





**CHAPTER X**

**GUIDELINE SPECIFICATIONS**

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**BLUESTONE PAVING: REPAIR AND REPLACEMENT**

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**PART 1: GENERAL**

1-1 DESCRIPTION: Work in this section includes:

A. The removal and reinstallation of the loose bluestone pavers and pointing open paver joints.

B. Installation of new bluestone pavers at the existing drive.

1-2 QUALITY ASSURANCE:

A. Paver removal and installation shall only be performed by skilled workmen with experience in the installation of pavers of this type.

B. Provide and install only sound units, free of defects that will impair the performance or appearance of the installed paver.

C. Do not change the source, brands or manufacturers of the products and materials during the course of the work to insure the uniform appearance of the finished work.

1-3 SUBMITTALS:

A. Prepare and sample paver installation and sample pointing for review by the Contracting Officer. Sample shall match the original paving in all respects.

B. Submit samples of cured mortar.

C. Submit full size samples of new replacement pavers indicating full range of color and texture to be used.

**PART 2: MATERIALS**

2-1 PAVERS:

A. Salvaged Pavers: Pavers removed in good condition and suitable for reuse.

B. New Pavers: New York Bluestone in a full range of colors (except reds and purples) with a natural cleft surface such as Elk Brook Bluestone supplied by Johnston & Rhodes Bluestone Company, East Branch, NY.

**BLUESTONE PAVING: REPAIR AND REPLACEMENT (cont'd)**

C. All pavers shall be a minimum of 1-1/2 inches thick with sound, square sawn edges and clean natural cleft surfaces. Paver size shall match existing paver European Bond random width coursing pattern. Pavers shall match original bluestone paving.

**2-2 MORTAR MATERIALS:**

A. Portland Cement: ASTM C-150, Type I. Color as necessary to match original pointing mortar color.

B. Lime: Hydrated Mason's Lime, ASTM C 207 Type S.

C. Aggregate: ASTM C-144, sand shall be light buff in color to match color of original aggregate.

D. Pigments: Insoluble, inorganic, light stable pigments suitable for use in mortar.

E. Water: Clean and potable.

**2-3 MORTAR MIXES: By Volume****A. Setting Bed Mix:**

Aggregate:	2 parts
Cement:	1 part
Water:	Use only enough water to produce a stiff, damp mix.

**B. Pointing Mortar Mix:**

Aggregate:	4 parts
Cement:	1 part
Lime:	1/4 part
Pigment:	As necessary to achieve dark grey color matching the original mortar color.
Water:	To form a workable mix.

**2-4 ACCESSORIES:**

A. Expansion joints and sealants as necessary and required, suitable for intended use.

**PART 3: EXECUTION****3-1 PREPARATION:**

A. Remove loose pavers and salvage for reinstallation. Discard damaged, cracked and broken pavers. Discard red and purple pavers that do not match the colors of the original pavers.

**BLUESTONE PAVING: REPAIR AND REPLACEMENT (cont'd)**

- B. Remove setting bed down to waterproofing or structural substrate. Clean to remove dirt, dust and debris.
- C. Rake out deteriorated pointing mortar by hand. Rake to a minimum depth of 3/4 inch but in all cases down to sound mortar. Remove all mortar from the edges of the stone and square off bottom of joint.

**3-2 PAVER SETTING:**

- A. Layout pavers prior to setting to insure that the pavers will match the existing bond pattern.
- B. Saturate the surface where the pavers are to be laid with clean water several hours prior to setting. Remove surface water one hour prior to placing setting bed.
- C. Apply slush coat of neat cement paste over the substrate and place setting bed. Screed setting bed to proper elevation. Coat back of the pavers with neat cement paste and place pavers on setting bed.
- D. Tamp pavers with a rubber mallet to complete contact between paver and setting bed and to properly align the top of the paver with the required elevation.
- E. Set paver to match existing bond pattern. Do not adjust the position of the pavers after the setting bed has taken its initial set. Remove and reset pavers that are dislocated or out of alignment.

**3-3 POINTING:**

- A. Place pointing mortar in stone joints in 3/8 inch deep layers. Allow the previous layers to take their initial set prior to apply the next layer.
- B. Tool the finished joint smooth and flush with the face of the paver.

**3-4 PROTECTION AND CLEANING:**

- A. Restrict traffic from the paver surfaces for at least 72 hours after setting.
- B. Remove mortar from the exposed surfaces of the pavers before the mortar has set. Wash the surface of the pavers to remove all traces of mortar. Do not use wire brushes, acid or caustic cleaning chemicals.

**BLUESTONE PAVING: CLEANING AND FINISHING**

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**PART 1: GENERAL**

1-1 DESCRIPTION: Work in this section includes removal of the thick wax and sealer build-up and cleaning and finishing of the original interior bluestone paving in first floor north and south entrance and elevator lobbies.

1-2 QUALITY ASSURANCE:

A. Clean and finish sample of flooring with specified sealer and wax finish for approval of Contracting Officer before proceeding with remainder of work.

B. Finished flooring shall be protected with non-staining heavy duty paper until acceptance by Contracting Officer.

**PART 2: MATERIALS**

2-1 STRIPPER: Strong solvent based paint stripper suitable for removing multiple layers of wax coatings ( $\pm 1/16$  inches thick) and suitable for use in as occupied building. Stripper shall be non-flammable and have no harmful fumes.

2-2 SEALER: Acrylic sealer recommended for use on natural stone such as bluestone.

2-3 WAX: Butcher's Wax.

**PART 3: EXECUTION**

3-1 PREPARATION: Remove existing floor mats and furnishings. Protect all metal, concrete and all other surfaces not to be cleaned with polyethylene sheet and tape to prevent contact with stripper materials and water.

3-2 REMOVAL OF OLD FINISH:

A. Remove existing layers of sealer and wax by applying stripper following manufacturer's printed instructions. Apply stripper and allow to loosen the wax coatings. Remove stripper and all residue with clean cotton rags. Flush floor with clean water.

B. Reapply stripper to wax residue in joints and stone recesses not removed with first application. Allow to dwell and remove stripper and all wax coating and rinse floor with clean water. Allow flooring to dry.

**BLUESTONE PAVING: CLEANING AND FINISHING (cont'd)**

3-3 **APPLICATION OF SEALER:** After bluestone has been thoroughly cleaned and allowed to dry, apply sealer and allow to dry thoroughly. Apply with a heavy brush coat. Any puddles of the solution in joints and uneven portions shall be mopped up with a brush.

3-4 **APPLICATION OF BUTCHER'S WAX:** After sealer has thoroughly dried, apply final coat of Butcher's wax and buff floors.

3-5 **CLEANING:** Remove all temporary protective sheets and reinstall furnishings in their original locations.

3.6 **MAINTENANCE:** Clean floor daily by first dry sweeping the floor and then damp mopping floor with clean water.

**PRECAST CONCRETE**

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**PART 1: GENERAL**

1-1 DESCRIPTION: Work in this section includes fabrication and installation of Cast-In-Place Concrete and Precast Concrete Elements including:

- A. New precast concrete stanchions to replace missing and damaged stanchions.
- B. New concrete screen wall blocks and copings to replace missing sections of screen wall and damaged and missing coping blocks.
- C. Dismantling and reconstructing damaged sections of concrete screen walls.
- D. Reinstalling displaced concrete stanchions.
- E. Providing sealant in the control joints in the screen walls and sealing the joints in the tops of the screen walls.

