still in its original location. Several of the spotlights mounted in the troughs adjacent to the building entrances have been altered with the addition of extension arms and spot lights. Many of the recessed lights of the arcade ceiling have missing and damaged louvers. The wall mounted recessed lights of the garage entrance ramp are missing their lenses and the

fixtures have been relamped with compact fluorescent lamps. Because the original lighting fixtures have been altered, damaged, broken and not maintained, additional lighting has been added. This supplemental lighting consists of surface mounted spotlights and metal conduit unceremoniously anchored to the face of the building.

EXTERIOR LIGHT FIXTURES: ALTERNATIVE TREATMENTS

- Maintain existing exterior lighting. The existing exterior lighting scheme does not reflect the original design. The light fixtures and conduit mounted on the building detract from the appearance of the building. Conduit corrodes, staining the walls and each anchor and connection point for fixtures and conduit anchorage is a location where future spalling of the concrete is likely to occur as the anchors deteriorate.

- Restore the original exterior lighting fixtures. The original lighting system employed approximately 600 lamps drawing a total of approximately 200,000 watts of electricity. The original system was not designed with energy efficiency or low maintenance in mind. Restoration of the original system would be expensive to operate and maintain.

- Provide a new energy efficient lighting system that will replicate the original lighting design. Select new energy efficient fixtures with long life lamps to replace the original fixtures. The design of the exterior lighting system should replicate the original lighting scheme. New and additional lighting should be designed to be compatible with the original lighting standards and using concealed fixtures where possible. Light fixtures should not be attached to the face of the building.

EXTERIOR LIGHT FIXTURE: RECOMMENDATIONS

- Remove all non-original light fixtures and conduit from the face of the building and repair all holes to match the original surface. See Chapter X, Guideline Specifications for "Concrete Patching and Repair."

- Provide a new energy efficient lighting system that will replicate the original lighting design. Design the exterior lighting system with energy efficient lamps to replicate the original lighting scheme and fixtures. New and additional lighting should be designed to be compatible with the original lighting standards and using concealed fixtures where possible. Light fixtures should not be attached to the face of the building. See Chapter X, Guideline Specifications for "Light Fixture Reproduction."

INTERIOR LIGHT FIXTURES

INTERIOR LIGHT FIXTURES: ORIGINAL/EXISTING LOCATIONS

The original drawings, specifications and schedules describe and detail almost all of the original light fixtures. See the "Light Fixture Schedule" in Chapter IX for a detailed list of fixture types, locations and existing conditions. See Illus. Nos. 3-26, 3-27, 3-28 and 3-29 for light fixture details.

The majority of the interior fixtures in the public spaces were recessed incandescent. Trough mounted spot lights were also used in the Entrance Lobbies and concealed indirect fluorescent lights, mounted above a concrete soffit, were used on the upper floor elevator lobbies. Where the fixtures were exposed in public spaces and in the important offices, round fixtures were used. Round dome fixtures with indirect incandescent lights were recessed in the acoustical tile ceilings of the Cafeteria dining room, staff dining room and Secretary's tenth floor dining room. Fluorescent fixtures with round concave diffusers were recessed into the acoustical tile ceilings of the Executive and Secretary's offices. Corridors and offices typically had surface mounted or semi recessed fluorescent fixtures.

INTERIOR LIGHT FIXTURES: EXISTING CONDITIONS/SIGNIFICANCE

The HUD Building's interior lighting was designed to enhance the perception of the building, spaces and materials. The type, shape and location of the light fixtures was carefully considered to relate to the forms in the building and illuminate the surfaces. Lighting in the building's important public spaces was accomplished with recessed and concealed fixtures, located and directed to illuminate the exposed concrete and plaster surfaces. Dining areas had round fixtures to relate to the round columns and curving forms of the building. Round recessed fluorescent fixtures were used in the conference rooms and executive offices, also to recall the curvilinear forms in the building. Corridors, offices and utilitarian spaces had rectangular fluorescent fixtures as best suited the function of the particular space. Lighting is a significant feature of the building design and its restoration is important so that the building is experienced as the original designers intended.

Almost all of the fluorescent fixtures in the building have been removed and replaced because the original fixture ballasts contained PCBs (polychlorinated biphenyls), a carcinogen. The replacement fixtures are typically recessed fluorescent fixtures similar to the originals. The round recessed indirect incandescent lights fixtures in the dining rooms have also been replaced. New rectangular fixtures have been installed in the first floor Cafeteria and second floor Staff Dining Room, which has been converted to office space. The original round incandescent fixtures in the Secretary's Dining Room were replaced with round fluorescent fixtures similar to the fixtures in the rest of the suite. In the Departmental Conference Room, the round fluorescent fixtures have been replaced with rectangular recessed fluorescent fixtures, the track lights have been replaced with new track lights, and the recessed incandescent fixtures have been eliminated, altering the

appearance of this space. The only fluorescent fixtures that appear to be original are in the telephone recesses of the elevator lobbies on the second through tenth floors. This fixture was identified as #393 and was specified as GSA Standard Type, with no drawing provided of the fixture. Several of these fixtures have been replaced with new recessed fluorescent fixtures.

The original recessed incandescent fixtures remain in the first floor Entrance Lobbies and Elevator Lobbies. Many of these fixtures have been altered with the addition of extension arms that drop the lamps below the ceiling, giving the fixture the appearance of a surface mounted spotlight. Even the specially designed recessed spotlight used to illuminate the sculpture in the south elevator lobby has been altered into a surface mounted spotlight. The lenses are missing from the Lobby's trough mounted spotlights exposing the lamps to view. Additional surface mounted spotlights have been added on the ceiling of the northeast entrance lobby and the walls of the northwest entrance lobby. The original recessed incandescent fixtures in the elevator lobby ceilings of the second through tenth floors have been replaced with new recessed compact fluorescent fixtures matching the original incandescent fixtures. The original recessed incandescent fixtures cast into the concrete soffit above the elevator doors remain although they are soiled. Similar recessed wall washer incandescent fixtures cast into concrete soffits at the west entrance to the Cafeteria also remain although they are also soiled.

INTERIOR LIGHT FIXTURES: ALTERNATIVE TREATMENTS

- Maintain existing lighting fixtures in existing locations. The rectangular fixtures used to replace the round fixtures, along with the exposed grid ceilings, substantially alters the appearance of the spaces. The alteration of the original recessed incandescent fixtures with extension arms has changed the flat appearance of the ceiling into a clutter of fixtures and exposed the glare of the lamps to view.

- Replace the missing original lighting fixtures and replacement fixtures and restore the original fixtures to their original appearance and function. Replacing and restoring the lighting fixtures with fixtures that have the same appearance and lighting characteristics as the original fixtures will restore the building's original lighting scheme.

INTERIOR LIGHT FIXTURE: RECOMMENDATIONS

- Replace rectangular light fixtures in the Cafeteria Dining Room, Secretary's Suite Dining Room and Departmental Conference Room with round fixtures matching the original fixtures. Perform this work with the replacement of the exposed grid acoustical tile ceiling. See Chapter X, Guideline Specifications for "Light Fixture Reproduction" and "Acoustical Tile Ceilings."

- Replace the missing recessed light fixtures in the tenth floor Secretary's Suite Dining Room and Departmental Conference Room. See Chapter X, Guideline Specifications for "Light Fixture Reproduction."

- Maintain existing light fixtures in existing locations. Clean, repair, rewire and relamp fixtures with energy efficient long life lamps matching the original lamp's color and beam spread as closely as possible. See Chapter X, Guideline Specifications for "Light Fixture Reproduction."

ENTRANCE DOORS

ENTRANCE DOORS: EXISTING CONDITIONS

The entrance doors include the revolving doors, swing doors and cafeteria and lobby window walls and frames. Three of the four original building entrances have been altered. The original revolving door entrances on the east side of the building have been removed and replaced with swing doors. This work involved the removal of the ±22'-5" section of window wall and installing a new wall with swinging doors and frames designed to match the profile of the originals. New glazed window wall partitions, matching the exterior window walls, have also been constructed in the entrance lobbies to create a vestibule (Illus. No. 4-45). The original swinging entrance doors at the northwest corner of the building have been removed and a capsule shaped aluminum clad vestibule with automatic swinging doors constructed on the exterior of the building (Illus. No. 4-28).

The original swinging door entrance at the southwest corner of the building remains in its original location (Illus. No. 4-27). The window wall on the west side of the cafeteria and its swinging doors also remains in their original location (Illus. No. 4-25). The original doors have been locked and are not in use except for emergency exit. The cafeteria window wall is heavily soiled with the accumulation of dust and dirt and spider webs. The original door pulls are soiled from hand contact.

ENTRANCE DOORS: RESEARCH AND ANALYSIS

The original drawings and specifications describe and detail the window wall system. The original window wall frame system is a 12 inch deep rectangular section with 5/8" wide fins. The frames are extruded aluminum shapes with a black anodized aluminum finish. Two different shapes are used, one nesting into the other, to create the window wall frame. When assembled, these shapes create a 3/4 inch wide glazing rabbet which will not allow the glazing of the wall with thicker insulated glass. The window walls are glazed with 3/8" thick glass and the doors glazed with 1/4" tempered glass.

The existing original doors and frames were designed specifically for the HUD Building. The anodized black finish matched that used on the window frames. The walls were

located as an extension of the granite clad first floor walls. Thus, the materials, configuration and location of the exterior window walls that served as the entrances to the building and defined the lobbies and cafeteria are significant. The soiling detracts from the appearance of the window walls and door hardware. The exterior addition of the aluminum capsule does not match the original fabric in material, detailing, or location and is not compatible with the original design of the building. The alteration of the east entrances match the detailing and location of the original design and are compatible with the building.

ENTRANCE DOORS: RECOMMENDATIONS

- Remove the existing aluminum capsule shaped vestibule at the northwest entrance and replace with entrance that matches the location, design and materials of the original. Replacement doors and frames shall match the original aluminum black anodized finish and profiles. On replacement doors, provide new hardware that matches the appearance of the original hardware.

- Clean all of the entrance and window wall doors, glass and frames to restore original appearance of the exterior. See Chapter X, Guideline Specifications for "Interior And Exterior Aluminum Cleaning."

POLISHED GRANITE GUARD DESK

GUARD DESK: EXISTING CONDITIONS

The original reception desk no longer exists. It was removed and replaced with a new desk with a stucco finish.

GUARD DESK: RESEARCH AND ANALYSIS

The original construction documents show the design of the original desk (Illus. No. 3-17). The original guard desk was located in the southeast lobby. Designed in an "L" shape, the corner of the desk was located 2'-0" from the curved lobby wall and sat approximately 5'-0" inside the column in the lobby. The desk was faced with polished Cherry Hill granite from the French Creek Granite Company with all exposed edges eased and all joints joined with epoxy cement in a hairline fit. The desk tops, cabinets and drawers were constructed of gray plastic laminate. Cabinet door hinges were continuous exposed piano type hinges and drawer pulls were 4 inch wide wire pulls, both a stain chrome finish.

The guard desk was specifically designed by the building's architect for the south lobby. The simple "L" shaped form of the desk was designed to contrast with the curving geometry used on the building. The polished granite finish was also selected to contrast

the flamed granite on the exterior of the building and the bush hammered concrete in the interior of the building. The existing stucco desk, although copying the shape of the original desk, does not have the carefully finished details or fine materials of the original desk.

POLISHED GRANITE GUARD DESK: RECOMMENDATIONS

- Remove the existing guard desk and reproduce the original desk based on original drawings and specifications (Illus. No. 3-17).

HARDWARE

HARDWARE: EXISTING CONDITIONS

Use of hardware in the HUD building is primarily confined to the doors; the windows have no exposed hardware. Stainless steel was used for the majority of hardware in the building, with the exception of the cherry paneled offices which have polished brass hardware. Typically doors have 5 inch long lever type handles with a 2-1/8 inch diameter rose and small lock collar. The door lever, rose and mortise lock were manufactured by Challenger and are stamped with the model number 3C. The stairwell doors have round knobs and mortise locks which were manufactured by Yale. Each door has 3 stainless steel hinges with 5 knuckles and 2 bearings. Hinges are stamped with the name "H. SOSS & CO." Door hardware in the majority of the building, including the core areas, corridors and offices, have a satin stainless steel finish (US32D) (Illus. No. 4-63). Hardware on doors in the cherry paneled Secretary's Suite of offices are brass with a polished finish (US3A) (Illus. Nos. 4-98 and 4-99). The Secretary's Suite also employs brass push plates, pulls and recessed wooden pulls on closet doors (Illus. Nos. 4-96, 4-98 and 4-100). Kick plates and mop plates are used in all corridor doors and are grey plastic. Door hold opens are mounted on the bottoms of the doors and surface mounted closers are attached to the tops of the doors.

The hardware in the building is in good condition. All of the existing hardware appears to be original. Lever type door hardware appears consistent with the requirements for handicapped access. The only broken hardware seen during survey of the building was a hinge on the Departmental Conference Room door (Illus. No. 6-25).

HARDWARE: RESEARCH AND ANALYSIS

The hardware used in the HUD Building is very utilitarian and simple in design. Use of functional hardware without ornament is consistent with the design of the building and is significant in expressing the functional theme of the design.

The specifications for the HUD Building describe the hardware to be used and contains a schedule of hardware sets. The existing hardware matched that described in the specifications which was to "be similar in appearance and dimension to 765L series by P&F Corbin, Citation by Russwin or LMA by Sargent." Round knobs were specified for the basement and penthouse levels. The simple lever type latch with round rose specified for the doors was manufactured by Challenger. This company no longer exists. Hinges were manufactured by H. SOSS & CO., which has been purchased by Bommer Industries. Kick and mop plates were specified to be plastic laminate; color was not indicated.

Even though the original manufacturers are not in business, the original hardware is simple in design and has standard finishes. Hardware that is similar to that used in the building is still available as standard from the originally specified hardware manufacturers.

HARDWARE: RECOMMENDATIONS

- Where existing hardware is damaged, worn out and in need of replacement, replace with hardware matching the original and size, appearance and finish.

WINDOWS

WINDOWS: EXISTING CONDITIONS

Windows and frames are in good condition. During the survey of the building, a window in Room 4204 was noted to have heavy condensation which was caused by cold air from a malfunctioning fan coil unit below the window (Illus. No. 6-29).

Reflective film has been applied to the windows on the south elevation of the building giving these windows a reflective appearance.

Storefront windows of the first floor are discussed under "Entrance Doors" above.

WINDOWS: RESEARCH AND ANALYSIS

There are 1,584 windows in the building, one in each precast concrete unit from the second to the tenth floor. All of the windows are identical and sit in 3'-9" high by 6'-4" wide openings in the concrete panels. Windows are 1/4 inch thick clear float glass. The frames of the windows are clear anodized aluminum and are recessed into a rabbet cast into the concrete wall panel, thus cannot be seen from the exterior of the building. The sash are anodized aluminum with a black fine satin finish and are designed to pivot horizontally for cleaning. The sash and frame both can be seen from the interior of the building.

The sash and frames are extruded aluminum sections with square profiles. A rectangular snap-in glazing strip on the interior face of the sash secures the glass into place. The sash and frame are fabricated in single sections without a thermal break.

The appearance of the windows is a major exterior design element. Use of the black anodized aluminum frames and the grey blinds were selected to make the window openings appear dark against the white precast panels, thus expressing the contrast of the "negative" window and frame against the "positive" precast concrete panels. The presentation drawings of the building design, prepared by the architects, show the windows as shaded indicating this was the desired effect (Illus. Nos. 2-12 and 2-14).

WINDOWS: ALTERNATIVE TREATMENTS

- Existing windows to remain. The existing windows are in good condition with the exception of the windows on the south elevation which have been covered with reflective film. The appearance on these windows has been changed, giving them a shiny mirror finish instead of the original intended dark "negative" appearance.

- Improve thermal performance of the windows by applying a film to the windows. Insulating and reflective films alter the appearance of the windows to which they are applied. The film has a limited life because the adhesive fails, which causes the film to peel and bubble and requires replacement of the film and/or glass.

- Improve thermal performance of the windows by replacing the glass with insulated glass. Insulated glass will improve the thermal performance of the windows without altering the appearance of the windows. Installation of a thicker glass will also require replacement of the interior snap-in glazing strip. Use of special glass such as low E glass may be acceptable as long as the glass does not alter the original appearance of the windows. Insulated units have a limited life and when the seal fails, the window fogs up and glass must be replaced. Study glazing options to determine the cost effectiveness and pay back based on energy saved and expected life of the insulated glass window unit.

- Replace window sash and frames with new, thermally broken insulated glass units. Although the window frames and glass are original fabric, replacing them with material exactly matching the originals may be considered. Replace frames only if there is a very significant improvement in the thermal performance of the frame and cost savings. Replacement windows should match the original windows exactly in size, finish and profile.

WINDOWS: RECOMMENDATIONS

- Remove the solar film from the windows on the south elevation of the building and reglaze windows with insulating glass to reduce solar gain. See Chapter X, Guideline Specifications for "Window Cleaning and Reglazing."

- Prepare a study of the existing exterior wall system and evaluate the options and cost benefit for improving the thermal performance of the entire building envelope. Evaluate both the precast panels and window systems addressing the options of: no action; replacement of existing glass with insulated glass; replacement of entire window with new insulated window unit; or the addition of insulation to the concealed interior surface of the fan coil cabinet on the back of precast concrete panel. See Chapter X, Guideline Specifications for "Window Cleaning and Reglazing."

ELEVATOR CABS, HOISTWAY DOORS AND SIGNALING DEVICES

EXISTING CONDITIONS

The elevators were renovated in 1993-1994. The interior finishes in the cabs were replaced with the exception of the cab doors, which are brushed stainless steel. The original metal hoistway doors and frames have been painted a light grey instead of their original dark grey and the hoistway number stenciled on the door frame. The original call buttons and floor indicator lights have also been replaced with devices not matching the originals (Illus. No. 4-51).

RESEARCH/ANALYSIS

The original elevators were a significant element of both the entrances and circulation of the building. The contrast of the dark grey metal hoistway doors against the light exposed concrete was an important feature of the elevator lobby design.

The original elevator cabs are described in detail on the original construction drawings (Illus. No. 3-18). The original hoistway up and down indicator lights also can be seen the original photographs (Illus. No. 3-61). Paint analysis has also identified the original hoistway door color as dark grey Munsell color code 10G 3/0.5.

RECOMMENDATIONS

- Because the elevators have recently been renovated, restoring the cabs at this time is not feasible. However in the future when it is necessary to replace the cab interiors and hoistway indicators, the replacements should match the originals

following original drawings, details and finishes per Illus. No. 3-18. Replace new "up" and "down" indicator lights with reproductions of originals based on original photograph, Illus. No. 3-61.

- To restore the appearance of the elevator lobbies, paint the hoistway doors their original dark grey color. See Chapter X, Guideline Specifications for "Interior Painting."

VENETIAN BLINDS

EXISTING CONDITIONS

The majority of the original grey blinds have been replaced with white venetian blinds. The original blinds that remain are typically in the executive offices and Secretary's and Deputy Secretary's Suite and are in good condition (Illus. No. 4-73).

RESEARCH AND ANALYSIS

Each of the 1,584 windows on the second through the tenth floors originally contained 2 inch wide baked on gray flexible steel Venetian blinds, with 1-1/2 inch wide gray tapes and gray nylon cords. Although the Interior Finish Schedule specified the blinds to be white, the original design intent of Marcel Breuer and Herbert Beckhard had been that the blinds be dark gray in color so that the blinds would not be visible from the exterior of the building. The Venetian blinds were manufactured by the Globe Products Company and had baked-on gray color flexible steel slats, 2" wide x 0.007" thick, gray color woven cotton tape, 1-1/2" wide with 3/8" wide cross straps, gray color nylon braided cords, baked-on gray color steel bottom and headrails, with the headrails containing the vertical operation mechanism and brakes.

RECOMMENDATIONS

Remove the white Venetian blinds and install new grey blinds to match the originals. This will make the blinds less visible from the exterior of the building and restore the exterior appearance of the building. See Chapter X, Guideline Specifications for "Venetian Blinds."

SKELETON CLOCKS

EXISTING CONDITIONS

All of the ten original skeleton clocks have been replaced with new round surface mounted clocks (Illus. No. 4-95).

RESEARCH AND ANALYSIS

Skeleton clocks were used in the most significant spaces in the building. Construction correspondence indicates that the clock materials, finishes location and installation were carefully considered by the building's designers. The clocks were reduced to their most basic components, two hands and twelve numerals, so that the building materials could be expressed even at the clock locations.

Based on the construction correspondence, the locations of the ten clocks are as follows:

2 clocks in the entrance lobbies of the first floor
1 clock at the center line of the south wall of the Staff Dining Room
1 clock on the east face of the concrete chase in the Library
2 clocks in the Departmental Conference Room, mounted adjacent to the bulletin boards
2 clocks in the Secretaries Conference room
2 clocks in the Secretaries Reception Area, mounted on the exposed concrete wall.

Based on a letter from Kenneth Cohen of Nolen-Swinburne, the architect, dated 22 February, 1967, the clock numerals were painted light grey (Federal Standard Color #17886) to match the concrete and the hands were painted blue (Federal Standard Color #15123). Where the clocks were mounted on exposed concrete, an aluminum cover plate was necessary to cover the clock mechanism. This cover plate was also painted light grey.

RECOMMENDATIONS

- The existing surface mounted clocks detract from the original appearance of the materials onto which they are mounted. Remove these clocks and install new skeleton clocks matching the originals. See Chapter X, Guideline Specifications for "Skeleton Clocks."

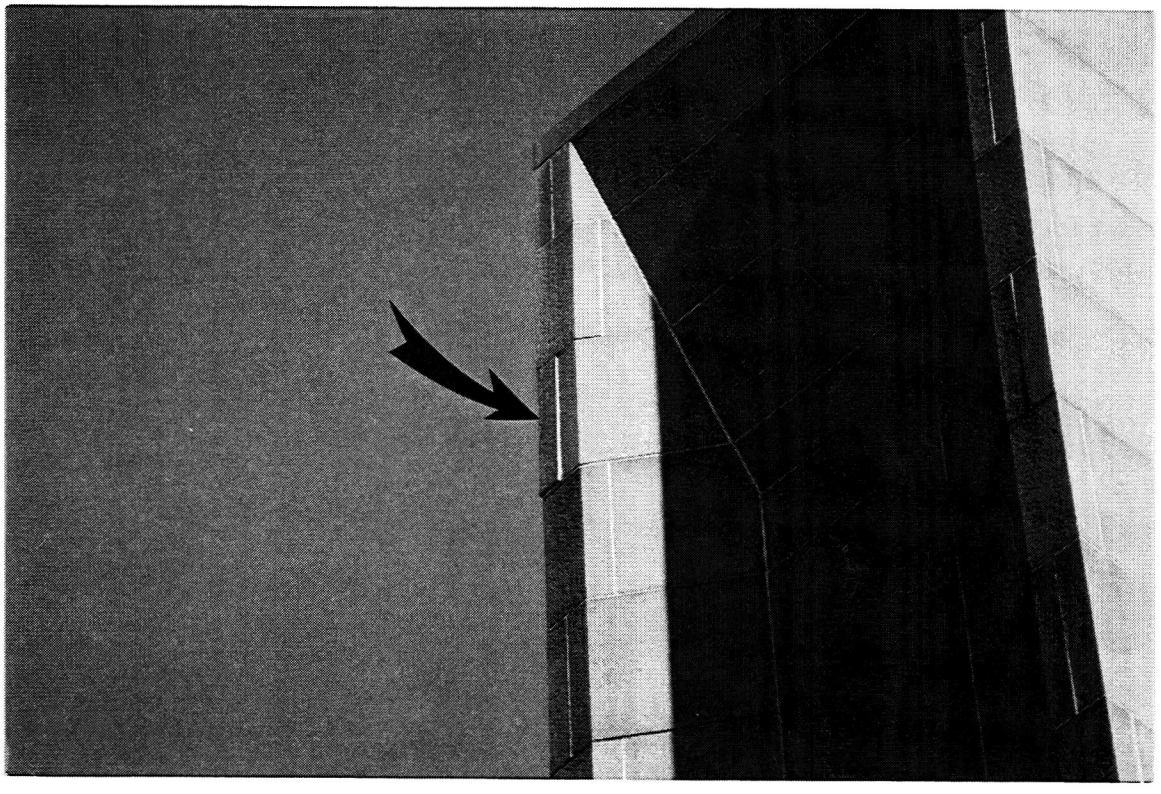


Illustration No.	6-1
Subject:	Housing and Urban Development Building, Northwest Stair Tower
Date:	November 1994
Description:	Dislocated granite panel at top of tower at the northwest corner of the building. Panel should be monitored but no treatment is necessary at this time.
Photographer:	Reed A. Black, AIA
Source:	Oehrlein & Associates Architects

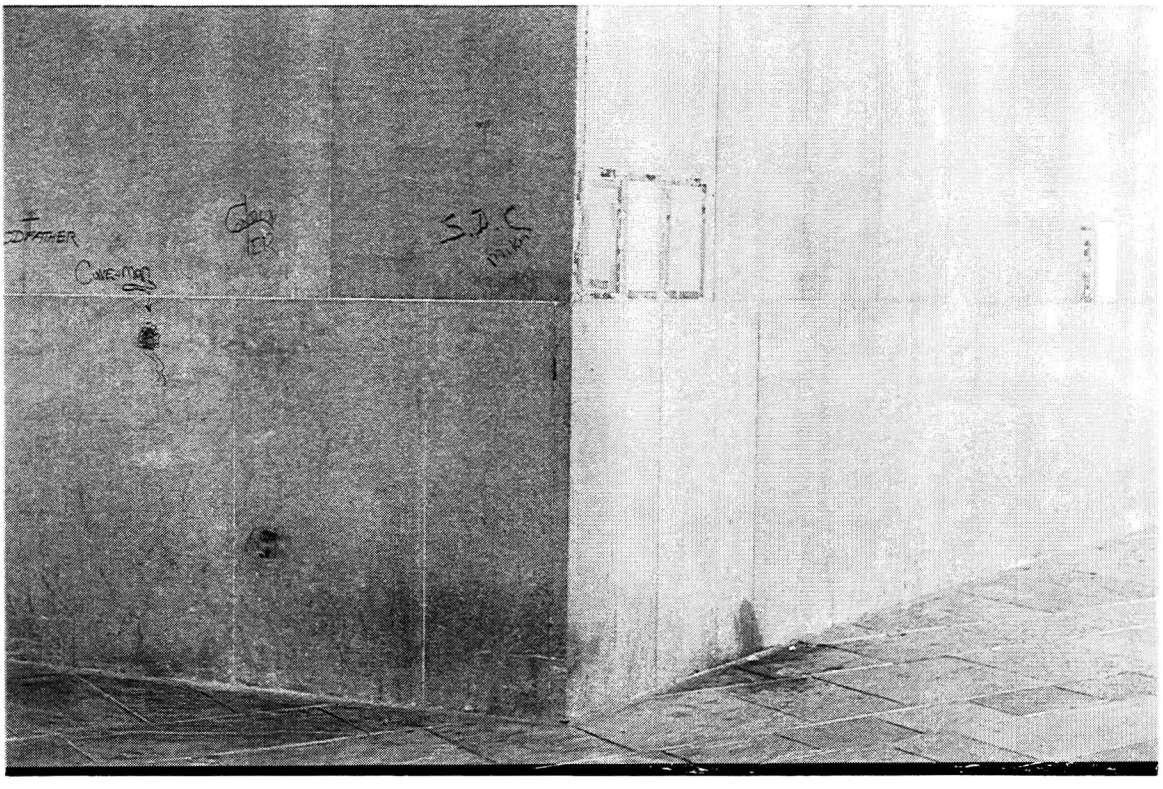


Illustration No. 6-2

Subject: Housing and Urban Development Building, Southwest Corner of First Floor

Date: November 1994

Description: Soiled granite panels at southwest corner of the first floor level. Note graffiti, tape marks, soil, sign, urine stains and scuff marks from paving installation (see Chapter X, Guideline Specification for Exterior Masonry Cleaning).

Photographer: Reed A. Black, AIA

Source: Oehrlein & Associates Architects

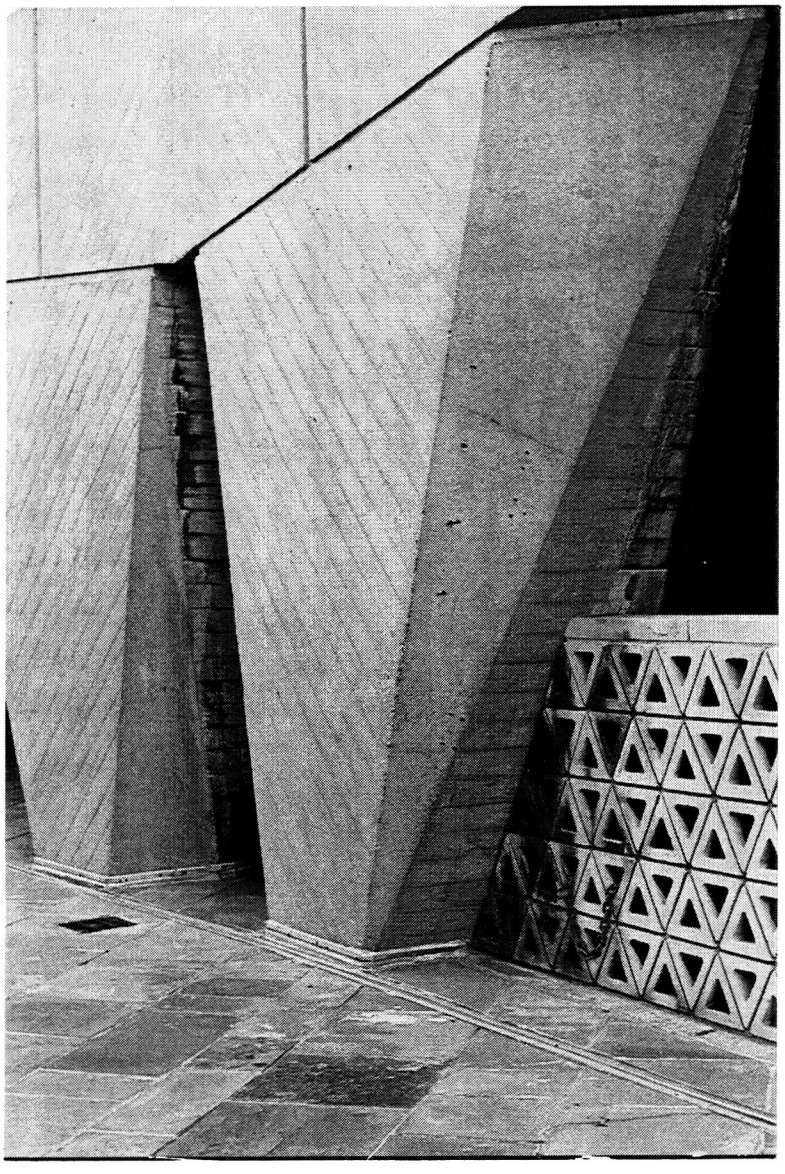


Illustration No.	6-3
Subject:	Housing and Urban Development Building, West Elevation, South End
Date:	November 1994
Description:	Detail of soiling on sides of concrete tree. Face of tree washed by the rain is clean but portions of the tree and screen wall not washed is heavily soiled (see Chapter X, Guideline Specification for Exterior Masonry Cleaning).
Photographer:	Reed A. Black, AIA
Source:	Oehrlein & Associates Architects

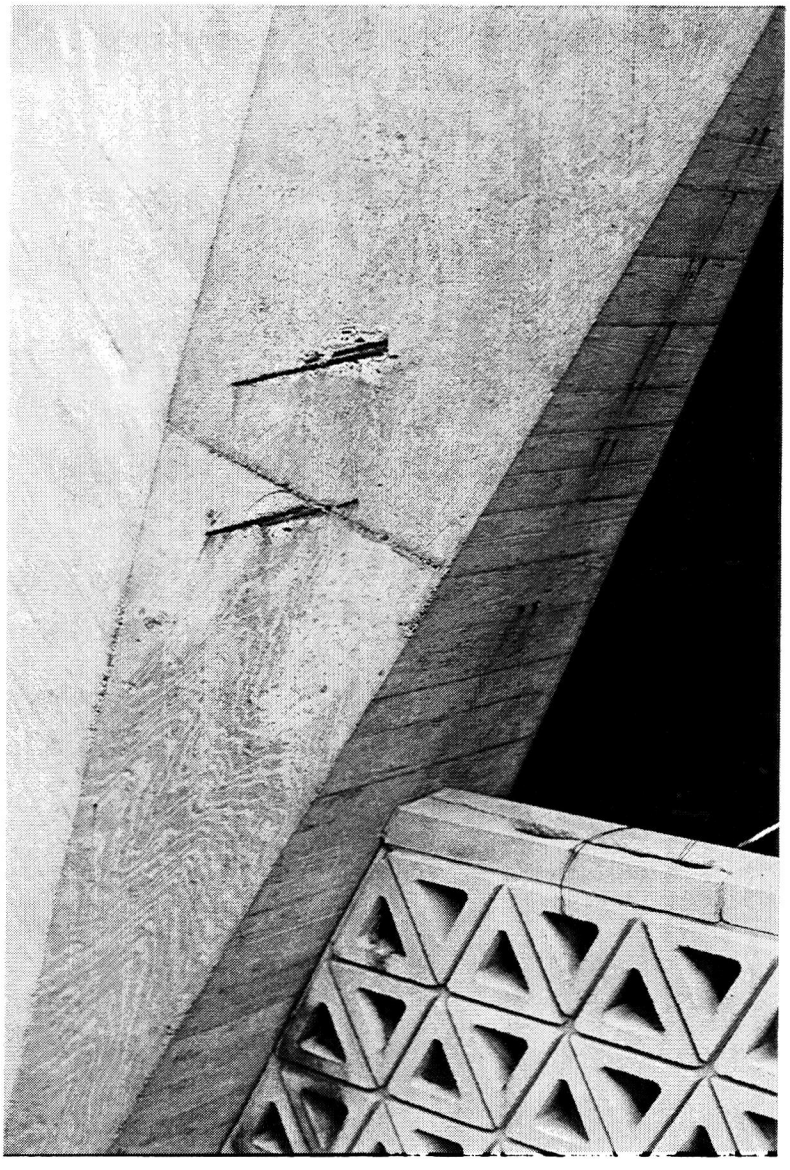


Illustration No. 6-4

Subject: Housing and Urban Development Building, West Elevation, North End

Date: November 1994

Description: Detail of concrete tree and concrete triangular block screen wall. Note corroding stirrups (horizontal bars) and chairs (small dots) on concrete tree. Corroding reinforcing has split precast concrete coping on top of screen wall (see Chapter X, Guideline Specifications for Concrete Patching and Repair and Precast Concrete).

Photographer: Reed A. Black, AIA

Source: Oehrlein & Associates Architects

Illustration No.	6-5
Subject:	Housing and Urban Development Building, Southwest Wing, First Floor
Date:	November 1994
Description:	Spalling on concrete walls at air shaft opening to service drive is caused by corroding reinforcing in the wall (see Chapter X, Guideline Specification for Concrete Patching and Repair).
Photographer:	Reed A. Black, AIA
Source:	Oehrlein & Associates Architects

Illustration No. 6-6

Subject: Housing and Urban Development Building, West Elevation, North End

Date: November 1994

Description: A wood scrap cast into the wall panel has deteriorated, leaving a void (see Chapter X, Guideline Specification for Concrete Patching and Repair).

Photographer: Reed A. Black, AIA

Source: Oehrlein & Associates Architects

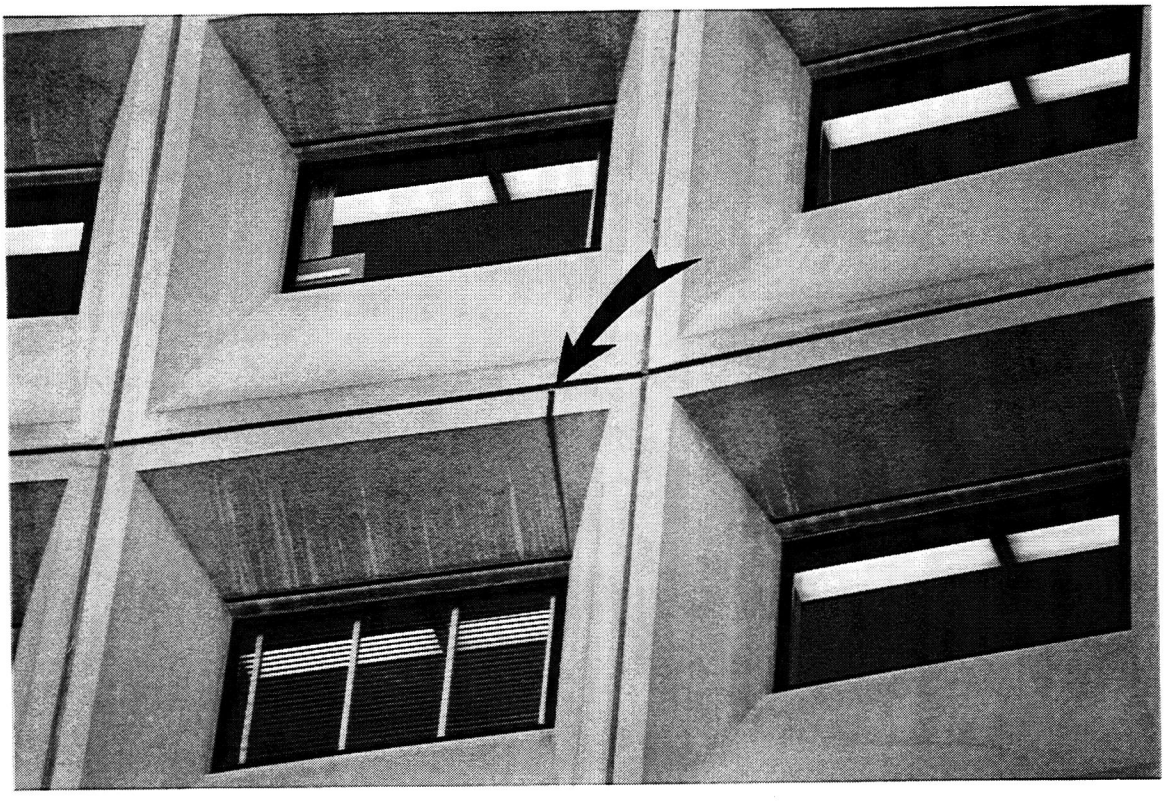


Illustration No.	6-7
Subject:	Housing and Urban Development Building, North Elevation
Date:	November 1994
Description:	A piece of metal, possibly a bolt or fragment which had fallen into the panel formwork during construction, is corroding and staining the concrete window unit. Note also accumulated dirt on panels above window openings (see Chapter X, Guideline Specifications for Concrete Patching and Repair and Exterior Masonry Cleaning).
Photographer:	Reed A. Black, AIA
Source:	Oehrlein & Associates Architects