1-2 QUALITY ASSURANCE:

- A. Fabricator's Qualifications: Precast concrete fabricator shall have experience and be recognized in the industry as an expert in the custom fabrication and matching of existing precast concrete similar to the work described in this Section. Fabricator shall have a Quality Assurance Program in effective operation equal to that described in the PCI Manual for Quality Control of Precast Concrete.
- B. Installer's Qualifications: The installer shall be a firm with a minimum of five (5) years of experience in the placement of concrete and the dismantling and installation of concrete units similar to the work of this Section.

1-3 SUBMITTALS: Submit to the Contracting Officer.

- A. Shop Drawings: Prepare complete shop drawings detailing the fabrication and installation of the concrete. The shop drawings shall show sizes, dimensions, sections, profiles, reinforcing, joints, anchors supports and layout.
- B. Dismantling Drawings: Prepare drawings of the elevations of the walls to be dismantled and reconstructed. Label each piece to be dismantled.
- C. Samples: Submit sample of sealant color. Submit sample of cured mortar. Submit three screen wall blocks and one coping block for review of size, profiles, color

**PRECAST CONCRETE (cont'd)**

and texture. Submit one 12" x 12" sample of the cast-in-place concrete with specified formed finish. Samples shall match existing and show the full range of appearance expected in the final product.

D. Certificates: Submit certificates attesting that the materials used and items furnished comply with the specification requirements.

1-4 DELIVERY, STORAGE AND HANDLING: Package precast units to prevent damage and soiling during transport and storage. Deliver materials to the site in manufacturer's unopened containers with label intact. Store materials off the ground and under cover to prevent exposure to rain, snow, ice and ground water.

1-5 JOB CONDITIONS:

A. Examine all parts of the supporting structure and the conditions under which the work is to be installed. Do not proceed with the installation of work until unsatisfactory conditions have been corrected.

B. Review installation procedures and coordination with other work which will be affected by the work.

C. Protect work against freezing when the temperature of the surrounding air is 40 degrees F. and falling. Heat materials and provide temporary protection of the completed portions of the work.

D. During all seasons, protect partially completed work against weather when work is not in progress. Cover with waterproof, non-staining membrane extending at least 2 feet down both sides and anchor securely in place.

**PART 2: MATERIALS**

2-1 CONCRETE MATERIALS:

A. Portland Cement: ASTM C150, Type I, White and/or grey as necessary to match existing concrete.

B. Fine Aggregate: ASTM C33-90 from a single source for the entire job. Adjust the color of aggregate as necessary to result in concrete matching the color of the existing concrete. Aggregate shall be clean, sharp sand, free of deleterious materials uniformly graded.

C. Coarse Aggregate: ASTM C33-90. Shall be clean, crushed stone, free of deleterious materials. Maximum size of 3/4 inch with the color of the aggregate to be similar to the finished color of the precast concrete.

**PRECAST CONCRETE** (cont'd)

- D. Water: Shall be clean and free of deleterious quantities of salts, acids, alkalis, oils, detergents and organic matter.
- E. Pigments: Shall be insoluble, alkali resistant, inorganic and light stable. The amount and type of pigment shall not reduce the strength of the precast concrete below that specified.
- F. Reinforcing Steel: Galvanized metal, ASTM A615-90 or Galvanized Mesh, ASTM A185-90a or A497-90a. Shall be free of grease, scale and dirt with a minimum yield strength of 40 ksi.

**2-2 SETTING MATERIALS:**

- A. Anchors: Fabricated from Type 304 stainless steel, of the size and configuration required to securely anchor the precast concrete in place.
- B. Setting Buttons: Lead or plastic buttons of the thickness required to maintain a uniform joint width.
- C. Mortar: Comply with ASTM C270-89, Type N mortar. Mortar color shall match the "Off-White" color of the precast concrete. Joint profile shall be recessed 1/2 inch from the face of the precast units on vertical surfaces and flush on the copings.
- D. Sealant: Sealant shall be one part silicone sealant color "Off-White" to match pointing mortar color.

**2-3 PRECAST MIX:**

- A. The standard weight mix shall have a 28 day strength of 5000 psi as tested in accordance with ASTM C31-91 and ASTM C39-86.
- B. The mix shall be established by a qualified commercial testing laboratory to provide an average compressive strength sufficiently higher than 5000 psi to minimize the frequency of strength tests below the 5000 psi design strength. The mix design shall be established in accordance with the procedures outlined in ACI 318-89, Chapter 4.
- C. At the time of stripping, the architectural precast shall have a minimum strength of 3000 psi.

**2-4 CAST IN PLACE MIX:**

- A. Provide normal weight concrete with a minimum of 5-1/2 bags of cement per cubic yard with 3000 psi compressive strength at 28 days and a maximum water content of 0.46. Adjust color of cement and aggregate to match existing cast-in-place concrete.

**PRECAST CONCRETE (cont'd)****2-5 FABRICATION:**

- A. Fabricate as shown and detailed on the final, accepted shop drawings. Forms and molds for casting shall be of sound construction and shall maintain their shape during casting. Dimensional tolerances shall be per Division 1, Section 5 of PCI Manual 117-77.
- B. The precast concrete mix shall be carefully and consistently proportioned. Water content shall remain constant throughout the fabrication.
- C. Precast concrete mix shall be deposited and vibrated to insure proper consolidation, elimination of unintentional cold joints, and to minimize voids.
- D. All reinforcing steel shall have a minimum of 1-1/2 inch cover and shall be accurately located as per the accepted shop drawings.
- E. Incorporate all imbeds and provide holes and sinkages cut or drilled for anchors, fasteners, supports and lifting devices, as shown and as necessary to secure work in place.
- F. The finished surfaces of the precast units shall have a uniform finish free from all voids, with a uniform color and finish.
- G. Screen Wall Units: Fabricate screen wall triangular blocks and rectangular copings to match existing and as shown on original construction drawing "Plaza Details and Screens" #5-7, DC0092ZZ 33.
- H. Concrete Buttresses: Construct concrete buttresses at the ends of the screen walls to match the existing and as shown on original construction drawing, "Plaza Details and Screens" #5-7, DC0092ZZ 33.
- I. Stanchions: Fabricate stanchions to match existing stanchions and as shown on original construction drawing, "Plaza Details" #5-6, DC0092ZZ 32.

**PART 3 - EXECUTION****3-1 INSPECTION:**

- A. Remove damaged, broken and non-original copings and mortar at locations where copings are to be replaced.
- B. Inspect surfaces to which precast is to be attached to assure that surfaces are plumb level and to proper grades and elevation, free of dirt or other deleterious material, and all surfaces not properly prepared have been satisfactorily corrected.

**PRECAST CONCRETE (cont'd)**

C. Verify dimensions affecting the work. Bring field dimensions which are at variance to the attention of the Contracting Officer and obtain decision regarding correction before starting installation.

D. Dismantle portions of walls to be reconstructed. Label each unit on a concealed surface with the number indicated on the dismantling drawings. Remove mortar from the bed surfaces of the units. Crate units and store until they are to be relaid.

3-2 **FORMWORK:** Construct formwork to adequately support concrete during placement. Surface of formwork shall be random width boards finished and placed to impart the surface of the concrete with a texture matching the existing concrete.

3-3 **INSTALLATION/APPLICATION:**

A. Set precast level and plumb. Set precast in full bed of mortar. Set dismantled units in original locations as shown on the dismantling drawings. Completely fill all anchor and dowel holes. Rake joints and point joints with mortar, recessing the face of the mortar to match the existing joint profiles.

B. Rake out failed joints in the centers of the screen walls to a depth of 1" below the surface of the units. Install a bond breaker tape at the bottom of the joint and point joint with sealant. Finish sealant 1/2 inch below the face of the wall to match the adjacent pointing mortar.