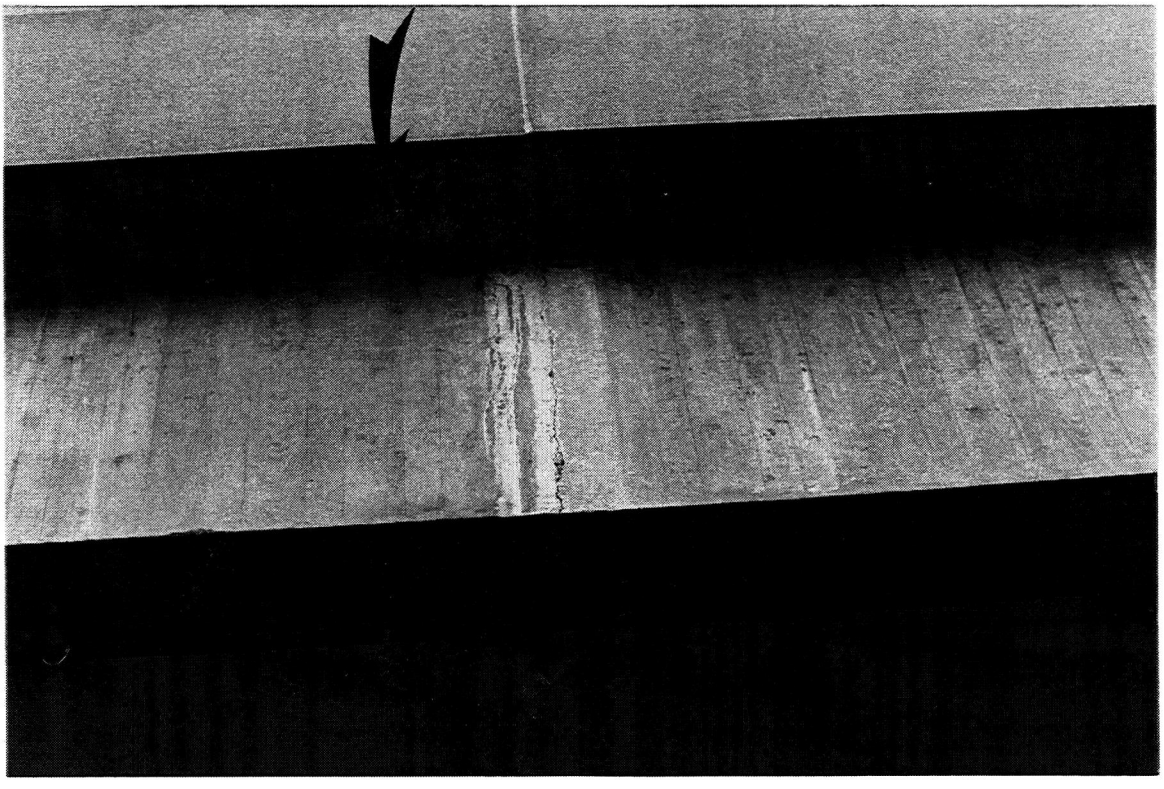


Illustration No.	6-8
Subject:	Housing and Urban Development Building, Northwest Stair Tower
Date:	November 1994
Description:	Concrete beam is soiled and cracked. Note cap nuts installed in 1972 to support the granite soffit (see Chapter X, Guideline Specification for Concrete Patching and Repair).
Photographer:	Reed A. Black, AIA
Source:	Oehrlein & Associates Architects

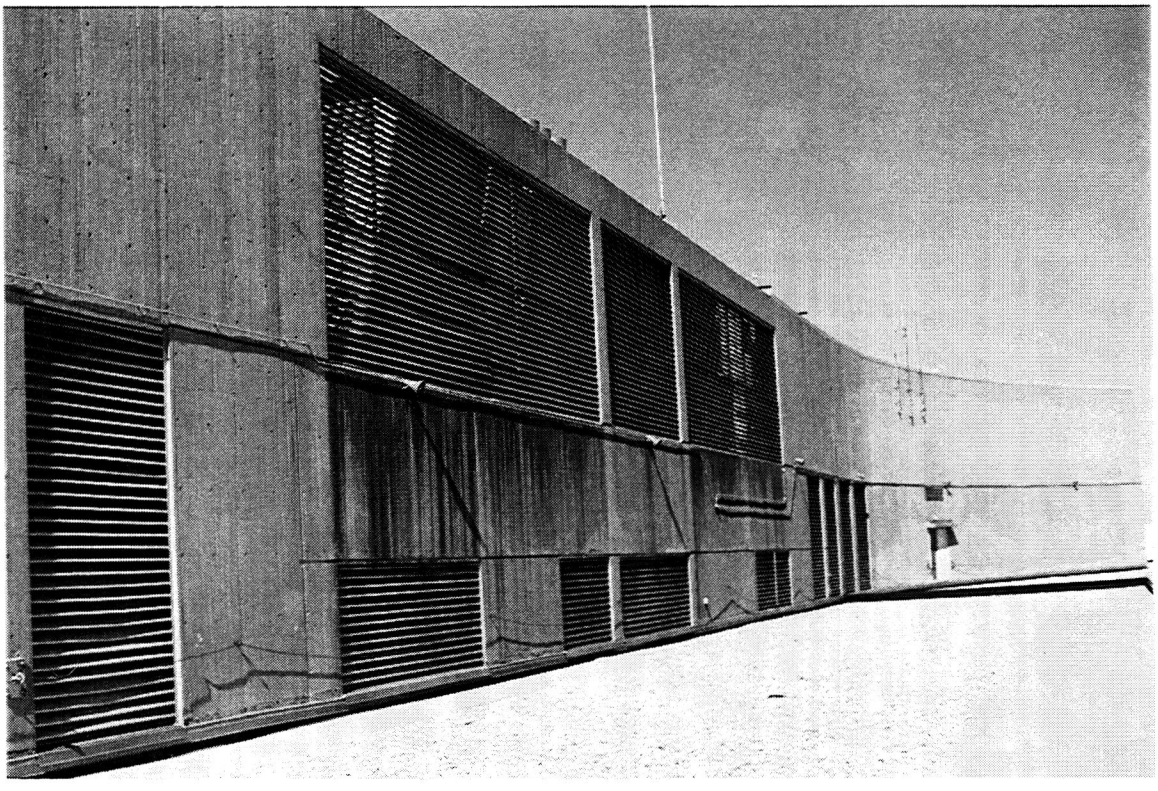


Illustration No.	6-9
Subject:	Housing and Urban Development Building, West Elevation, Penthouse
Date:	November 1994
Description:	Concrete walls are dirty and stained below aluminum mill louvers. Dirt accumulating on the louvers is washing down and soiling the face of the wall below (see Chapter X, Guideline Specification for Exterior Masonry Cleaning).
Photographer:	Reed A. Black, AIA
Source:	Oehrlein & Associates Architects

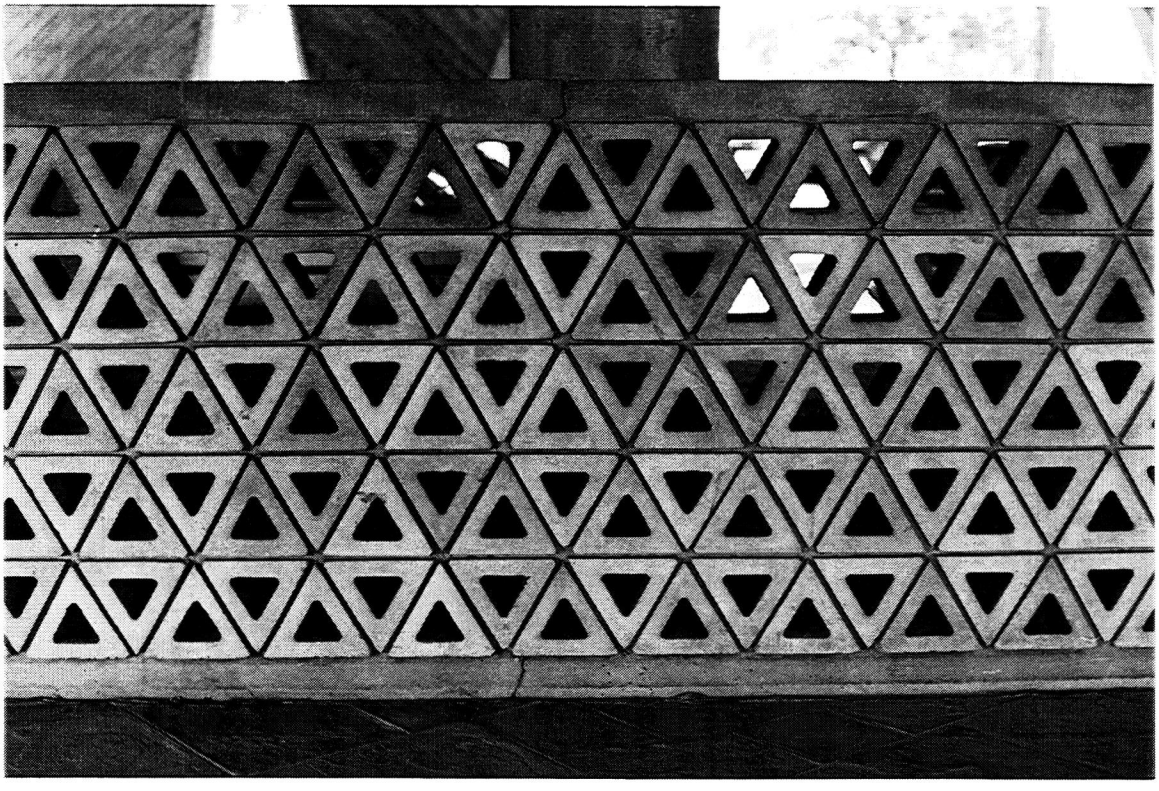


Illustration No.	6-10
Subject:	Housing and Urban Development Building, Southeast Wing First Floor.
Date:	November 1994
Description:	Detail of concrete triangular block screen wall. Crack extends through the concrete base and then follows the joints of the triangular units and coping. Crack occurs at the column line support of the building and is caused by the deflection of the structure on both sides of crack. Units are soiled from pollution and automobile exhaust (see Chapter X, Guideline Specifications for Precast Concrete and Exterior Masonry Cleaning).
Photographer:	Reed A. Black, AIA
Source:	Oehrlein & Associates Architects

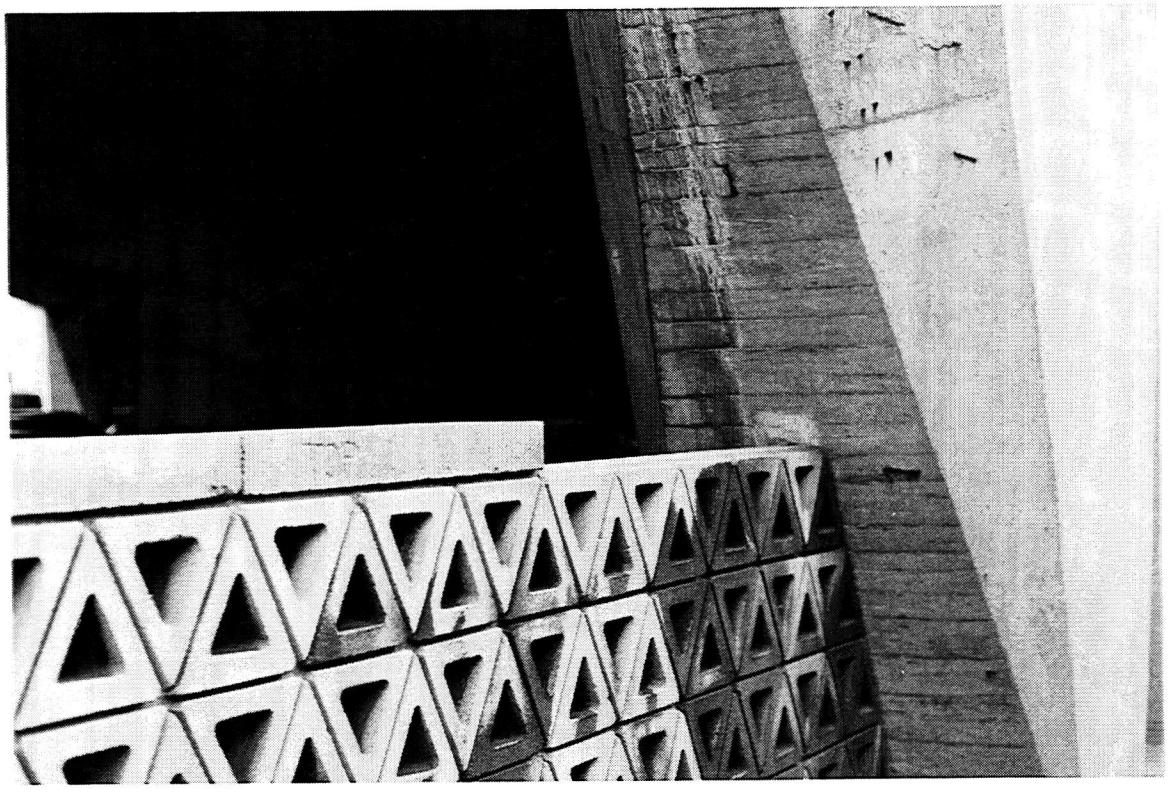


Illustration No.	6-11
Subject:	Housing and Urban Development Building, West Elevation, North End
Date:	November 1994
Description:	Concrete triangular block screen wall coping is missing. One piece of coping has been replaced with a precast concrete lintel cast with the word "TOP" (see Chapter X, Guideline Specification for Precast Concrete).
Photographer:	Reed A. Black, AIA
Source:	Oehrlein & Associates Architects

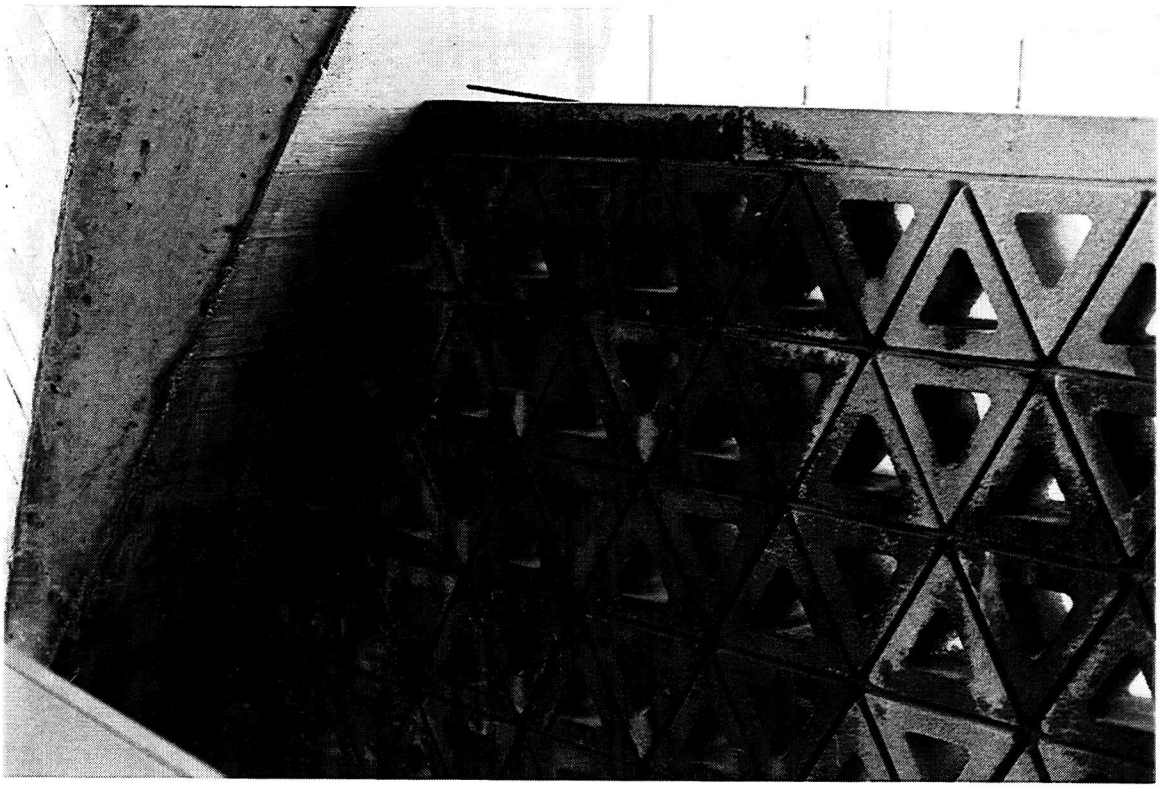


Illustration No.	6-12
Subject:	Housing and Urban Development Building, West Elevation, South End
Date:	November 1994
Description:	Concrete triangular block screen wall is heavily soiled from pollution and automobile exhaust. Note also reinforced steel sticking out of the concrete coping (see Chapter X, Guideline Specifications for Precast Concrete and Exterior Masonry Cleaning).
Photographer:	Reed A. Black, AIA
Source:	Oehrlein & Associates Architects

Illustration No.	6-13
Subject:	Housing and Urban Development Building, North Elevation
Date:	November 1994
Description:	Dislocated stanchions on the edge of the building between tree columns. Stanchions have typically been chipped and gouged by vehicular parking (see Chapter X, Guideline Specification for Precast Concrete). Stanchions adjacent to the pilotis on the north and south elevations of the building have rectangular bases, while those on the east plaza along the driveway area have hexagonal bases, designed to fit into hexagonal concrete pavers.
Photographer:	Reed A. Black, AIA
Source:	Oehrlein & Associates Architects

Illustration No.	6-14
Subject:	Housing and Urban Development Building, East Elevation
Date:	November 1994
Description:	Detail of original concrete light standard. Metal sign has been attached with steel bands which are rusting and staining the standard (see Chapter X, Guideline Specification for Exterior Masonry Cleaning).
Photographer:	Reed A. Black, AIA
Source:	Oehrlein & Associates Architects

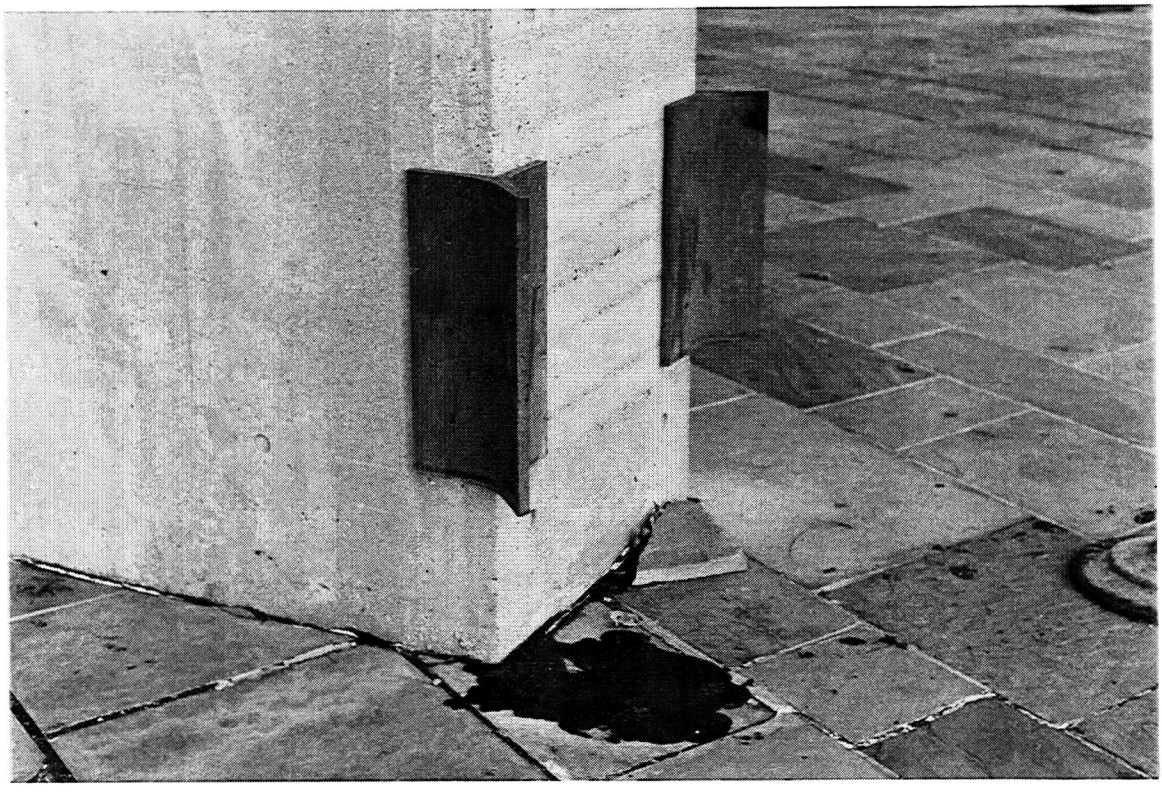


Illustration No.	6-15
Subject:	Housing and Urban Development Building, East Elevation
Date:	November 1994
Description:	Detail of base of banner showing protective bronze castings. Bluestone paving has been stained by tar water proofing oozing up from around banner. The mortar joints in the paving is deteriorating (see Chapter X, Guideline Specification for Bluestone Paving, Repair and Replacement).
Photographer:	Reed A. Black, AIA
Source:	Oehrlein & Associates Architects