C. Rake out the joints in the tops of the screen wall copings to a depth of 1/2 inch. Point the joints with sealant, tooled flush with the face of the coping.

B. Lead or plastic setting buttons shall be placed under precast, of same thickness as joint and in sufficient quantity to avoid squeezing mortar out. Precast shall not be set until mortar in masonry below has hardened sufficiently to avoid squeezing.

C. **Anchor Installation:** Place anchors as shown on the drawings and as required to secure the precast. Place anchors a minimum of 3/4 inch away from the exposed face of the precast.

3-4 **ALLOWABLE TOLERANCES:** Variation from Plumb: Do not exceed 1/4 inch in 20 feet maximum. Variation from Level: Do not exceed 1/8 inch in 10 feet. Variation of Linear Building Line: Do not exceed 1/2 inch in 20 feet. Variation in Cross Section: For columns and thickness of walls, do not exceed  $\pm 1/4$  inch.

3-5 **ACCEPTANCE AND GUARANTEES:** Guarantee the units against defects in materials and workmanship for a period of two years after complete installation and final acceptance of all masonry work by the Contracting Officer. Guarantee shall provide for

**PRECAST CONCRETE (cont'd)**

the removal and replacement of defective units with new material to the satisfaction of the Contracting Officer.

**3-6 CLEANING AND PROTECTION:**

- A. Clean completed work with fiber brushes and clear water only.
- B. Protect completed work from staining, damage and deterioration until final acceptance.

**CONCRETE PATCHING AND REPAIR**

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**PART 1: GENERAL**

1-1 DESCRIPTION: Fill cracks, coat corroded steel, patch spalled concrete, repair damaged concrete, cut out deteriorated concrete and apply patches to match the color and texture of the existing concrete.

1-2 QUALITY ASSURANCE: Verify existing conditions affecting work at building site.

1-3 SITE CONDITIONS: Unless adequate protection is provided and approved, do not place concrete during rain, sleet or snow. Mix and place concrete only when the temperature is at least 40 degrees F. and rising.

1-4 SUBMITTALS: Submit samples of aggregate and 6" x 6" sample of each type of concrete finish required.

1-5 FIELD MOCK-UPS: Provide field samples of each type of concrete finish required to match.

**PART 2: MATERIALS**

2-1 Materials shall meet the requirements of referenced Federal Specifications (FS) and American Society for Testing and Materials (ASTM) Standards.

2-2 CEMENT: High-early strength, air-entrained. Adjust color of cement as necessary to match adjacent concrete surfaces.

2-3 FINE AGGREGATE: ASTM C144. Selected fine aggregate matching aggregate in existing concrete.

2-4 COARSE AGGREGATE: ASTM C33. Maximum size of coarse aggregate shall not be larger than one half the depth of shallow part of damaged area. Match color, shape and grading of existing aggregate in existing concrete.

2-5 CONCRETE: Mix concrete in drum type mixer. Mix 1 part cement, 2 parts fine aggregate and 3 parts coarse aggregate and only sufficient water to produce a stiff workable mixture.

2-6 WATER: Clean and potable.

**CONCRETE PATCHING AND REPAIR (cont'd)**

2-7 BONDING ADHESIVE: Material specially formulated to bond plastic concrete to hardened concrete.

2-8 CURING MATERIALS: Burlap, plastic sheet or cotton mats.

2-9 FORMWORK: Provide wood boards with the width and grain pattern matching the finish on the concrete being repaired.

**PART 3: EXECUTION****3-1 PREPARATION:**

A. Remove non-original fixtures, equipment and conduit from the surface of the concrete. Remove by unbolting, drilling out or cutting fasteners. Remove all metal sleeves and embeds and clean out fasteners holes with water or compressed air.

B. In the area to be patched, remove the surface of the existing concrete to a minimum depth of 3/4 inch and to such additional depth where necessary to expose a surface of sound concrete that is uncontaminated by oils, greases or deicing salts or solutions. A vertical saw cut at least 3/4 inches deep shall be made a minimum of one inch outside of the area to be repaired.

C. Remove all loose particles and unsound concrete by vigorously scrubbing with a wire bristle brush. Remove dust and similar fine particles by sweeping and blowing with compressed air. Clean by sandblasting areas showing traces of oils or grease. Wash the previously prepared surfaces with a high pressure water jet followed by an air jet to remove from water.

D. Remove corrosion from exposed steel reinforcing.

**3-2 APPLICATION:**

A. Bonding Adhesive: Apply bonding adhesive only to area to be patched following manufacturer's instructions. Do not allow adhesive to contact adjacent surfaces or materials.

B. Concrete: Apply concrete over epoxy resin binder with sufficient pressure to obtain full bond and contact with adjoining sound concrete. Placement shall be in such manner so as to least disturb the epoxy resin binder. The placing of concrete shall be rapid and continuous for each area.

3-3 FINISH: Finish surface by hand and using textured wood forms as necessary to match adjacent concrete. Patches not matching the color and texture of adjacent existing

**CONCRETE PATCHING AND REPAIR (cont'd)**

concrete, cracking in the surface of the patch or cracking between the patch and the existing concrete is not acceptable. Unacceptable patches will be removed and replaced.

3-4 CURING: Apply 2 layers of burlap, plastic or cotton mats over repaired areas after finishing. Lap at least 6 inches over existing sound surfaces adjacent to repaired area. Firmly fasten the burlap or mat in place. Keep the burlap or mat constantly damp by periodic wetting with water for not less than 72 hours after placing concrete.

3-5 CLEAN-UP: Remove all equipment, unused materials, dirt, rubbish and debris resulting from performing this work. Clean existing surfaces of adjoining work where stained by concrete leakage and remove concrete droppings incidental to this work.

**ARCHITECTURAL CONCRETE - PAINT REMOVAL**

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**PART 1: GENERAL**

1-1 DESCRIPTION: Work in this section includes the removal of paint and primer from architectural concrete.

1-2 QUALITY ASSURANCE:

A. General Objective: The objective of concrete restoration is to remove paint coatings from concrete without damaging underlying material. Original concrete finish including form marks and other irregular features are to be retained. Removing paint in a uniform manner without blotches, streaks, runs, or any other kind of spotty appearance is required. Too aggressive cleaning shall not be acceptable.

B. Paint Removal Standard: Test panels shall be prepared for approval which shall form a standard for general concrete restoration. General paint removal shall not commence until written approval is obtained from the Contracting Officer.

C. Contractor: The work of this section shall be performed by a firm possessing a minimum of five (5) years of specialized experience in the restoration of architectural concrete similar to that which is required by this project. Contractors shall submit to the Contracting Officer references of previous work justifying their experience. The Contracting Officer reserves the right to approve or disapprove the use of Contractors contingent upon their experience.

D. In the event that the Contractor wishes to modify the paint removal method specified, he shall submit his proposal in writing for consideration and review. The Contracting Officer may ask for test samples before final approval. Any such modifications or changes shall be at no additional cost to the government.

1-3 REGULATORY REQUIREMENTS:

A. Contractor shall comply with municipal and Federal regulations governing paint removal, chemical waste disposal, product safety, scaffolding and protection to adjacent properties.

1-4 SUBMITTALS:

A. Product Literature: Submit manufacturer's product literature and instructions for use to Contracting Officer for all paint removal materials and methods.

**ARCHITECTURAL CONCRETE - PAINT REMOVAL (cont'd)**

B. Work Description: Prior to commencing paint removal operations, the Contractor shall submit to the Contracting Officer a written description of all methods and procedures proposed for paint removal from concrete including, but not limited to: method of application, dilution of application, temperature of application, length of time of surface contact, method of rinsing surface (temperature, pressure, and duration), repetition of procedures, etc.

C. Methods of Protection: Prior to commencing paint removal operations, the Contractor shall submit to the Contracting Officer for approval, a written description of proposed materials and methods of protection for preventing damage to adjacent materials and pedestrian traffic during the paint removal procedures.

**1-5 TEST PANELS FOR RESTORATION OF ARCHITECTURAL CONCRETE:**

A. The Contractor shall remove paint from a test panel, approximately 4" x 4" in area on each type of concrete finish included in the work in this section for approval by the Contracting Officer. Locations of test panels to be selected by the Contracting Officer.

B. Apply paint removers to test panels to determine the proper dwell times and number of applications necessary to remove all traces of paint. Allow the test panels to dry thoroughly before inspection and approval by the Contracting Officer.

C. Test panels shall be cleaned by the Contractor using methods and materials previously submitted and approved. Test panel cleaning shall be performed in the presence of the Contracting Officer.

D. Where chemical cleaners, poultices, pastes and gels are tested, the GSA Regional Historic Preservation Officer's representative shall be present during testing.

E. The Contractor shall obtain written approval from the Contracting Officer of paint removal methods, materials, equipment used and test panels before proceeding with concrete restoration. For this written approval purpose, the contractor shall allow a minimum of four business days after completion of test paint removal to permit the Contracting Officer to study the test panels for negative reactions. Approved test panels shall be marked and left unaltered. Approved test panels will be used as the standard for restoration throughout the project.

**1-6 DELIVERY, STORAGE AND HANDLING:**

A. Deliver materials to the site in the manufacturer's original and unopened containers and packaging, bearing labels as to the type of materials, brand name and manufacturer's name. Delivered materials shall be identical to tested materials.

ARCHITECTURAL CONCRETE - PAINT REMOVAL (cont'd)

B. Store materials off the ground in a clean, dry location. Remove materials which are damaged or otherwise not suitable for use from the job site.

## 1-7 ENVIRONMENTAL CONDITIONS:

A. Take all necessary precautions and measures to protect surrounding materials on the site, surfaces of the building not being restored and pedestrians from coming in contact with chemicals, poultice, paste, gel, their residues, or fumes. Products used for paint removal may be harmful to painted, polished, glazed, or metallic surfaces. Protect all surrounding painted surfaces not designated for paint removal from contact with chemicals, poultice, paste, gel, their residues and fumes, neutralizers and rinse waters. Some metal finishes and glass may be damaged by exposure to paint removal products. Test and protect if necessary. Any damage to materials caused by the paint removal operations is unacceptable and shall be repaired or replaced by the Contractor to the satisfaction of the Contracting Officer at no cost to the Government.

B. Provide protection from water damage to building, structure and building contents as required.

C. All HVAC intakes and vents that may come in contact with products or fumes should be covered throughout the paint removal procedure. Avoid exposing building occupants to fumes. Avoid breathing fumes. Maintain adequate ventilation when working on interior surfaces.

D. No paint removal shall be executed when air or masonry surface temperature is below 50 degrees F., unless adequate, approved means are provided for maintaining a 50 degree F. temperature of the air and materials during and for 48 hours subsequent to, cleaning.

E. Floor drains may not be used for any waste disposal.

PART 2: PRODUCTS

## 2-1 MATERIALS:

A. Poultice paste paint remover: The paint remover shall be a solvent paste suitable for application as a poultice to remove paint from architectural concrete in an interior environmental such as Enviro Strip #3 manufactured by ProSoCo, Inc., Kansas City, KS (phone 913-281-2700), or equal. Poultice paste paint remover shall meet the following technical requirements:

Form:	brown paste
Specific Gravity:	1.30
Flash Point:	71 degrees F.
pH:	N/A

**ARCHITECTURAL CONCRETE - PAINT REMOVAL (cont'd)**

NO METHYLENE CHLORIDE OR METHANOL PRODUCTS WILL BE PERMITTED. Paint remover shall be suitable for trowel or spray application. Paint remover shall be slow drying-remaining active for up to 24 hours. No surface neutralization shall be required. Final rinsing will be with potable water.

B. Spot Paint Remover: Removal of deeply embedded paint in rough surfaces will require additional treatment with a gel paint remover such as Enviro Strip #4 manufactured by ProSoCo, Inc., Kansas City, KS (phone 913-281-2700), or equal. Spot paint remover shall meet the following technical requirements:

Form:	gel
Specific Gravity:	0.99
Flash Point:	133 degrees F.
pH:	N/A

C. Equipment:

1. Application: Poultice paste paint remover can be applied using a trowel or other suitable applicator. For application with spray equipment or paste extrusion equipment, mix before use and/or dilute slightly with fresh water to produce a thick sprayable consistency. Equipment must be fitted with solvent resistant seals and parts. Spray hose should be poly-lined, chemical resistant, and pressure rated for spray. Spray tips should have a minimum orifice of 1/4" to prevent tip fouling. Hopper attachments which provide direct gravity feeding of the sprayer or paste extrusion are most effective with paste application.

2. Removal: Only non-metallic spatulas or other non-scratching scraping devices, and natural fiber bristle brushes are permitted.

D. Water: Water shall be potable, non-staining and free of materials detrimental to surfaces to be treated. Use of heated water 150 degrees F. to 189 degrees F. will improve removal efficiency and reduce quantities of rinse water and liquid waste.

**PART 3: EXECUTION****3-1 METHOD:**

A. Removal of Paint from Architectural Concrete

1. All paint removal shall be by the poultice paste method. No abrasive, acid or alkali compounds, or steam techniques will be permitted. The use of wire brushes or steel wool will not be permitted.

**ARCHITECTURAL CONCRETE - PAINT REMOVAL (cont'd)**

2. The work shall proceed from the highest overhead surfaces and continue from the top of the wall downward. Work shall not be considered complete until the Contracting Officer has so notified the Contractor in writing.

3. Apply paste to clean, dust-free and dry surface, 1/8" to 1/4" thick using a trowel, sprayer or other suitable applicator. Product may be diluted slightly with potable water as needed for trowel or spray application.

4. A light polyethylene film or other moisture resistant material shall be used to cover the treated area. Lightly press the poly film against the treated surface so it will cling. Tape or otherwise seal the edges of the polyfilm to slow drying.

5. Allow the poultice paste to remain on the surface overnight until the paint is dissolved. Best results are achieved when poultice remains applied for 24 hours. Unattended treated surfaces should be barricaded to prevent building occupants from contact with remover.

6. If the paste becomes too dry and is no longer flexible, mist the surface and allow to stand for 15 minutes or until paste has softened.

7. Remove and collect the paste and dissolved paint coatings by inserting a flexible trowel, spatula or other non-scratching scraping device through the paste and carefully lifting the paste and dissolved paint from the surface. Remove as much residue from the surface as possible.

8. Mist treated surfaces lightly with potable water and allow to stand for 5 to 15 minutes. Remove remaining residues using hand scrapers and a bristle brush with warm water.

9. Scrubbing methods, if necessary, will employ only natural fiber bristle (tampico) brushes, for cleaning deeply embedded paint areas which prove hard to clean by other means.

**B. Spot Paint Removal from Rough Surfaces**

1. Remove all traces of paint embedded in surface irregularities with gel paint remover used according to manufacturer's instructions. No abrasive, acid or alkali compounds, or steam techniques will be permitted for spot paint removal. The use of wire brushes or steel wool will not be permitted.

2. Scrubbing methods will employ only natural fiber bristle (tampico) brushes, for cleaning deeply embedded paint areas which prove hard to clean by other means.