Illustration No.	6-16
Subject:	Housing and Urban Development Building, East Elevation, South End
Date:	November 1994
Description:	Detail of condition of bluestone paving on plaza. Pavers have settled, edges are cracked, stones are dirty, and have been caulked with inappropriate colored materials. Differential settlement between the building and the underground parking garage caused the pavers to shift, resulting in cracking at the joints and water ponding at the face of the building (see Chapter X, Guideline Specification for Bluestone Paving, Repair and Replacement).
Photographer:	Reed A. Black, AIA
Source:	Oehrlein & Associates Architects

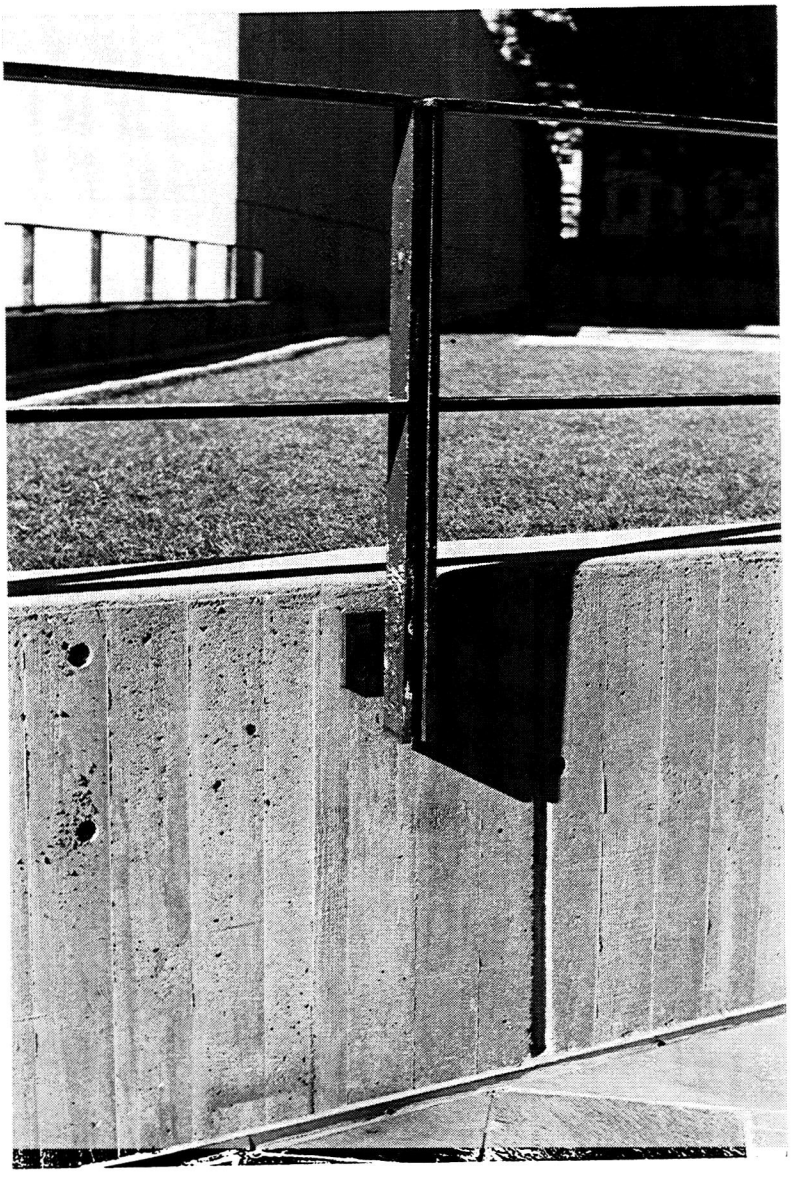


Illustration No. 6-17

Subject: Housing and Urban Development Building, West Elevation, South End

Date: November 1994

Description: Detail of metal railing located on retaining wall at raised grass covered knoll area. The railings are fabricated in welded sections of flat bar stock and attached to each other and the concrete wall with flat head screws. Metal is corroding due to failure of the paint coatings (see Chapter X, Guideline Specification for Exterior Painting).

Photographer: Reed A. Black, AIA

Source: Oehrlein & Associates Architects

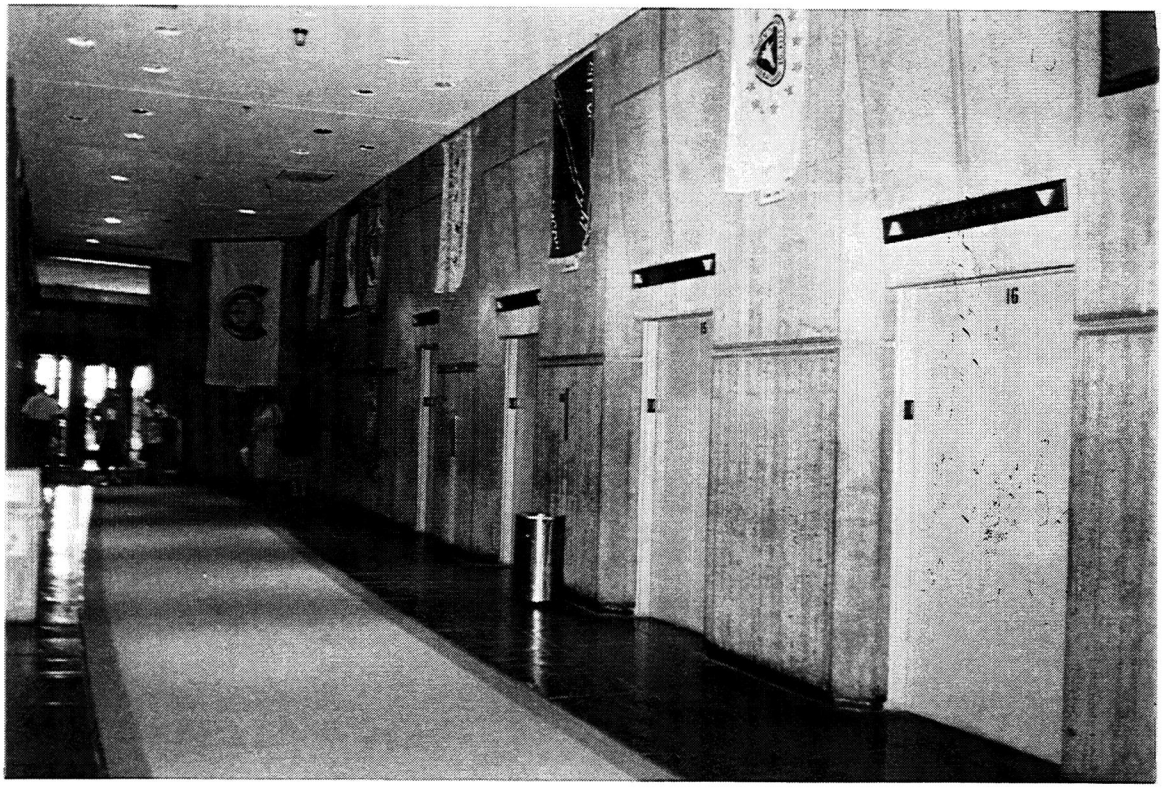


Illustration No.	6-18
Subject:	Housing and Urban Development Building, First Floor North Elevator Lobby
Date:	April 1994
Description:	View looking west. Bluestone paving has been coated with multiple coats of wax; floor finish has been smeared up onto recessed concrete wall bases; concrete walls are dirty; original elevator "UP" and "DOWN" signs have been replaced with single UP/DOWN floor indicator sign; dark gray painted elevator doors and frames have been repainted light gray with elevator number stencilled on the door; white cement plaster original ceiling has been replaced with gypsum board; and wall hung ashtray has been removed and replaced with a floor can (see Chapter X, Guideline Specifications for Bluestone Paving, Cleaning and Finishing, Interior Masonry Cleaning, and Interior Painting).
Photographer:	Mary Jane Klingelhofer
Source:	Oehrlein & Associates Architects

Illustration No.	6-19
Subject:	Housing and Urban Development Building, Southwest Entrance to Cafeteria Dining Area
Date:	July 1994
Description:	Detail of bushhammered concrete wall above entrance to cafeteria. Note recessed joints around panels, 1 inch smooth finished margin between joint and bushhammered face of panel and faint vertical lines from form boards on face of panel. Large silver colored plastic letters have been added above double doors. Stains remain on the concrete where sign was placed earlier; note also a protruding metal bolt from which a sign was hung (see Chapter X, Guideline Specification for Interior Masonry Cleaning).
Photographer:	Mary Jane Klingelhofer
Source:	Oehrlein & Associates Architects

Illustration No.	6-20
Subject:	Housing and Urban Development Building, Northeast Core Area, Second Floor
Date:	August 1994
Description:	Water leak has caused staining beneath the drinking fountains in the northeast core area of the building on all floors (see Chapter X, Guideline Specification for Interior Masonry Cleaning).
Photographer:	Mary Jane Klingelhofer
Source:	Oehrlein & Associates Architects

Illustration No.	6-21
Subject:	Housing and Urban Development Building, End Stairwell No. 1, 8th Floor Landing
Date:	July 1994
Description:	Sealer applied to concrete landings, stairs and risers has been splashed up onto concrete walls. Walls and edges of landings, stairs and risers are stained and dirty. Metal pipe handrail has recently been painted (see Chapter X, Guideline Specification for Interior Masonry Cleaning).
Photographer:	Mary Jane Klingelhofer
Source:	Oehrlein & Associates Architects

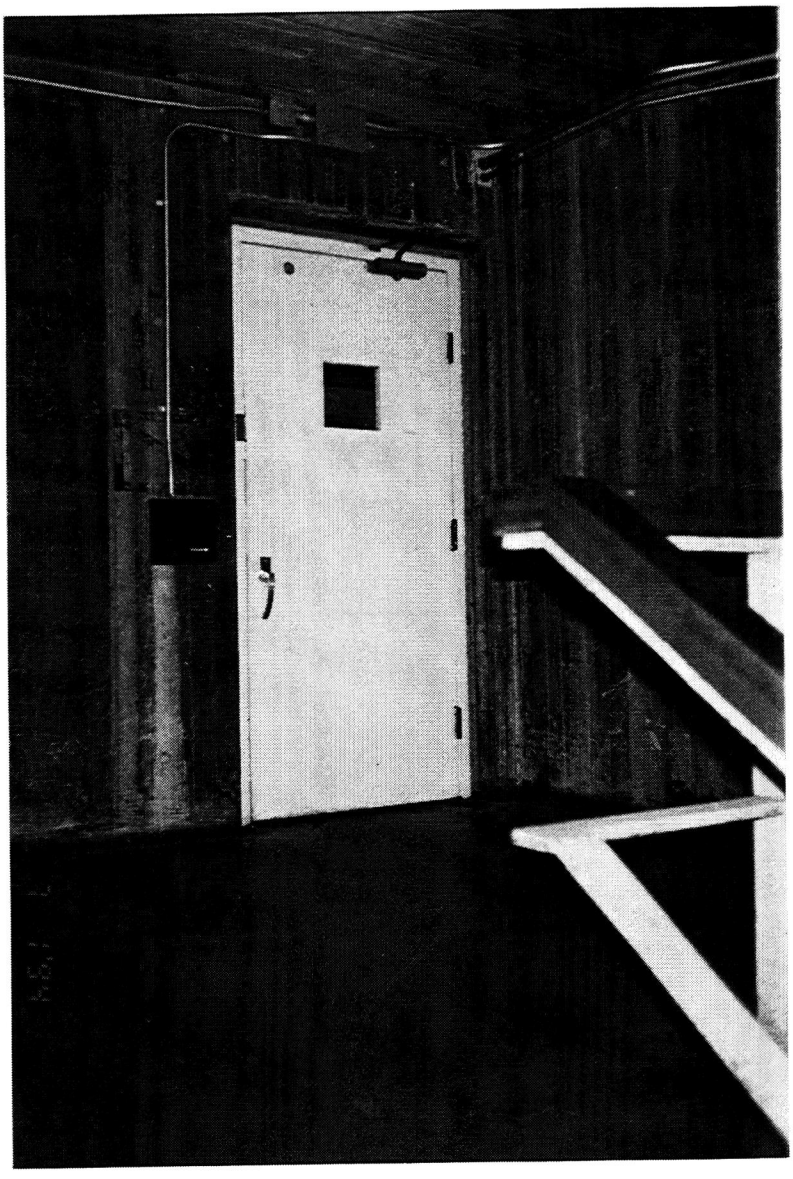


Illustration No.	6-22
Subject:	Housing and Urban Development Building, Garage Stairway No. F1
Date:	July 1994
Description:	Landing on basement level. Note conduit which has been added to walls for access system and glue stains on wall above card access box. In foreground is cherry handrail which has a dirty and worn finish and painted metal railings (see Chapter X, Guideline Specifications for Interior Masonry Cleaning and Wood Repair and Refinishing).
Photographer:	Reed A. Black, AIA
Source:	Oehrlein & Associates Architects

Illustration No.	6-23
Subject:	Housing and Urban Development Building, First Floor, Southwest Lobby Area
Date:	July 1994
Description:	Detail of bluestone flooring finish. In center of photo is area where coating has been chipped away, exposing the original light gray stone (see Chapter X, Guideline Specification for Bluestone Paving, Cleaning and Finishing).
Photographer:	Mary Jane Klingelhofer
Source:	Oehrlein & Associates Architects

Illustration No.	6-24
Subject:	Housing and Urban Development Building, First Floor Northeast Lobby
Date:	July 1994
Description:	Detail of bluestone flagging and recessed concrete wall base. Finish applied to bluestone has been splashed up and stained the recessed concrete wall base (see Chapter X, Guideline Specification for Bluestone Paving, Cleaning and Finishing).
Photographer:	Mary Jane Klingelhofer
Source:	Oehrlein & Associates Architects

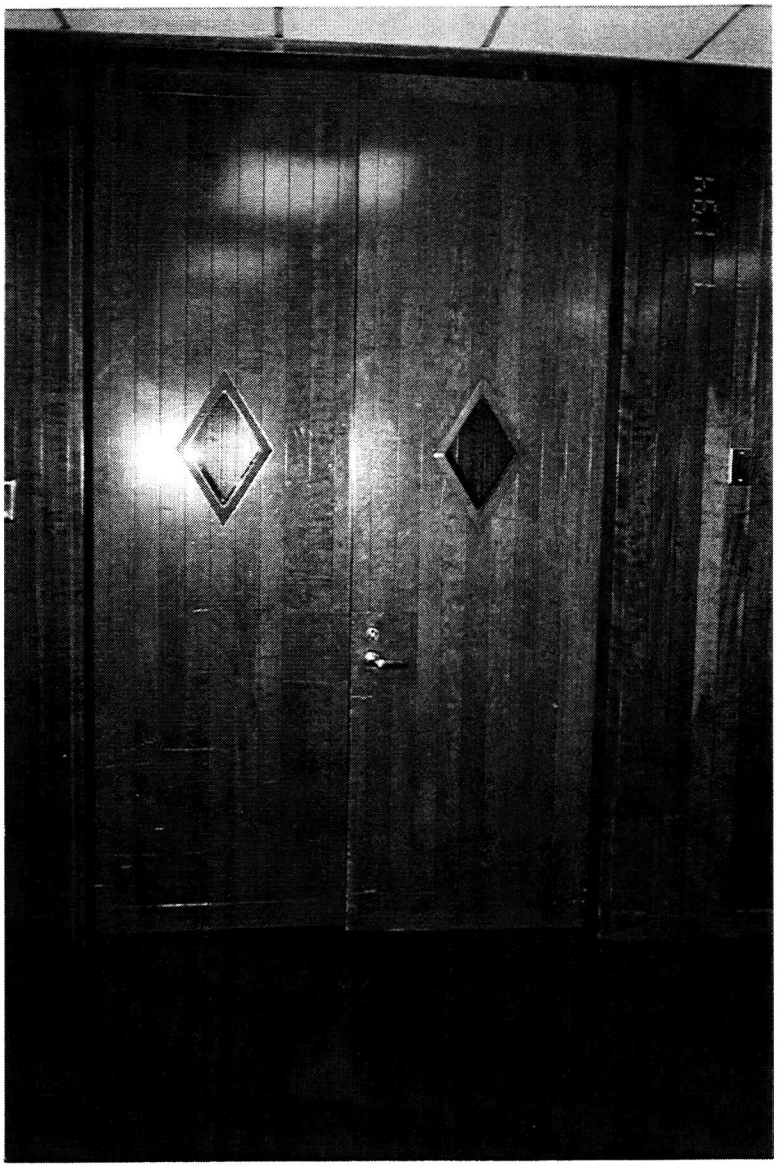


Illustration No.	6-25
Subject:	Housing and Urban Development Building, Departmental Conference Room (Room 10233)
Date:	July 1994
Description:	Hinge on doors between Foyer and Conference Room has failed; doors do not close properly. Walls and doors are natural finish American Cherry 3 inch wide tongue and groove paneling. Cherry has been finished with a gloss varnish not matching the original matte finish of the wood (see Chapter X, Guideline Specification for Wood Repair and Refinishing).
Photographer:	Mary Jane Klingelhofer
Source:	Oehrlein & Associates Architects

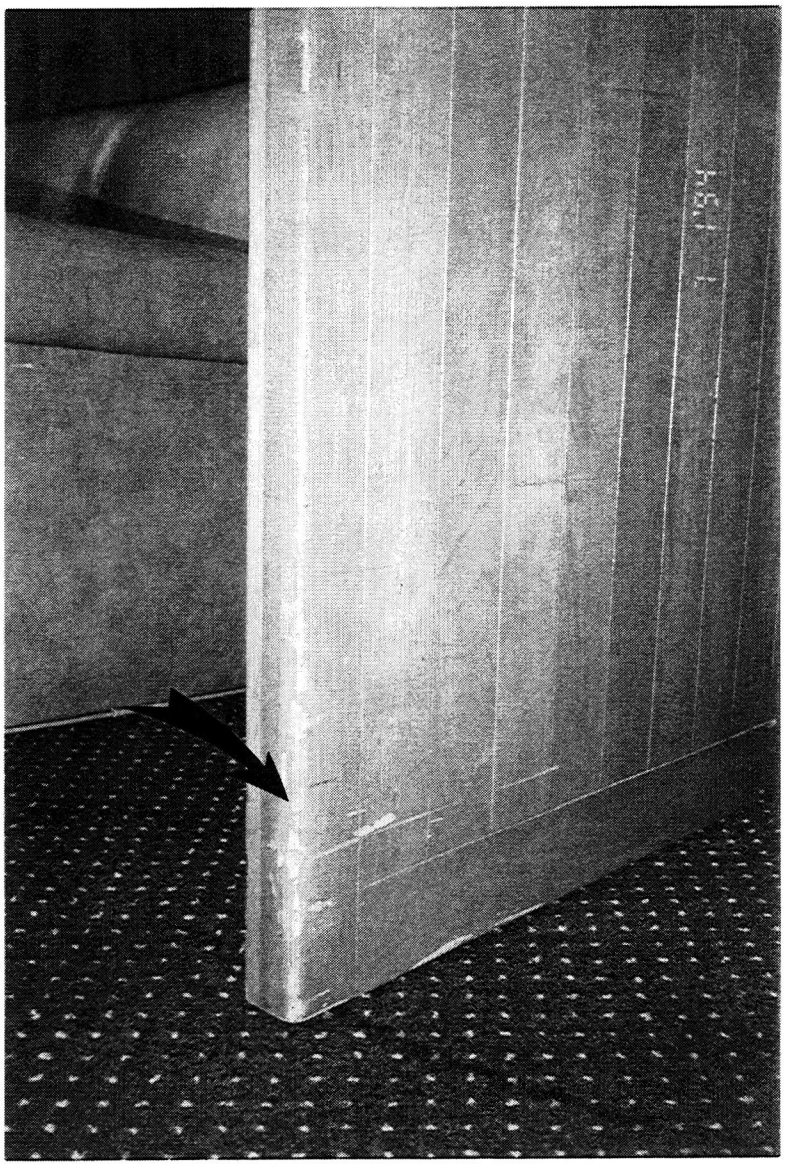


Illustration No.	6-26
Subject:	Housing and Urban Development Building, Departmental Conference Room, Room 10233
Date:	July 1994
Description:	Detail of bottom of natural finish American Cherry 3 inch wide tongue and groove paneling door between foyer and conference room, showing chips and gouges along edge (see Chapter X, Guideline Specification for Wood Repair and Refinishing).
Photographer:	Mary Jane Klingelhofer
Source:	Oehrlein & Associates Architects

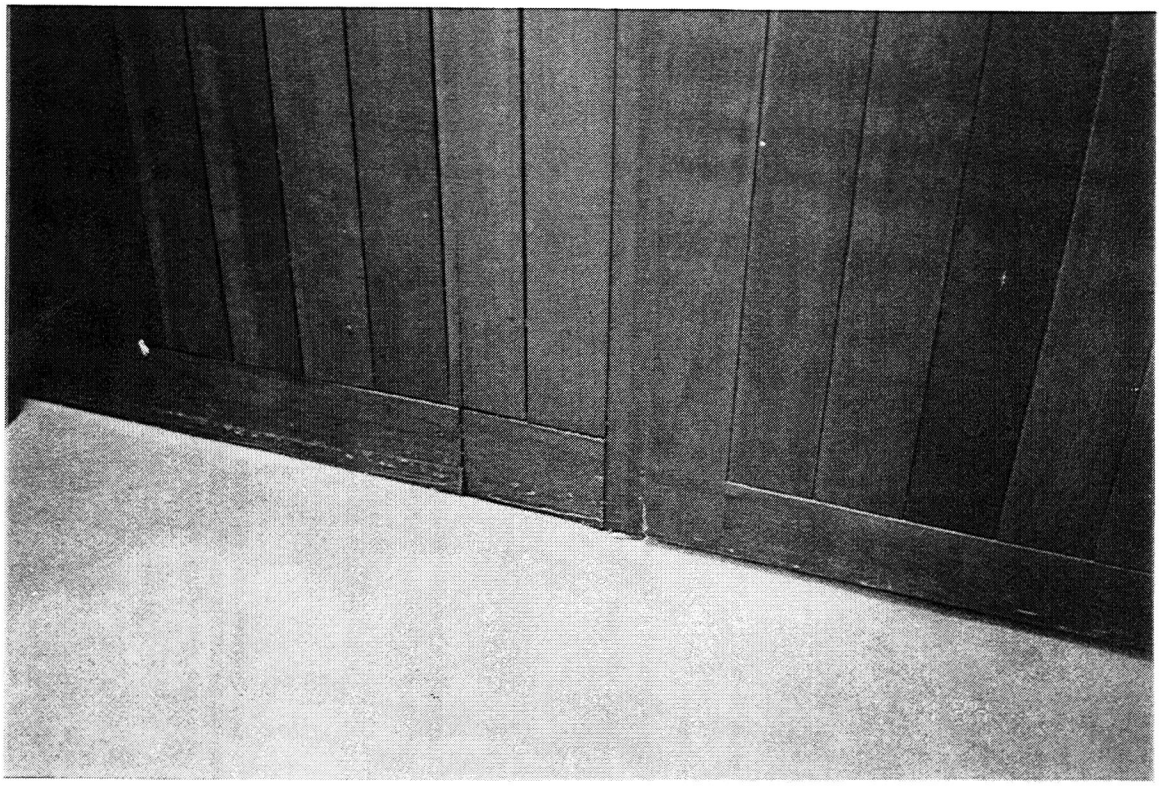


Illustration No.	6-27
Subject:	Housing and Urban Development Building, Secretary's Office (Suite 10000)
Date:	July 1994
Description:	North wall of office, detail of natural finish American Cherry 3 inch wide tongue and groove wall paneling and baseboard, showing location of original door in center of wall in office. Due to creation of additional office space in reception area, this door was removed and relocated at the east end of the room on the same wall.
Photographer:	Reed A. Black, AIA
Source:	Oehrlein & Associates Architects

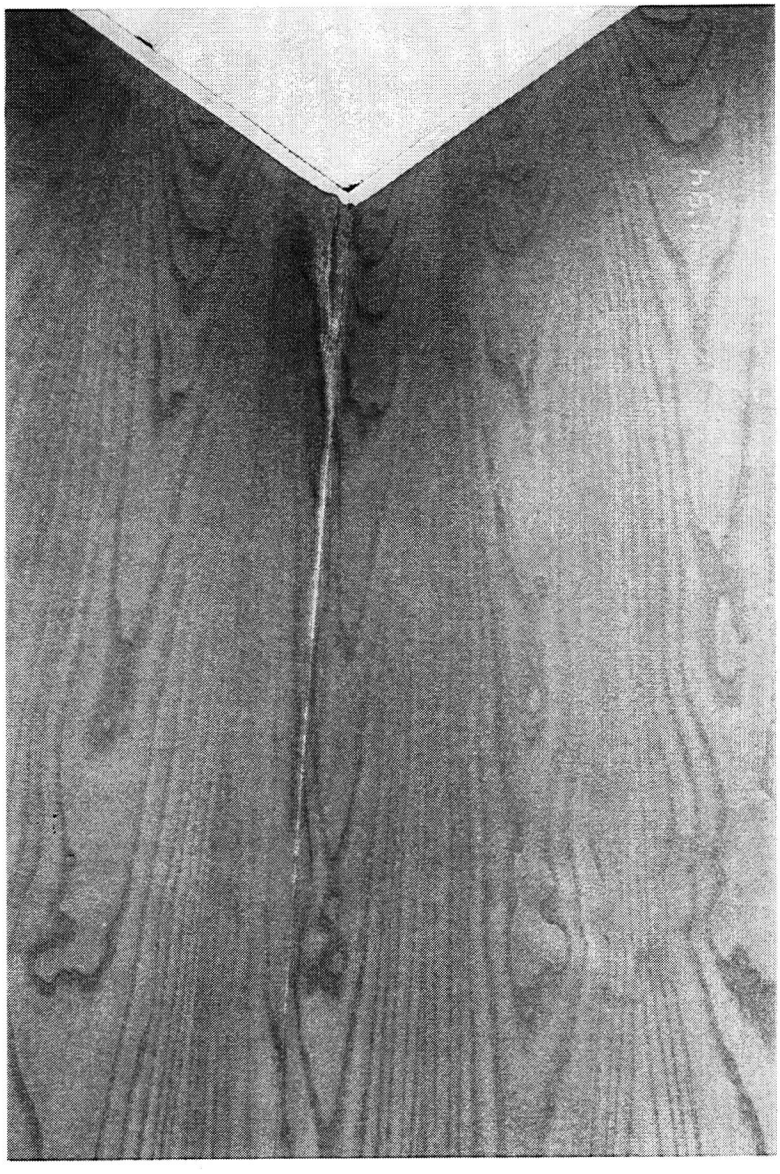


Illustration No.	6-28
Subject:	Housing and Urban Development Building, Room 10214
Date:	July 1994
Description:	Southeast corner of building, finish of American Ash plywood paneling in northwest corner of room has been damaged due to a roof leak. Damage appears old; roof leak has been repaired (see Chapter X, Guideline Specification for Wood Repair and Refinishing).
Photographer:	Mary Jane Klingelhofer
Source:	Oehrlein & Associates Architects

Illustration No.	6-29
Subject:	Housing and Urban Development Building, Window in Room 4204
Date:	August 1994
Description:	Heavy condensation on window, which according to occupants, is a common occurrence. The window also shows a great deal of scale build-up caused by the excessive moisture on the aluminum sash. Cold air from malfunctioning fan coil unit below window appears to be the cause (see Chapter X, Guideline Specification for Window Cleaning and Reglazing.)
Photographer:	Mary Jane Klingelhofer
Source:	Oehrlein & Associates Architects

Illustration No.	6-30
Subject:	Housing and Urban Development Building, 8100 Office Corridor
Date:	August 1994
Description:	Damaged floor tile has been replaced with non-matching tiles; new tile has also developed a large crack (see Chapter X, Guideline Specification for Vinyl Flooring Replacement).
Photographer:	Mary Jane Klingelhofer
Source:	Oehrlein & Associates Architects

Illustration No. 6-31

Subject: Housing and Urban Development Building, Penthouse Wall.

Date: November 1994

Description: Random width board form finished concrete wall at penthouse has been patched. Bottom of one patch has spalled to expose the cause of the deterioration, a corroding reinforcing bar. The original flashing has been removed and new aluminum flashing installed (see Chapter X, Guideline Specification for Concrete Patching and Repair).

Photographer: Craig Ackerman

Source: Oehrlein & Associates Architects

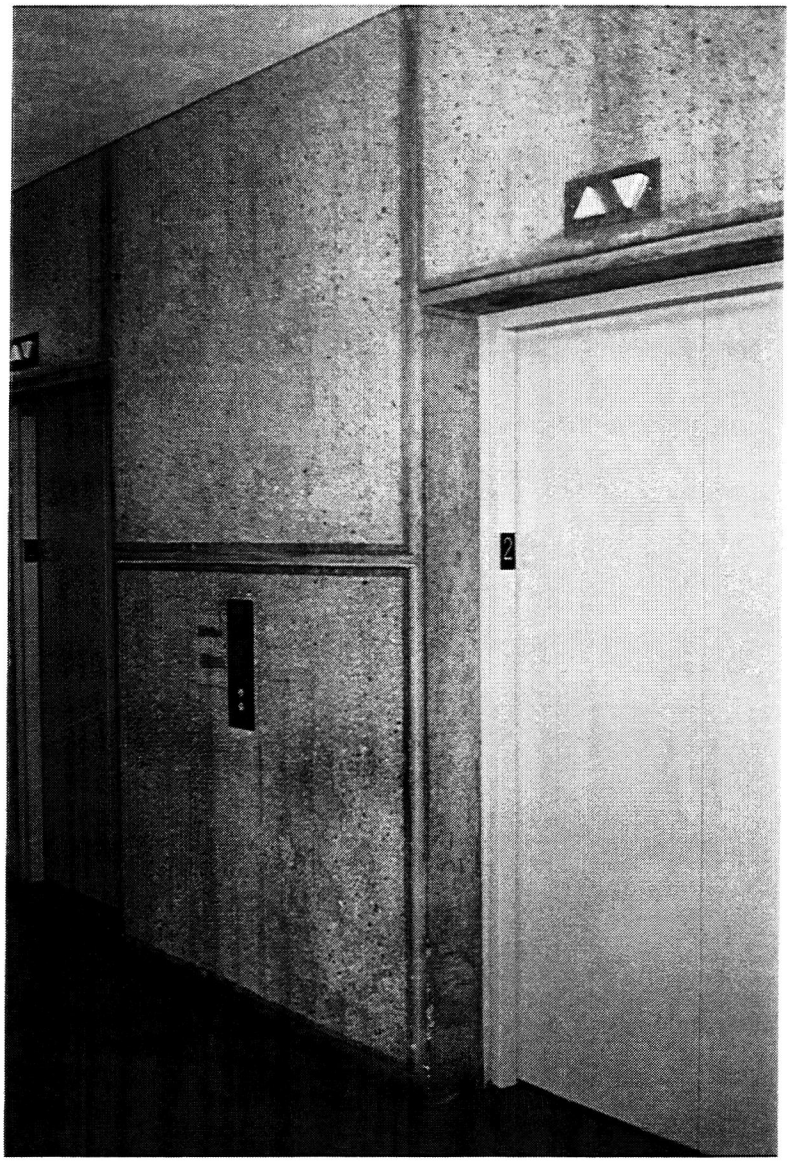


Illustration No. 6-32

Subject: Housing and Urban Development Building, Second Floor Elevator Lobby

Date: November 1994

Description: Detail of concrete wall and elevator door. Concrete walls are soiled and there are tape stains adjacent to elevator call buttons. Original elevator "UP" and "DOWN" signs have been replaced with single UP/DOWN floor indicator sign; dark gray painted elevator doors and frames have been repainted light gray with elevator number stencilled on the door. Note recessed joints around panels, 1 inch smooth finished margin between joint and bushhammered face of panel and faint vertical lines from form boards on face of panel. Concrete jambs and head of door openings are also smooth finished (see Chapter X, Guideline Specification for Interior Masonry Cleaning).

Photographer: Craig Ackerman

Source: Oehrlein & Associates Architects

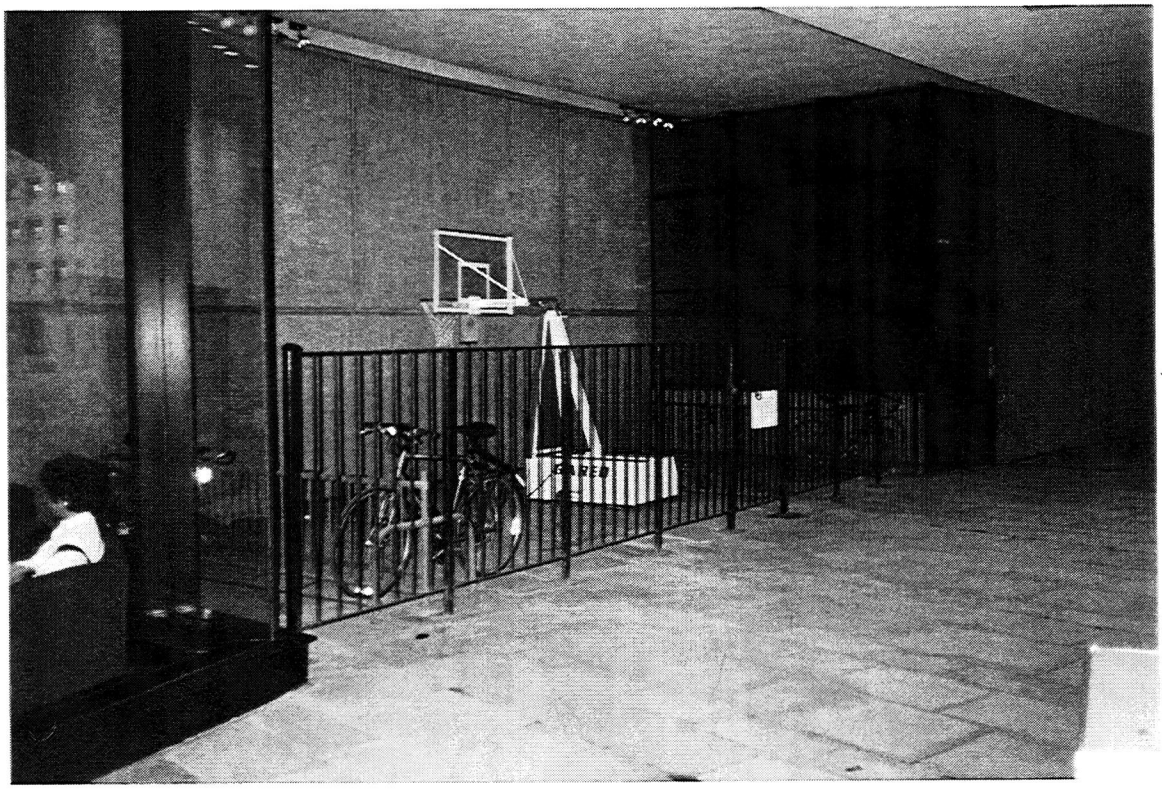


Illustration No.	6-33
Subject:	Housing and Urban Development Building, Southeast Entrance Bicycle Lot.
Date:	November, 1994
Description:	Painted metal fences have been added between the building entrance lobby and the stair to the garage. The enclosure is for bicycle and athletic equipment storage.
Photographer:	Reed A. Black
Source:	Oehrlein & Associates Architects

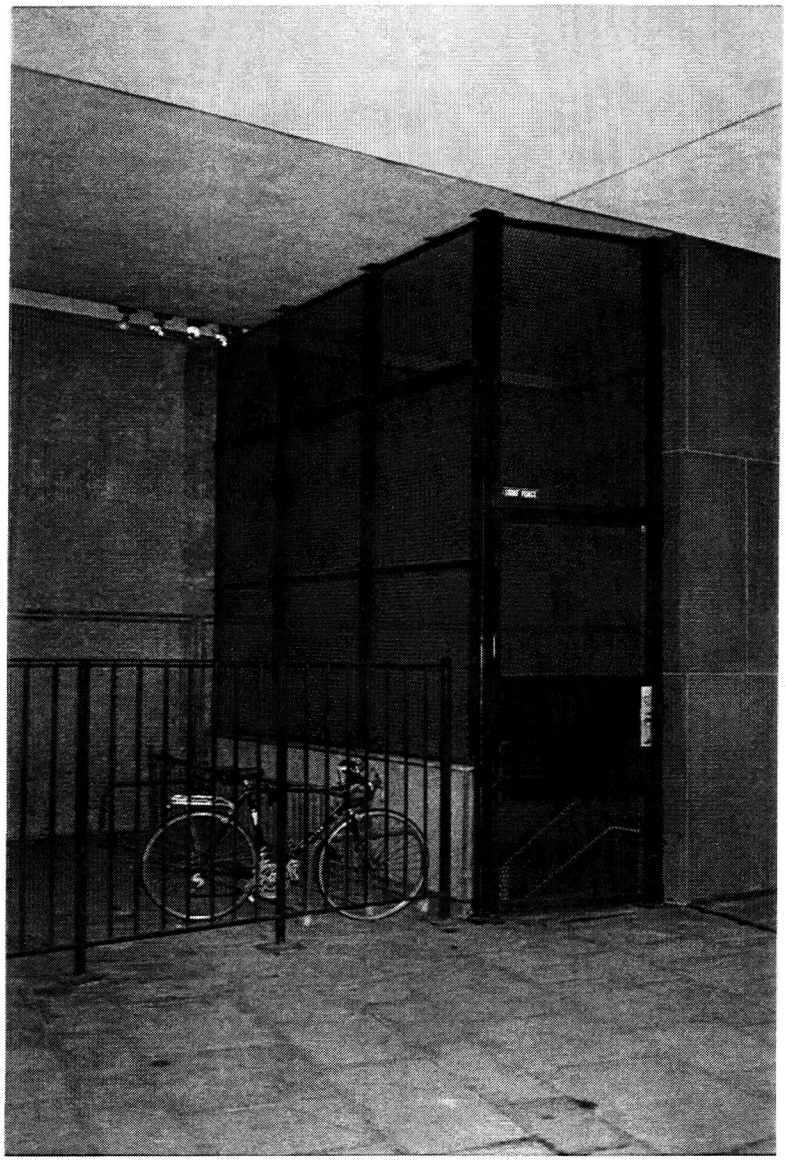


Illustration No. 6-34

Subject: Housing and Urban Development Building, Southeast Garage Stair and Bicycle Lot.