**EXTERIOR MASONRY CLEANING**

This document must be edited prior to its inclusion in contract documents. These specifications reflect the condition of the building as of the completion of the existing conditions survey in December 1994.

**PART 1: GENERAL**

1-1 DESCRIPTION: The work in this section includes:

A. Cleaning exterior masonry surfaces on the HUD Building to remove heavy and moderate soiling, including but not limited to:

1. All exterior cast-in-place concrete walls and pilotis to remove heavy soiling and staining.
2. All precast concrete screen walls.
3. Remove heavy soiling from concrete penthouse walls.
4. All granite walls at first floor.
5. All bluestone paving.
6. All plaster ceilings of the first floor arcade.

B. Remove all stains and soiling from exterior masonry including but not limited to:

1. Removal of rust stains.
2. Removal of glue and tar stains from granite.
3. Removal of marker graffiti from granite.

C. Protection of materials not being cleaned:

1. Protect vegetation, pedestrians, and automobile traffic adjacent to the building.
2. Protect aluminum window and door frames and glass from contact with chemical cleaners and water runoff.

1-2 DEFINITIONS:

A. Masonry: As referred to herein, includes stone and concrete and all other materials presenting the appearance of masonry.

B. Stone: As referred to herein includes Cherry Hill granite and bluestone paving.

**EXTERIOR MASONRY CLEANING (cont'd)**

C. Pressure Readings: Described herein, shall be measured at the nozzle of the spray apparatus, not at the masonry surfaces as follows:

1. Low pressure wash shall measure between 100 psi and 400 psi.
2. Medium pressure wash shall measure between 400 psi and 800 psi.
3. High pressure wash shall measure between 800 psi and 1200 psi.

**1-3 SCHEDULING:**

A. Remove all miscellaneous hardware and anchors from the masonry prior to cleaning.

B. Remove tar, glue and rust stains prior to general cleaning.

C. Perform general cleaning and stain removal of the masonry before the repair and pointing of the masonry. No more than 30 days after the masonry repair and pointing is completed, wash down the walls with clean low pressure water wash to remove dust created during masonry repair.

D. Perform cleaning and washing of the exterior masonry only during hours of natural daylight.

**1-4 QUALITY ASSURANCE:**

A. Cleaning operations shall be carried out by a firm with a minimum of five years specialized experience in the cleaning of historic architectural masonry.

1-5 REGULATORY REQUIREMENTS: Comply with municipal and Federal regulations governing the cleaning, chemical waste disposal, scaffolding and protection to adjacent properties.

**1-6 SUBMITTALS:**

A. Protection Program: Prior to the preparation of cleaning field samples, submit to the Contracting Officer a written description of the methods and materials for protection of all surrounding materials on the building and site not to be cleaned, specifically all glass, metal and painted elements on the building and vegetation, pedestrians, and automobile traffic adjacent to the building.

B. Prior to cleaning sample panels, submit to the Contracting Officer a written description of cleaning methods, working pressures, materials and equipment proposed for use in cleaning masonry. Submit actual samples of any chemicals along with letters of certification from manufacturer that chemical concentrations do not exceed those specified.

**EXTERIOR MASONRY CLEANING (cont'd)****1-7 SAMPLE PANELS OF CLEANING MASONRY:**

- A. Clean 25 square feet (approximate) sample panels on each type of masonry. Locations of sample panels to be cleaned will be selected by the Contracting Officer.
- B. Adjust the chemical concentrations, working pressures and methodologies during test panel cleaning, as directed by the Contracting Officer.
- C. Sample panels shall be cleaned by the Contractor using methods, materials, and working pressures previously submitted and approved. Sample panel cleaning shall be performed in the presence of the Contracting Officer. The working pressures during sample panel cleaning shall be varied up to the previously submitted and approved capacities to determine the best working pressure.
- D. Protection: Prepare mock-up using methods and materials proposed for protection of surrounding building materials not being cleaned. Test for effectiveness in the presence of the Contracting Officer using actual cleaning materials and working pressures to test all protective methods and materials.
- E. The Contractor shall obtain the Contracting Officer's approval of cleaning methods, working pressures, materials, equipment used and sample panels before proceeding with building cleaning operations.
- F. Accepted sample panels shall remain unaltered and in place and shall establish the minimum standard for work of this section.

**1-8 DELIVERY, STORAGE AND HANDLING:**

- A. Deliver materials to the site in the manufacturer's original and unopened containers and packaging, bearing labels as to the type of material, brand name and manufacturer's name. Delivered materials shall be identical to tested materials.
- B. Store materials off the ground in a dry, clean location. Remove materials which are damaged or otherwise not suitable for use from the job site.

**1-9 ENVIRONMENTAL CONDITIONS:**

- A. No cleaning shall be executed when air or masonry surface temperature is below 45 degrees F, unless adequate approved means are provided for maintaining a 45 degrees F temperature of the air and materials during, and for 48 hours subsequent to cleaning.

**EXTERIOR MASONRY CLEANING (cont'd)****PART 2: PRODUCTS**

2-1 CONCRETE CLEANER: Alkaline Cleaner with an Acidic Rinse such as 766 Masonry Prewash and Limestone Restorer Rinse by ProSoCo, or accepted equal. Dilute rinse solution with 2 parts water.

2-2 GRANITE AND BLUESTONE CLEANER: Maximum 4% concentration acid with surfactants and wetting agents such as ProSoCo Restoration Cleaner undiluted or accepted equal.

2-3 FERROUS STAIN REMOVER: Poultice of Ferrous Stain Remover and dry absorbent poultice powder by ProSoCo, or accepted equal.

2-4 GLUE, TAPE STAIN, GRAFFITI AND TAR REMOVER: Solvent based paint stripper such as 940 Paint Remover by ProSoCo, or accepted equal.

2-5 WARM WATER: Potable, non-staining and free of oil, acids, alkalis, and organic matter heated to a temperature of approximately 180 degrees F.

2-6 DETERGENT: Solution of 1/2 cup of trisodium phosphate in 1 gallon of clean hot water.

2-7 EQUIPMENT:

1. High Pressure Water Equipment: Provide equipment capable of providing water pressure, as measured at the pump, in the range 25 psi up to 1000 psi, at a temperature of 160 to 180 degrees and at a constant water flow of 4-6 gallons per minute. Equipment shall have intact, accurate calibrated, operating gauges to monitor water pressure.

2. Spray Tips: Fan type, stainless steel, dispersing a 25-50 degree fan spray and a cone shaped spray tip.

3. Brushes: Nylon or fiber bristle only.

4. Protective Clothing: Chemicals can cause severe burning of skin, eyes and lungs. Provide protective clothing appropriate to the materials and equipment in use.

**PART 3: EXECUTION**

3-1 PROCEDURES: Cleaning methods described shall be used in conformance to and at the soiling and staining locations indicated on the drawings included in Chapter VIII, Materials Cleaning Analysis.

**EXTERIOR MASONRY CLEANING (cont'd)**

3-2 **INSPECTION:** Inspect site conditions and drainage to determine that cleaning operations can be conducted without endangering or causing interference with other materials or work at the site and to determine that drainage is adequate to safely carry away all waste material produced during the cleaning operations.

3-3 **PREPARATION:**

A. Take all precautions and protective measures necessary to protect surrounding materials on the site and surfaces of the building not being cleaned, from coming in contact with the cleaning materials and run-off.

B. Provide acid or alkaline resistant mask or cover over all aluminum and glass as appropriate to the cleaning chemicals being used. Cover shall be water tight to prevent the cleaning chemical from coming into contact with the metal and glass. Remove the cover at the completion of the cleaning.

C. Take necessary precautions to protect workmen and pedestrians from cleaning chemicals, overspray and run-off.

D. Provide protection to prohibit chemicals or run-off from coming in contact with any painted, polished or metallic surfaces. Build dams to divert flowing water to drains in compliance with municipal codes. Contain or dilute used cleaning materials prior to disposal in accordance with code.

3-4 **REMOVING GRAFFITI AND STAINS:**

A. Remove thick deposits of stains, tape and tar using a plastic scraper. Do not damage the surface of the masonry.

B. Apply the stain remover on the area of the stain using a paint brush. Allow the remover to dwell on the surface for 30 minutes.

C. Remove the remover and stain with a low pressure water wash. Reapply the remover at remove all traces of the stain. Do not allow the remover to dry on the masonry surface.

3-5 **RUST STAIN REMOVAL:**

A. Mix the poultice following the manufacturer's instructions. Apply the poultice paste to the surface of the stained area using a plastic trowel or spatula.

B. Cover the area with a thin plastic sheet to retard evaporation of the cleaner. Tape the edges of the sheet.

**EXTERIOR MASONRY CLEANING (cont'd)**

C. Allow the poultice to dwell as determined during testing and remove the poultice with a spatula. Rinse the cleaned area with low pressure water wash and reapply poultice if necessary to remove remaining stains.

**3-6 GENERAL CONCRETE CLEANING:**

A. Prewet the surface of the masonry with a low pressure warm water wash. Remove all loose dirt and dust.

B. Apply the undiluted prewash solution to the masonry surface using a brush. Scrub to force prewash solution into all joints and recesses of the masonry surface.

C. Allow the prewash to dwell on the masonry surface for one hour. Do not let the prewash solution dry on the masonry surface.

D. Agitate the masonry surface with a brush to loosen the soil and rinse all the soil and prewash from the masonry with a high pressure water wash working from bottom to top. Rinse until sudsing ceases.

E. Immediately apply the acidic rinse solution diluted with 2 parts water. Allow the rinse to dwell 3-5 minutes and rinse the masonry surface with a high pressure water wash.

F. Test masonry surface to determine pH of cleaned and rinsed surface. Surface pH shall be between 6 and 8. Where pH is above 8, repeat acidic rinse.

**3-7 GENERAL GRANITE AND BLUESTONE CLEANING:**

A. Prewet the surface of the masonry with a low pressure warm water wash. Remove all loose dirt and dust.

B. Apply the acidic cleaner to the masonry surface using a brush and let dwell 3-5 minutes. Reapply the cleaner and rinse the masonry surface working from using a high pressure water wash until sudsing ceases.

**3-8 PLASTER CEILING CLEANING:**

A. Prewet the plaster ceiling to be cleaned with a low pressure warm water wash.

B. Apply the detergent solution to the plaster surface using a soft brush, scrubbing vigorously.

C. Allow the surface to soak for 5-10 minutes. Reapply detergent solution and scrub. Rinse the solution and soil from the surface using a low pressure warm water wash.

**EXTERIOR MASONRY CLEANING (cont'd)**

3-9 MAINTENANCE: Wash the first floor granite walls, concrete screen walls and plaster ceilings under the arcade with a low pressure water wash to prevent the accumulation of soil on these surfaces that are not washed by the rain.

**INTERIOR MASONRY CLEANING**

This document must be edited prior to its inclusion in contract documents. These specifications reflect the building's condition as of the completion of the existing conditions survey in December 1994.

**PART 1: GENERAL**

1-1 DESCRIPTION: The work in this section includes:

- A. General cleaning of interior concrete.
- B. Removal of wax build-up from recessed concrete base.
- C. Removal of rust stains from concrete walls.

1-2 DEFINITIONS:

A. Masonry: As referred to herein, includes stone and concrete and materials presenting the appearance of masonry.

B. Pressure Readings: Described herein, shall be measured at the nozzle of the spray apparatus, not at the masonry surfaces as follows:

- 1. Low pressure wash shall measure between 100 psi and 400 psi.
- 2. Medium pressure wash shall measure between 400 psi and 800 psi.
- 3. High pressure wash shall measure between 800 psi and 1200 psi.

1-3 QUALITY ASSURANCE:

A. Cleaning operations shall be carried out by a firm with a minimum of five years specialized experience in the cleaning of historic architectural masonry.

B. All necessary precautions shall be taken by the Contractor to protect all parts of the building not being cleaned from damage during the cleaning process. The Contractor shall use polyethylene film, masking tape, and whatever means necessary to protect interior painted surfaces, plaster, wood, furniture, electrical fixtures and any surfaces not to be cleaned. The Contractor shall remove such coverings when masonry cleaning operations are completed in that area of the building.

C. The Contractor shall remove all used cleaning solutions and rinse water from spaces being cleaned and dispose of runoff in accordance with municipal and state codes and EPA Regulations.

**INTERIOR MASONRY CLEANING (cont'd)**

D. Prior to full scale cleaning, the Contractor shall perform a site test of protective methods and cleaning materials and methods which he proposes to use to prove that chemical damage to stone, wood, glass, painted surfaces, plaster, and any areas not being cleaned will not occur. Site tests shall be performed in the presence of the Construction Engineer.

E. The Contractor shall be responsible for replacing with new stock, any material damaged by scaffolding, workmen, cleaning materials or cleaning operations.

1-5 REGULATORY REQUIREMENTS: Comply with municipal and Federal regulations governing the cleaning, chemical waste disposal, and scaffolding.

1-6 SUBMITTALS:

A. Protection Program: Prior to the execution of cleaning field samples, submit to the Contracting Officer a written description of the methods and materials for protection of all surrounding materials in the building not to be cleaned, specifically all painted surfaces, plaster, wood, glass, furniture and electrical fixtures.

B. Waste Water Collection and Removal: Prior to cleaning field samples, submit to the Contracting Officer a written description of the methods of waste water and chemical collection and removal.

C. Submit to the Contracting Officer in triplicate a written description of cleaning methods, working pressures, materials and equipment proposed for use in cleaning each type of masonry. Actual samples of any chemicals shall be submitted along with letters of certification from manufacturer that chemical concentrations do not exceed those specified.

1-7 SAMPLE PANELS OF CLEANING MASONRY:

A. The Contractor shall clean 25 square feet (approximate) sample panels on each type and finish of masonry. Locations of sample panels to be cleaned will be selected by the Contracting Officer.

B. Protection and Waste Water Removal: Prior to sample cleaning test, prepare a mock-up using methods and materials for protection of all materials not to be cleaned and equipment and methods proposed for waste water collection and removal.

C. Adjust the chemical concentrations, working pressures and methodologies during test panel cleaning, as directed by the Contracting Officer.

D. Sample panels shall be cleaned by the Contractor using methods, materials, and working pressures previously submitted and approved. Sample panel cleaning shall be

**INTERIOR MASONRY CLEANING (cont'd)**

performed in the presence of the Contracting Officer. The working pressures during sample panel cleaning shall be varied up to the previously submitted and approved capacities to determine the best working pressure.

E. The Contractor shall obtain the Contracting Officer's written approval of cleaning methods, working pressures, materials, equipment used and sample panels before proceeding with building cleaning operations. For this written approval purpose, the Contractor shall allow a minimum of seven calendar days after completion of sample cleaning to permit the Contracting Officer to study the sample panels for negative reactions. Approved sample panels shall be marked and left unaltered. Approved samples will be used as the standard for similar work throughout the project.

**1-8 DELIVERY, STORAGE AND HANDLING:**

A. Deliver materials to the site in the manufacturer's original and unopened containers and packaging, bearing labels as to the type of material, brand name and manufacturer's name. Delivered materials shall be identical to tested materials.