Date: November, 1994

Description: Painted steel framing and expanded metal enclosures have been constructed at the two garage stair entrances to prevent unauthorized entry. Similar expanded metal doors have been installed at the four exterior exits from the corner stairs. Metal fences have also been added for bicycle and athletic equipment storage.

Photographer: Reed A. Black

Source: Oehrlein & Associates Architects

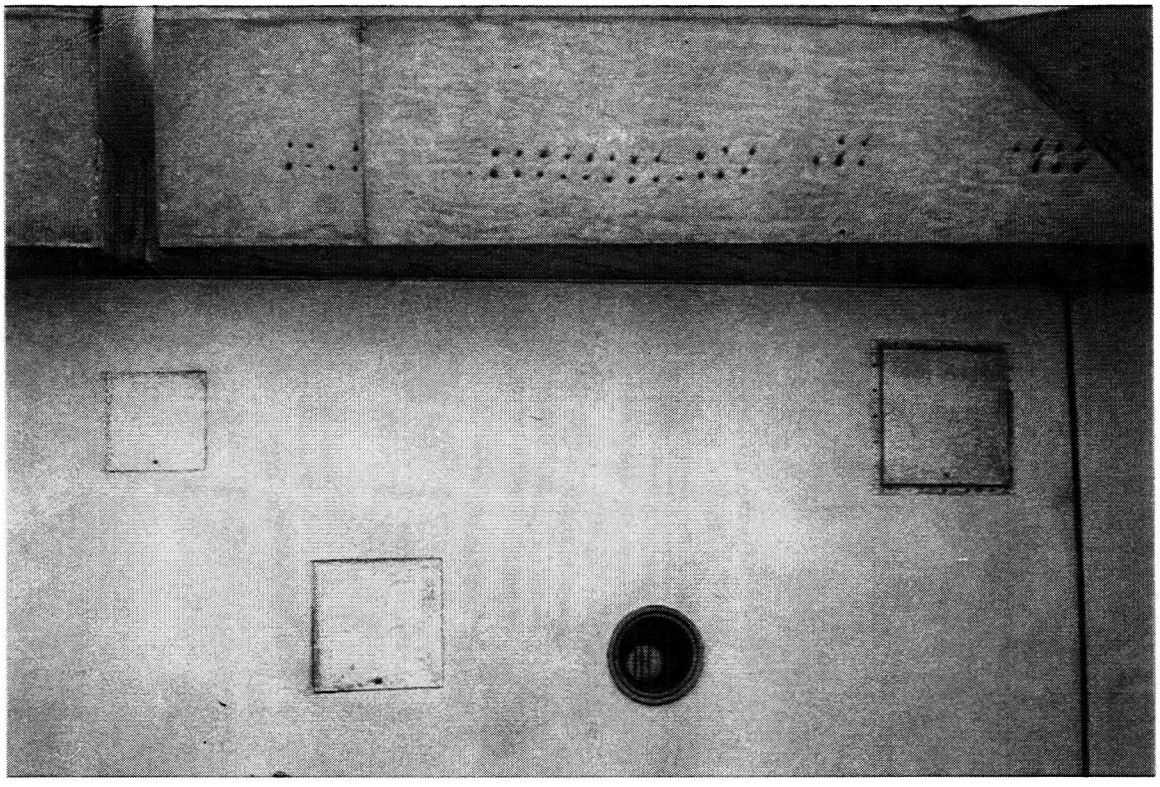
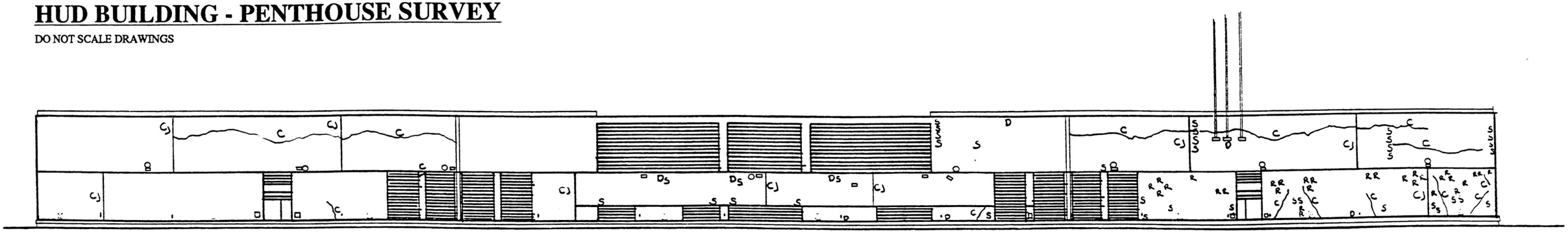


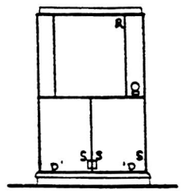
Illustration No.	6-35
Subject:	Housing and Urban Development Building, Arcade Plaster Ceiling.
Date:	November, 1994
Description:	Original plaster ceiling of the arcade is soiled. Original metal access panels are corroding due to failure of the paint finish. Original light fixture with original metal louvered lens can also be seen (see Chapter X, Guideline Specifications for Exterior Masonry Cleaning and Exterior Painting.)
Photographer:	Craig Ackerman
Source:	Oehrlein & Associates Architects

HUD BUILDING - PENTHOUSE SURVEY

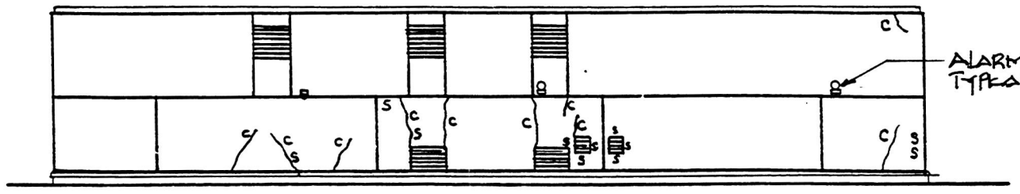
DO NOT SCALE DRAWINGS



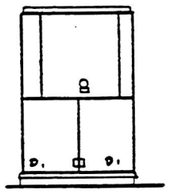
PENTHOUSE EAST ELEVATION



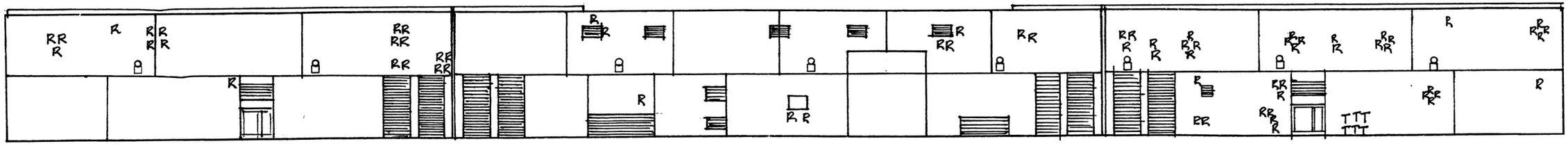
PENTHOUSE NORTH EAST ELEVATION



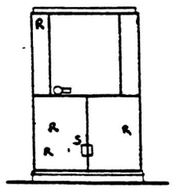
PENTHOUSE NORTH ELEVATION



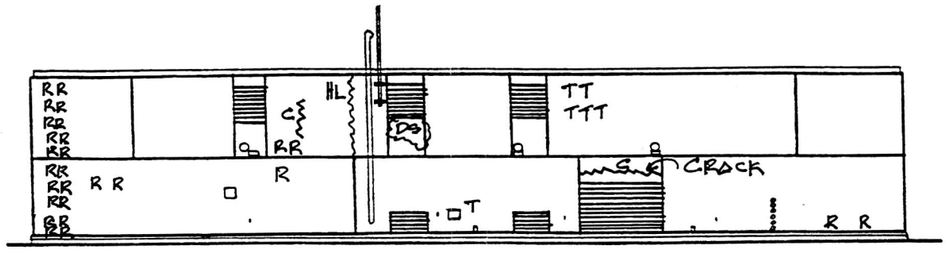
PENTHOUSE NORTH WEST ELEVATION



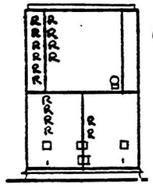
PENTHOUSE WEST ELEVATION



PENTHOUSE SOUTH WEST ELEVATION



PENTHOUSE SOUTH ELEVATION



PENTHOUSE SOUTH EAST ELEVATION

SYMBOL LEGEND

CJ	CONTROL JOINT
D	RUST DISCOLORATION
DS	SOOT DISCOLORATION
G	GRAFFITI
MS	MORTAR SPLASHING
OS	OIL STAIN
R	RUSTED METAL CLIP
S	SPALL
SM	SCUFF MARKS
T	TAR
|||||	OPEN JOINT
~~	CRACK
~~ HL	HAIRLINE CRACK

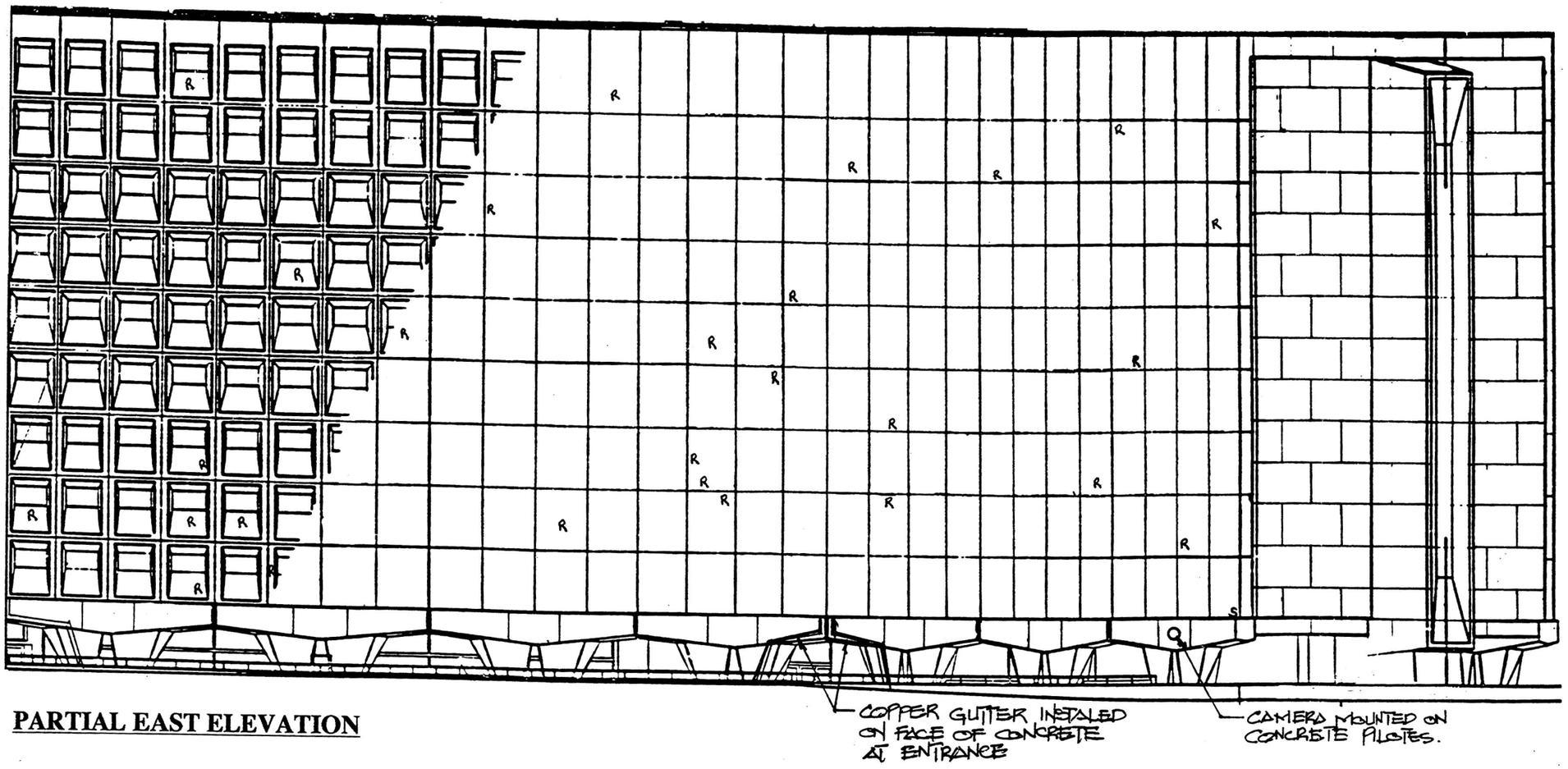
Illustration No. 6-36

HUD BUILDING - EXTERIOR SURVEY

DO NOT SCALE DRAWINGS

SYMBOL LEGEND

CJ	CONTROL JOINT
D	RUST DISCOLORATION
DS	SOOT DISCOLORATION
G	GRAFFITI
MS	MORTAR SPLASHING
OS	OIL STAIN
R	RUSTED METAL CLIP
S	SPALL
SM	SCUFF MARKS
T	TAR
	OPEN JOINT
	CRACK
HL	HAIRLINE CRACK



PARTIAL EAST ELEVATION

Illustration No. 6-37

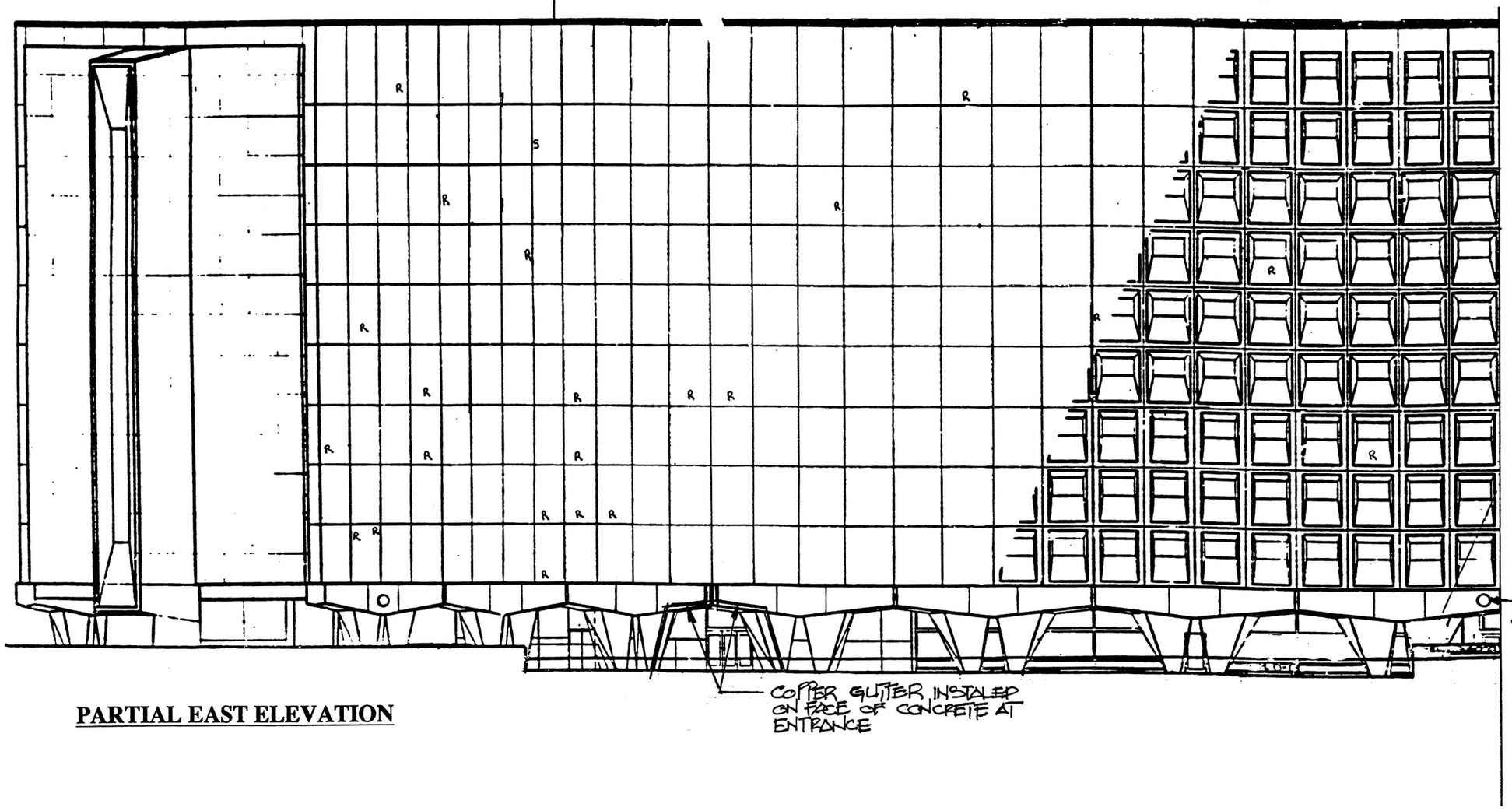
HUD BUILDING - EXTERIOR SURVEY

DO NOT SCALE DRAWINGS

SYMBOL LEGEND

CJ	CONTROL JOINT
D	RUST DISCOLORATION
DS	SOOT DISCOLORATION
G	GRAFFITI
MS	MORTAR SPLASHING
OS	OIL STAIN
R	RUSTED METAL CLIP
S	SPALL
SM	SCUFF MARKS
T	TAR
⁞⁞⁞⁞⁞⁞⁞⁞⁞⁞⁞⁞⁞⁞⁞⁞	OPEN JOINT
~~	CRACK
~~ HL	HAIRLINE CRACK

PENTHOUSE SURVEY (EAST ELEVATION) FOR SURVEY INFORMATION



PARTIAL EAST ELEVATION

Illustration No. 6-38

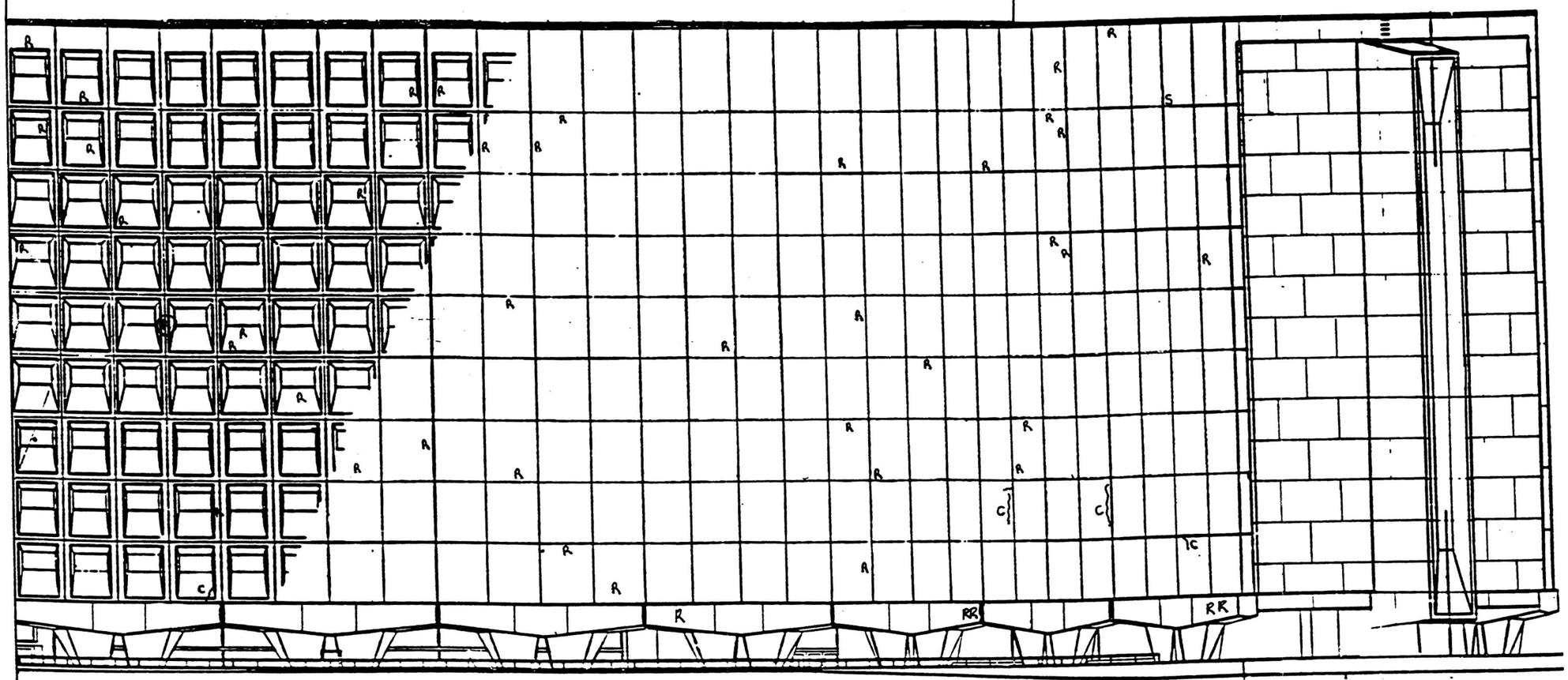
HUD BUILDING - EXTERIOR SURVEY

DO NOT SCALE DRAWINGS

SYMBOL LEGEND

CJ	CONTROL JOINT
D	RUST DISCOLORATION
DS	SOOT DISCOLORATION
G	GRAFFITI
MS	MORTAR SPLASHING
OS	OIL STAIN
R	RUSTED METAL CLIP
S	SPALL
SM	SCUFF MARKS
T	TAR
	OPEN JOINT
	CRACK
HL	HAIRLINE CRACK

SEE HUD BUILDING - PENTHOUSE SURVEY (WEST ELEVATION) FOR SURVEY INFORMATION



PARTIAL WEST ELEVATION

Illustration No. 6-39

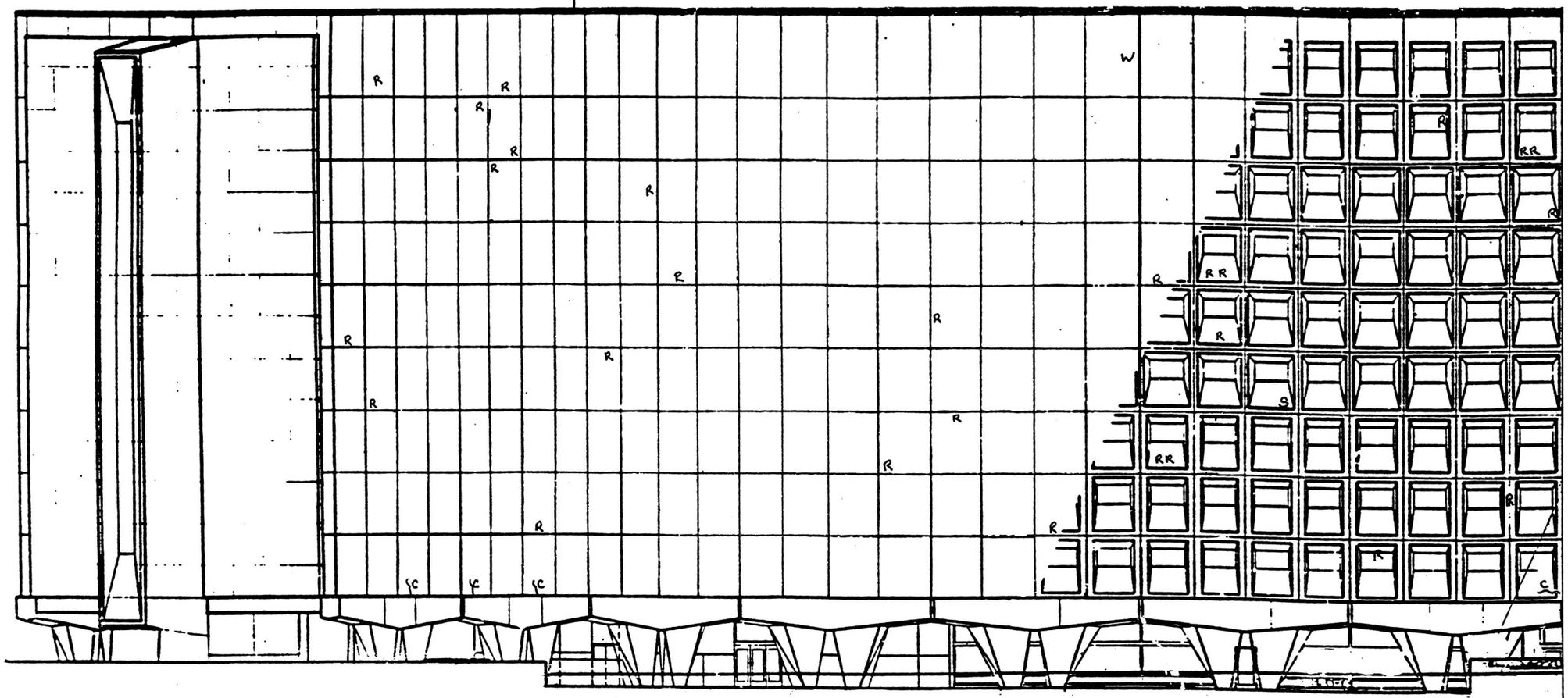
HUD BUILDING - EXTERIOR SURVEY

DO NOT SCALE DRAWINGS

SYMBOL LEGEND

CJ	CONTROL JOINT
D	RUST DISCOLORATION
DS	SOOT DISCOLORATION
G	GRAFFITI
MS	MORTAR SPLASHING
OS	OIL STAIN
R	RUSTED METAL CLIP
S	SPALL
SM	SCUFF MARKS
T	TAR
~~	OPEN JOINT
~~	CRACK
~~ HL	HAIRLINE CRACK

SEE HUD BUILDING - PENTHOUSE SURVEY (WEST ELEVATION) FOR SURVEY INFORMATION



PARTIAL WEST ELEVATION

Illustration No. 6-40

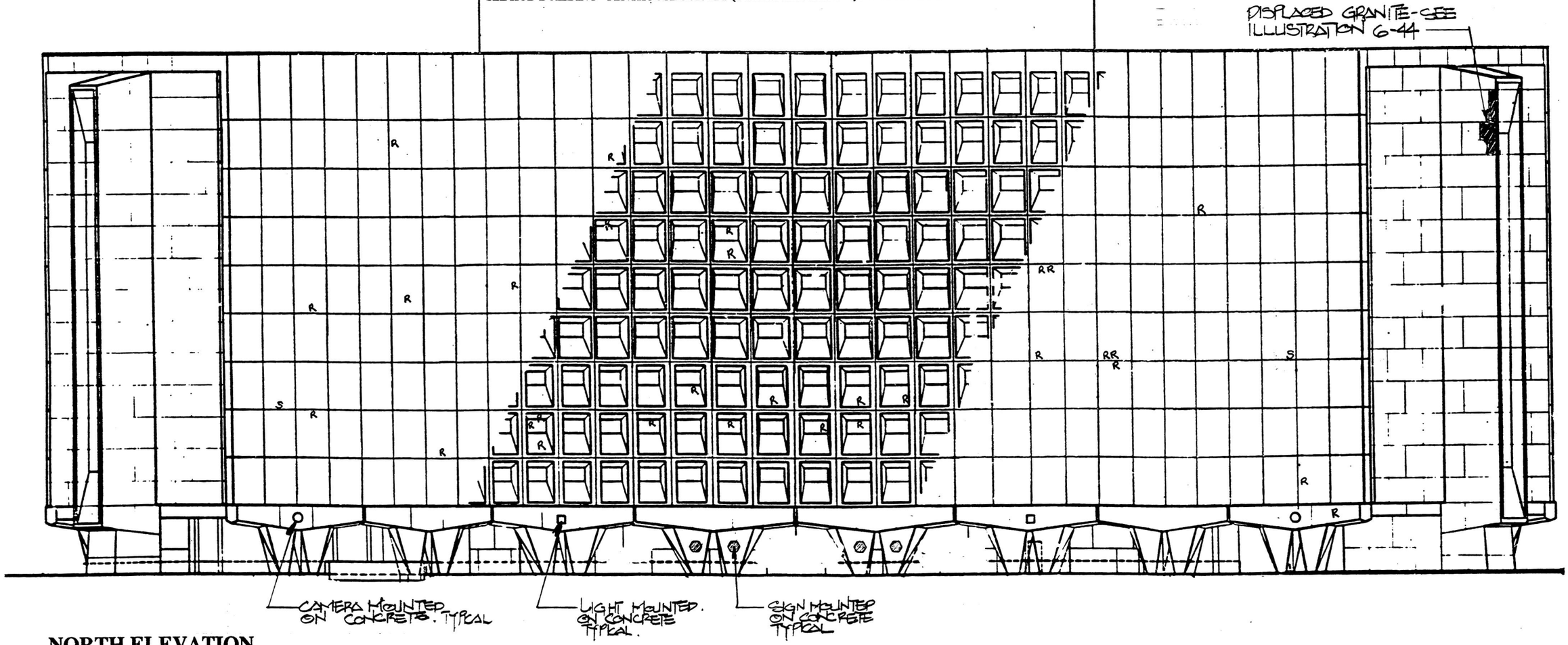
HUD BUILDING - EXTERIOR SURVEY

DO NOT SCALE DRAWINGS

SYMBOL LEGEND

CJ	CONTROL JOINT
D	RUST DISCOLORATION
DS	SOOT DISCOLORATION
G	GRAFFITI
MS	MORTAR SPLASHING
OS	OIL STAIN
R	RUSTED METAL CLIP
S	SPALL
SM	SCUFF MARKS
T	TAR
▮▮▮▮▮▮▮▮▮▮	OPEN JOINT
~~	CRACK
~~ HL	HAIRLINE CRACK

SEE HUD BUILDING - PENTHOUSE SURVEY (NORTH ELEVATION) FOR SURVEY INFORMATION



NORTH ELEVATION

Illustration No. 6-41

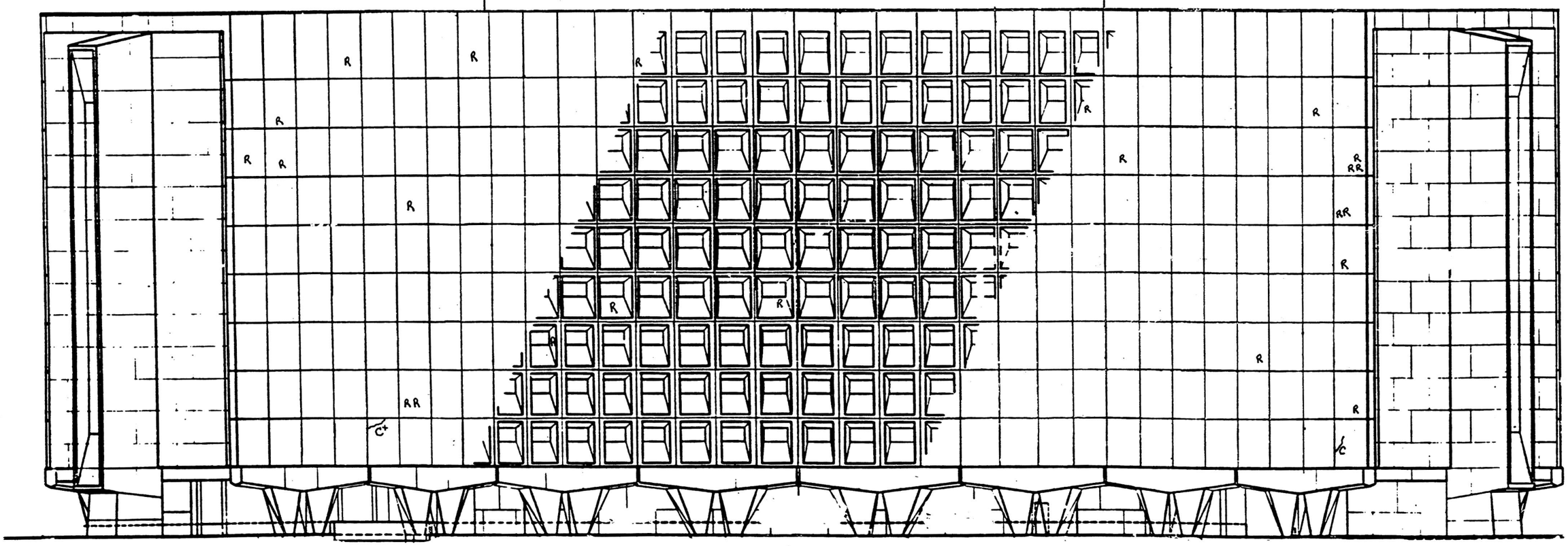
HUD BUILDING - EXTERIOR SURVEY

DO NOT SCALE DRAWINGS

SYMBOL LEGEND

CJ	CONTROL JOINT
D	RUST DISCOLORATION
DS	SOOT DISCOLORATION
G	GRAFFITI
MS	MORTAR SPLASHING
OS	OIL STAIN
R	RUSTED METAL CLIP
S	SPALL
SM	SCUFF MARKS
T	TAR
.....	OPEN JOINT
~~	CRACK
~~ HL	HAIRLINE CRACK

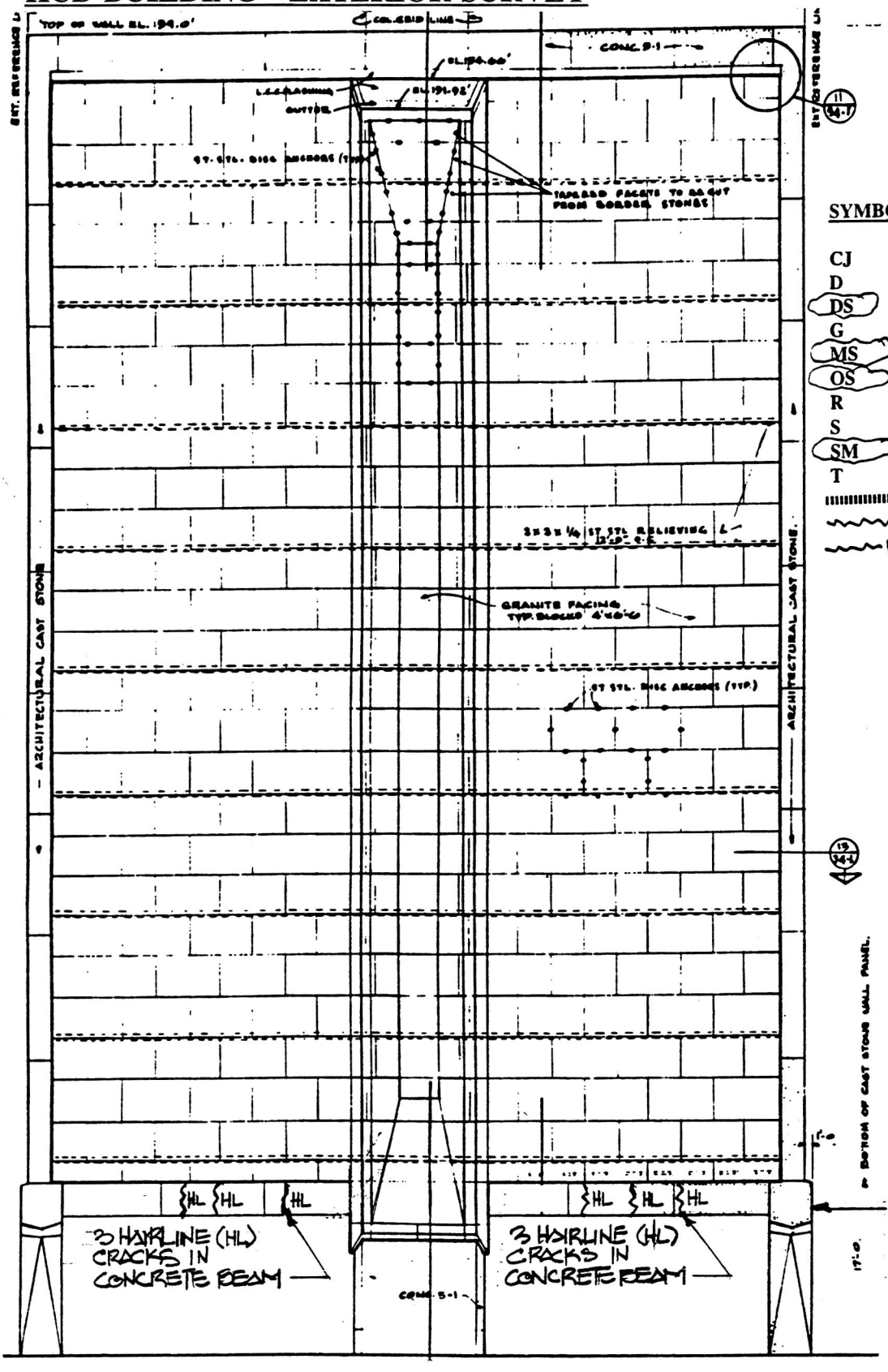
SEE HUD BUILDING - PENTHOUSE SURVEY (SOUTH ELEVATION) FOR SURVEY INFORMATION



SOUTH ELEVATION

Illustration No. 6-42

HUD BUILDING - EXTERIOR SURVEY



SYMBOL LEGEND

CJ	CONTROL JOINT
D	RUST DISCOLORATION
DS	SOOT DISCOLORATION
G	GRAFFITI
MS	MORTAR SPLASHING
OS	OIL STAIN
R	RUSTED METAL CLIP
S	SPALL
SM	SCUFF MARKS
T	TAR
	OPEN JOINT
	CRACK
HL	HAIRLINE CRACK