B. Store materials off the ground in a dry, clean location. Remove materials which are damaged or otherwise not suitable for use from the job site.

**PART 2: PRODUCTS**

2-1 CONCRETE CLEANER: Detergent solution of 1/2 cup of trisodium phosphate in 1 gallon of clean hot water.

2-2 RUST STAIN REMOVER: Poultice of Ferrous Stain Remover and dry absorbent poultice powder by ProSoCo, or accepted equal.

2-3 WAX BUILD-UP REMOVER: Strong solvent based paint stripper suitable for removing multiple layers of wax coatings and stains and suitable for use in an occupied building. Stripper shall be non-flammable and have no harmful fumes.

2-4 WARM WATER: Potable, non-staining and free of oil, acids, alkalis, and organic matter heated to a temperature of approximately 180 degrees F. Water pressure shall be low pressure, 100 to 200 psi.

**2-5 ACCESSORIES:**

1. Brushes: Nylon or fiber bristle brushes.
2. Cloth: Clean cotton rags.

**INTERIOR MASONRY CLEANING (cont'd)****PART 3: EXECUTION****3-1 PREPARATION:**

- A. Take all necessary precautions and protective measures to protect surrounding materials and surfaces in the building not being cleaned, from coming in contact with the cleaning materials and run-off.
- B. Take necessary precautions to protect workmen and building occupants from cleaning chemicals, overspray and run-off.
- C. Provide in place all necessary equipment and materials for waste water collection and removal. Build dams to divert water and collect and remove for disposal in accordance with code.

**3-2 REMOVAL OF WAX BUILD-UP:**

- A. Remove wax and stains from the bottoms of the concrete walls by applying stripper following manufacturer's printed instructions. Apply stripper to the recessed concrete base and allow to loosen the wax coatings.
- B. Remove stripper and all residue with clean cotton rags. Flush the surface of the concrete with clean water.
- C. Reapply stripper to wax residue and staining on the surface of the concrete as necessary to remove all soiling. Allow to dwell and remove stripper and all wax coating and rinse concrete with clean water.

**3-3 RUST STAIN REMOVAL:**

- A. Mix the poultice following the manufacturer's instructions. Apply the poultice paste to the surface of the stained area using a plastic trowel or spatula.
- B. Cover the area with a thin plastic sheet to retard evaporation of the cleaner. Tape the edges of the sheet.
- C. Allow the poultice to dwell as determined during testing and remove the poultice with a spatula. Rinse the cleaned area with low pressure water wash and reapply poultice if necessary to remove remaining stains.

**3-4 CONCRETE CLEANING:**

- A. Prewet the interior concrete walls and concrete surfaces to be cleaned with a low pressure warm water wash.

**INTERIOR MASONRY CLEANING (cont'd)**

- B. Apply the detergent solution to the concrete surface using a soft brush, scrubbing vigorously.
- C. Allow the surface to soak for 5-10 minutes. Reapply detergent solution and scrub. Rinse the solution and soil from the surface using a low pressure warm water wash.

**STAINLESS STEEL CLEANING**

This document must be edited prior to its inclusion in contract documents. These specifications reflect the buildings condition as of the completion of the existing conditions survey in December 1994.

**PART 1: GENERAL**

1-1 DESCRIPTION: Work in this section includes cleaning of the stainless steel.

1-2 QUALITY ASSURANCE: A test area will be cleaned and reviewed by the Contracting Officer for approval prior to commencement of work.

**PART 2: MATERIALS****2-1 PRODUCTS:**

- A. Soap: Mild soap such as Ivory.
- B. Abrasive Cleaners: Very mildly abrasive cleaner with whiting and pumice such as Bon Ami.

**PART 3: EXECUTION****3-1 CLEANING:**

- A. Prior to cleaning, mask or otherwise protect all adjoining surfaces that could be altered or damaged by the cleaning operation.
- B. Wash stainless steel surface with mild detergent and clean water using a clean cloth, sponge or natural bristle brush and light pressure. Wipe dry with a clean cloth.
- C. Apply abrasive cleaners only if necessary and with a clean cloth, sponge or natural bristle brush. Always wipe in a consistent direction with the grain of the metal. Rinse all abrasives thoroughly from metal surface and wipe dry with a clean cloth.
- D. Do not apply protective coatings such as lacquers. Apply a good quality wax such as Dupont 7 New Car Wax as a very thin protective film.

**METAL FABRICATIONS**

This document must be edited prior to its inclusion in contract documents. These specifications reflect the buildings condition as of the completion of the existing conditions survey in December 1994.

**PART 1: GENERAL**

1-1 DESCRIPTION: Work in this section includes replacing missing section of metal railing at west side of building with a new railing section to match the original.

1-2 QUALITY ASSURANCE: Railing shall meet current code requirements for loading and anchorage.

1-3 SHOP DRAWINGS:

A. Fabricate railing to match original railing as detailed on "Plaza Details and Screens" GSA Building #DC0092ZZ, Drawing no.33.

B. Submit shop drawings of railing indicating sizes, profiles, connections, fasteners and finished surfaces. Drawings shall show adjacent existing materials.

1-4 FIELD MEASUREMENTS: Field verify existing conditions. Field measure existing railing, note size and spacing of members, indicate original screw and anchorage locations.

**PART 2: MATERIALS**

2-1 PRODUCTS:

A. Metals: Fabricate metal railing of material that is smooth and free of surface blemishes. Steel bars shall be ASTM A36.

B. Railing: Fabricate railing of 3/4" by 2-1/2 inch smooth steel bar stock. Provide spacers sized to match the originals.

C. Fasteners: Fasteners shall be flat head machine screws to match the original fasteners.

2-2 FABRICATION:

A. Fabricate to match existing, adjacent railing. Form exposed work to the sixes shown in the Shop Drawings. Form joints to a hairline fit making corners and edges straight and sharp.

**METAL FABRICATIONS (cont'd)**

B. Grind welded edges smooth and finish to match the adjacent metal. Provide anchorages to match the originals. Countersink fasteners to match existing fasteners.

**2-3 FINISHING:**

A. Shop prime all metal after fabrication. Clean bare metal to remove all rust, scale, oil and dirt and prime immediately.

B. Paint railing after installation with two coats of finish paint (Yellowish White) to match original railing color per "Exterior Painting."

**PART 3: EXECUTION****3-1 INSTALLATION:**

A. Install railing, anchored to existing masonry and adjacent railing with countersunk fasteners to match the originals.

B. Verify that railing is in proper alignment and is secured.

C. Paint railing to match adjacent railing.

**WOOD REPAIR AND REFINISHING**

This document must be edited prior to its inclusion in contract documents. These specifications reflect the building's condition as of the completion of the existing conditions survey in December 1994.

**PART 1: GENERAL**

1-1 DESCRIPTION: Work in this section includes:

A. Refinishing American Cherry interior of Secretary's Suite, Deputy Secretary's Suite and HUD Departmental Conference Room and Foyer (#10233) on tenth floor and Executive Offices in Executive Office Suites (#4100-#9100).

B. Refinishing American ash plywood paneling in Executive Office Suites (#4100-#4200, #5100-5200, #6100-6200, #7100-7200, #8100-8200, #9100-#9200), and the tenth floor, south of the south elevator lobby.

1-2 REFERENCE STANDARDS: AWI Quality Standards of Architectural Woodwork Institute.

1-3 SUBMITTALS:

A. Manufacturer's Literature: Submit manufacturer's literature describing the stripping materials to be used, handling procedures, surface preparation and recommended application procedures.

B. Samples: Submit samples of each type of finish required, applied to 12 inch by 12 inch piece of wood matching the existing wood to be refinished. Finish one side and one edge.