Illustration No. 6-43 Northeast Granite Endwall Elevation

HUD BUILDING - EXTERIOR SURVEY

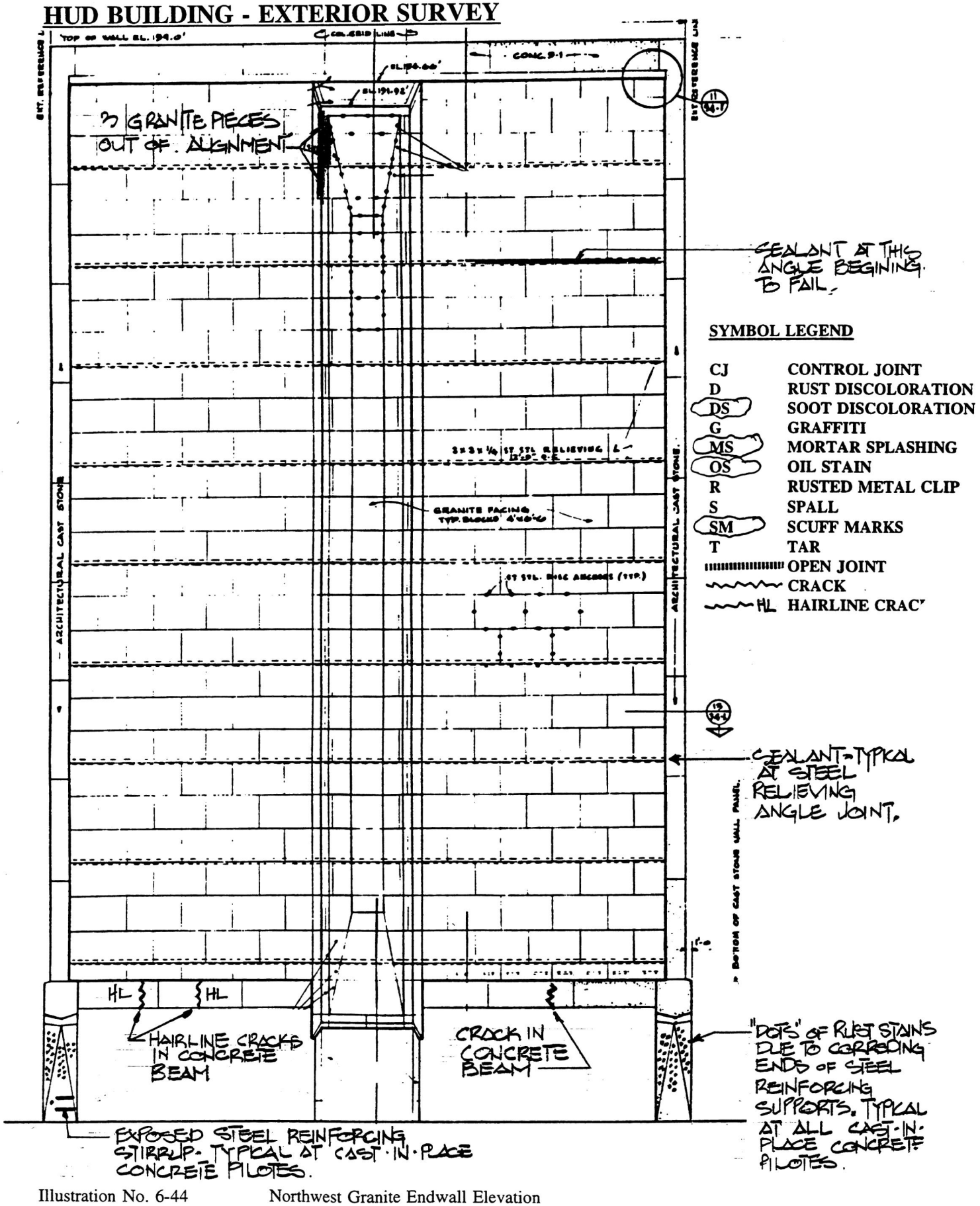


Illustration No. 6-44 Northwest Granite Endwall Elevation

HUD BUILDING - EXTERIOR SURVEY

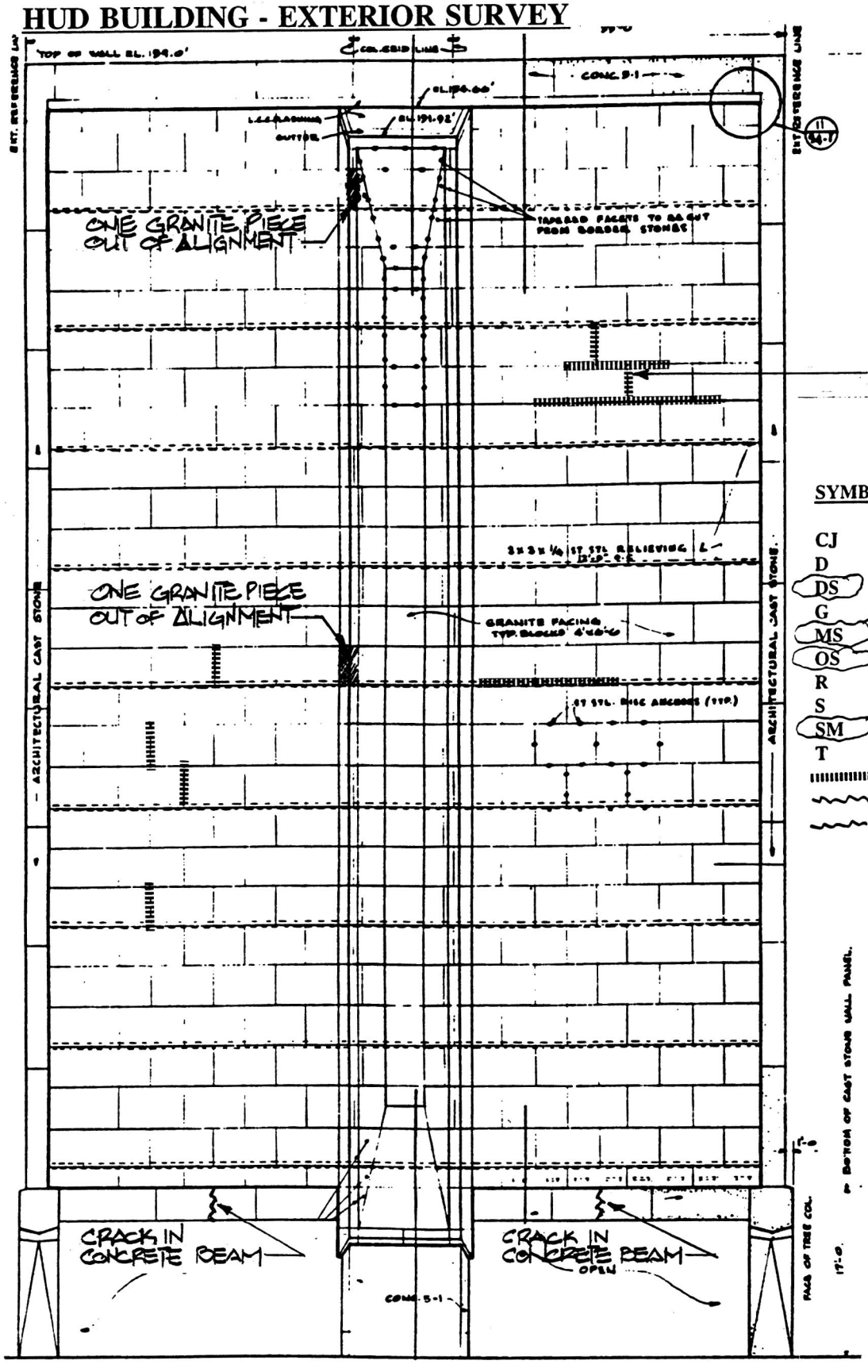


Illustration No. 6-45 Southeast Granite Endwall Elevation

HUD BUILDING - EXTERIOR SURVEY

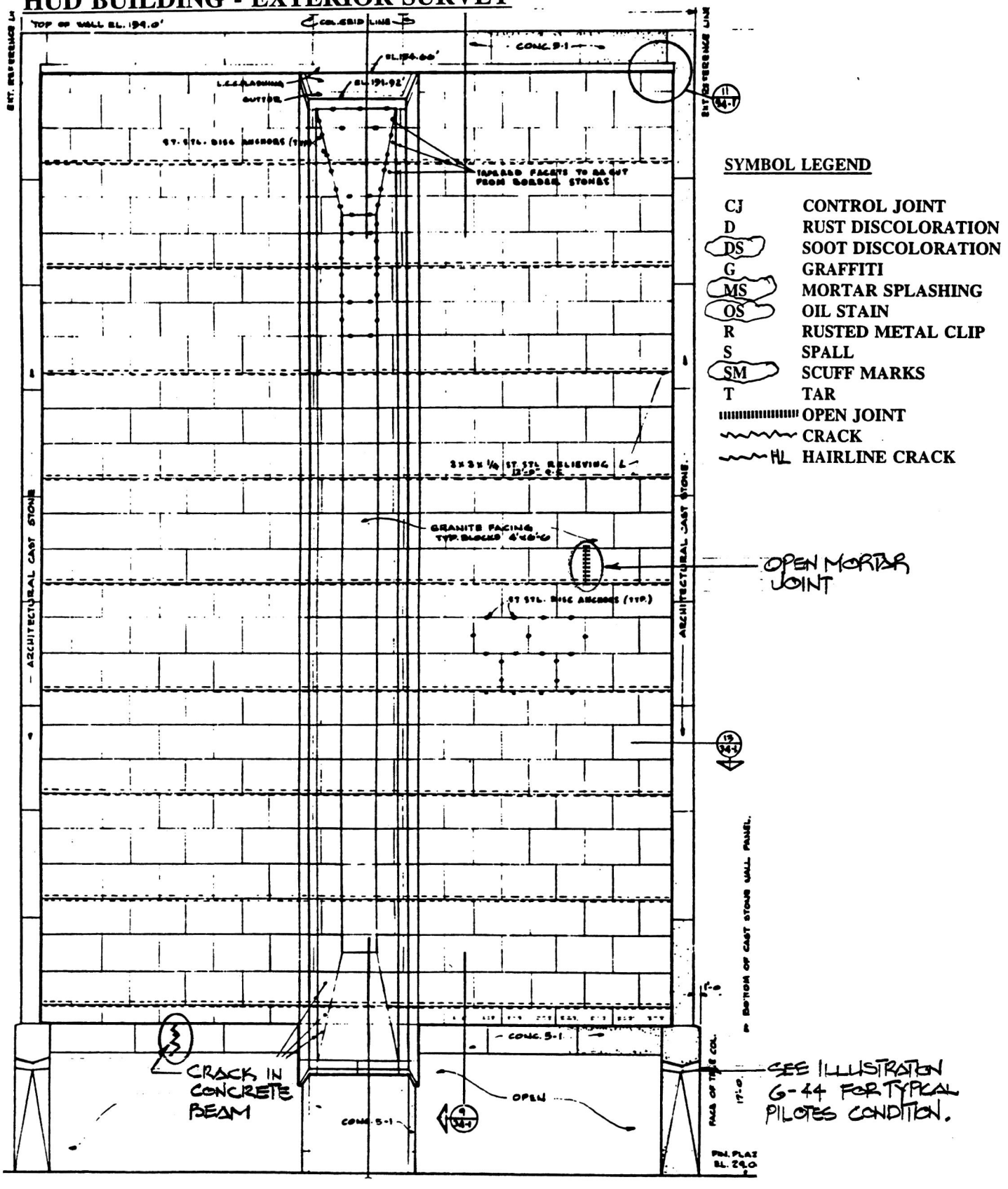
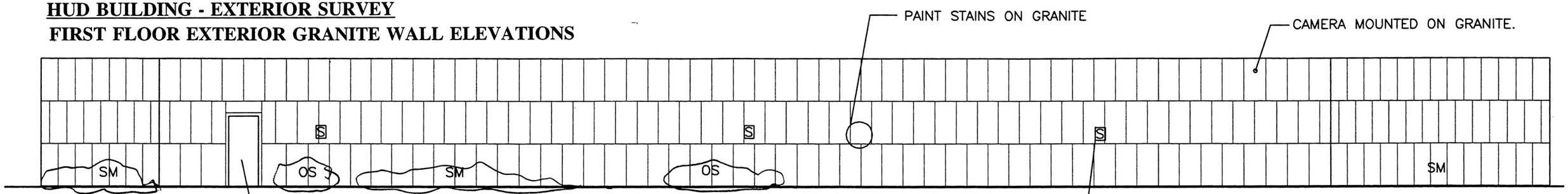
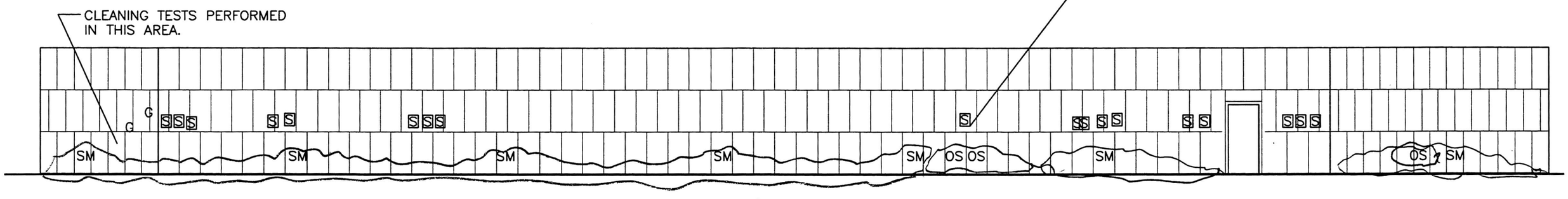


Illustration No. 6-46 Southwest Granite Endwall Elevation

HUD BUILDING - EXTERIOR SURVEY
FIRST FLOOR EXTERIOR GRANITE WALL ELEVATIONS



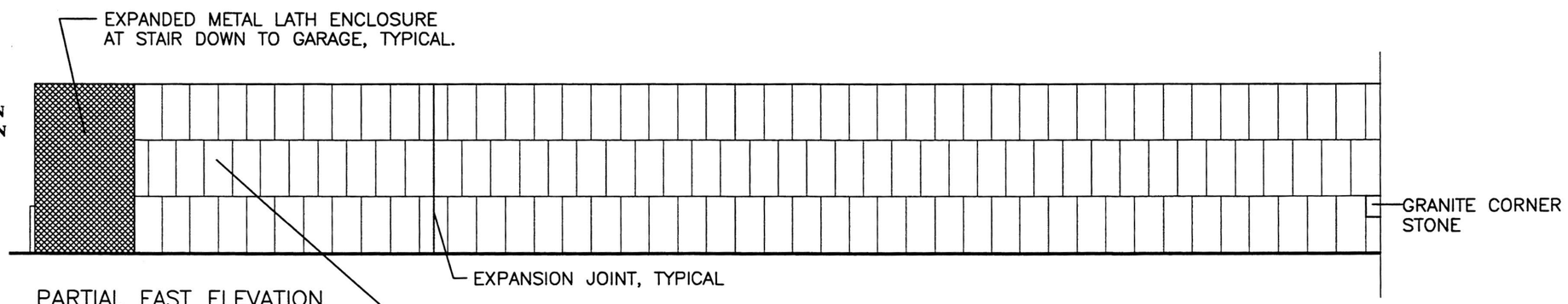
NORTH ELEVATION



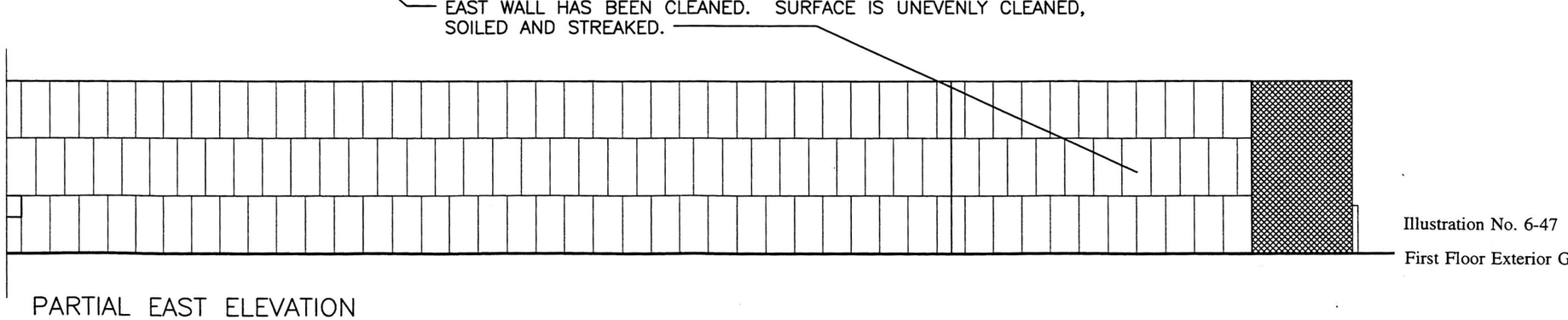
SOUTH ELEVATION

SYMBOL LEGEND

CJ	CONTROL JOINT
D	RUST DISCOLORATION
DS	SOOT DISCOLORATION
G	GRAFFITI
MS	MORTAR SPLASHING
OS	OIL STAIN
R	RUSTED METAL CLIP
S	SPALL
SM	SCUFF MARKS
T	TAR
|||||||||||	OPEN JOINT
~~	CRACK
~~ HL	HAIRLINE CRACK



PARTIAL EAST ELEVATION



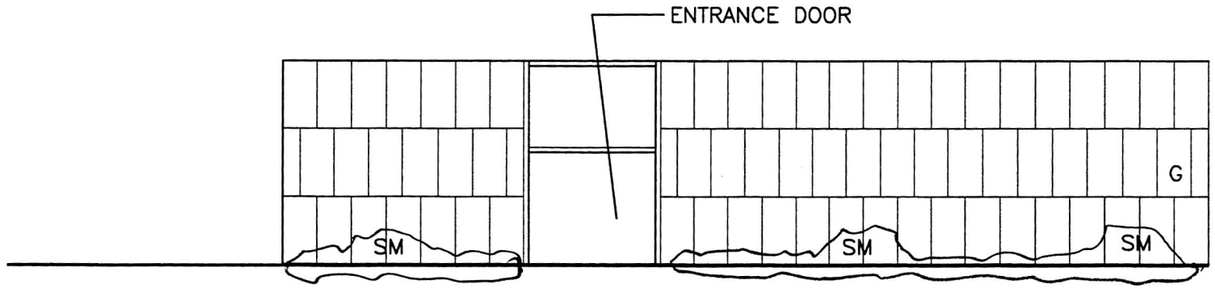
PARTIAL EAST ELEVATION

Illustration No. 6-47
First Floor Exterior Granite Wall Elevations

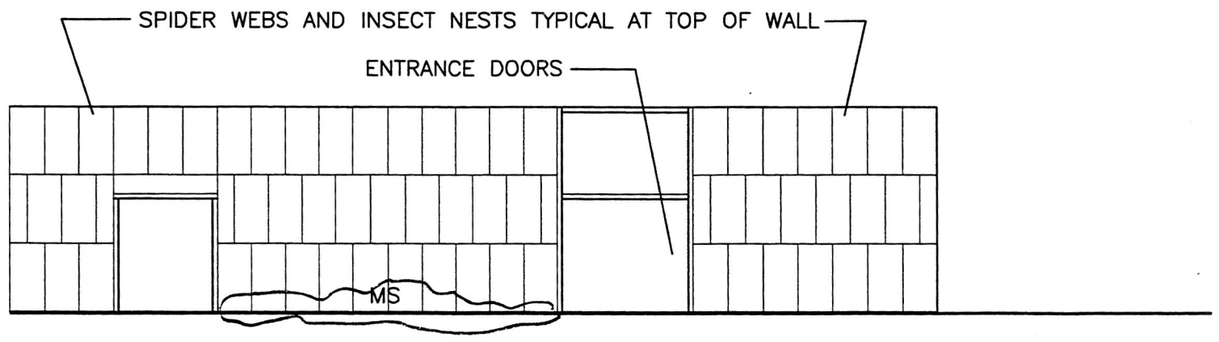
HUD BUILDING - EXTERIOR SURVEY
FIRST FLOOR EXTERIOR GRANITE WALL ELEVATIONS

SYMBOL LEGEND

CJ	CONTROL JOINT
D	RUST DISCOLORATION
DS	SOOT DISCOLORATION
G	GRAFFITI
MS	MORTAR SPLASHING
OS	OIL STAIN
R	RUSTED METAL CLIP
S	SPALL
SM	SCUFF MARKS
T	TAR
	OPEN JOINT
	CRACK
HL	HAIRLINE CRACK



WEST ELEVATION – SOUTH END



WEST ELEVATION – NORTH END

Illustration No. 6-48

First Floor Exterior Granite Wall Elevations