1. Prepare samples by successive masking in such a manner that the completed samples will display examples of each step in the total finishing system.

2. Clearly identify the finish system and each step of the finishing process.

1-4 MEASUREMENTS: Take all required field measurements and verify installation conditions for work of this section.

1-5 JOB CONDITIONS: Determine that surfaces to which finishes are to be applied are even, smooth, sound, clean, dry and free from defects affecting proper application. Correct or report defective surfaces to Contracting Officer.

**WOOD REPAIR AND REFINISHING (cont'd)****PART 2: MATERIALS**

- 2-1 EXISTING WOOD: 3/4" x 3" American cherry paneling plain-sliced, premium grade.
- 2-2 EXISTING WOOD: American ash plywood paneling with plane sawn book matched veneers.
- 2-3 ADHESIVES: White, waterproof wood glue, complying with ASTM C3110, "Specification for Adhesive Wood in Non-Structural Glued Wood Products."
- 2-4 STAIN: Pratt & Lambert Spec. Stain No. 2225N for Ash paneling.
- 2-5 WAX: Paste wax such as Butcher's Paste Wax, manufactured by Butcher Polish Co., Marlborough, MA.
- 2-6 SOLVENT: Mineral spirits, or turpentine, or denatured alcohol, or a mixture of 75% toluene, 24% acetone, 1% butyl acetate.
- 2-7 STEEL WOOL: Grade OOO steel wool.
- 2-8 CLOTH: Clean cotton waste.
- 2-9 VARNISH: Oil varnish with satin finish such as "Beauty-Lox" manufactured by Sherwin Williams.
- 2-10 WOOD FILLER: As recommended by varnish manufacturer.

**PART 3: EXECUTION**

- 3-1 CLEANING AND REFINISHING INTERIOR WOODWORK:
- A. Preparation:
1. Make sure area is well ventilated and wear protective clothing and rubber gloves. Do not allow smoking in the work area. Place a fire extinguisher for Class B fires at entrances for emergency use.
  2. Always rub along the grain of the wood.
  3. Change cloths as often as necessary to be effective in cleaning.

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**WOOD REPAIR AND REFINISHING (cont'd)****B. Cleaning:**

1. Wet steel wool with solvent and rub over the doors to remove varnish build-up and smooth out checked surface. Replace soiled steel wool frequently with clean and continue the wiping process until a smooth evenly colored surface is achieved. Use no water on wood surface under any circumstances.

2. Work only one 4 foot, square area at a time. Work area must be within a comfortable arm's reach.

3. This process is to remove the varnish build-up only. If solvent affects the stained color of the wood, discontinue use and use an alternative solvent.

4. Allow surface to dry thoroughly; no less than 24 hours.

**C.** Replace missing veneer, trim and dentils with new wood to match the original in size, color and profile.

**D.** Adhere loose veneer and trim into place and allow adhesive to dry completely prior to finishing. Remove adhesive from exposed faces of wood before allowing it to dry.

**E.** Fill scratches and gouges with shellac burn-in sticks matching the color to the wood stain.

**F.** Refinishing: Apply a coat of paste wax with clean, soft cloth, following the manufacturer's instructions. Always rub with the direction of the grain of the wood.

**3-2 REPAIR AND REFINISHING:****A. Finish Systems:****1. Ash plywood paneling:**

- 1 coat Pratt & Lambert Spec. Stain No. 2225N, wiped.
- 1 coat Pratt & Lambert Pale Trim Varnish Gloss, sanded.
- 1 coat Pratt & Lambert Pale Trim Varnish Gloss, sanded.
- 1 coat Pratt & Lambert Pale Trim Varnish, Dull.

**2. American Cherry Paneling:** Varnish and wax to match existing finish in closets.

**B.** Sand wood to remove blemishes and to level with existing. Take special care not to sand wood too thin thus exposing fasteners. Wipe wood with a tack rag.

**WOOD REPAIR AND REFINISHING (cont'd)**

- C. Fill open grain of new wood and small scratches and gouges with wood filler.
- D. Apply stain to ash paneling only according to manufacturer's instructions. Allow surface to dry at least 24 hours.
- E. Apply one coat of varnish reduced with one pint mineral spirits per gallon. Allow to dry 15-18 hours until tack free; sand lightly with 6/0 open coat abrasive paper and wipe with tack rag.
- F. Apply second coat of varnish at package consistency. Allow to dry at least 48 hours.

**3-3 CLEANING AND STAIN REMOVAL:**

- A. Dust with a treated soft cloth.
- B. Dry rub with a soft cloth to maintain the polish, rubbing along the grain of the wood.
- C. Stain and Spot Removal:
  - 1. Stains may be cleaned by prompt damp wiping with cloth dampened in clear water or rubbing with cloth dampened in solvent. Dry the wood with a soft cloth.
  - 2. White spots may be removed by rubbing them with a small amount of linseed oil.
- D. Biennial Cleaning:
  - 1. Damp-wipe woodwork with a soft cloth dampened in clear water.
  - 2. Promptly dry the wood, rubbing along the grain.
  - 3. Polish by dry-rubbing with a soft cloth.

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**EXTERIOR AND INTERIOR ALUMINUM STOREFRONT AND WINDOW CLEANING**

This document must be edited prior to its inclusion in contract documents. These specifications reflect the condition of the building as of the completion of the existing conditions survey in December 1994.

**PART 1: GENERAL**

1-1 DESCRIPTION: The work in this section includes:

- A. Cleaning anodized finish aluminum storefront doors, frames and windows.
- B. Clean windows and frames on floors 2 through 10.
- C. Clean mill finished aluminum louvers at penthouse.
- D. Remove solar film from windows on the south side of the building.

1-2 QUALITY ASSURANCE:

- A. Submit all cleaning products to the Contracting Officer for approval prior to use on the job.
- B. Test cleaning areas will be approved by the Contracting Officer before any large scale cleaning is begun.
- C. Test solar film removal will be approved by the Contracting Officer prior to removal of all solar film.
- D. Standards: Architectural Aluminum Metals Association Guidelines for the Cleaning of Aluminum, including specifications 609.1.

**PART 2: MATERIALS**

2-1 PRODUCTS:

- A. Aluminum Frame Cleaner: Mild soap, such as "Ivory Liquid," manufactured by Proctor and Gamble.
- B. Glass Cleaner: Commercial glass cleaner and water. Cleaner shall be non-acidic and shall not damage the surface of the anodized aluminum.
- C. Clean potable water in a low pressure water wash.

**EXTERIOR AND INTERIOR ALUMINUM STOREFRONT AND WINDOW CLEANING (cont'd)**

D. Solvent for removing window film adhesive: Mineral Spirits, Turpentine, toluene, acetone, methyl ethyl ketone or other solvent required to remove adhesive from glass after the removal of the solar film.

2-2 EQUIPMENT: Scrub-brushes shall be natural bristle only.

**PART 3: EXECUTION**

3-1 SURFACE PREPARATION: Prior to beginning work, mask and protect all surfaces which would be altered or damaged by the cleaning and solar film removal operations.

3-2 CLEANING ANODIZED AND MILL FINISH ALUMINUM:

- A. Wet metal surface to be cleaned with warm, low pressure water.
- B. Wash all aluminum surfaces with aluminum cleaner and clean water using a damp sponge, soft cloth, or, if necessary, a natural bristle brush and light pressure.
- C. Allow the cleaner to soak on heavily soiled areas until soil is loosened. Remove all soil and cleaner with a low pressure warm water wash.
- D. Wipe aluminum surface dry with clean cloth. Clean the glass as described below.
- E. Final finish shall be approved by Contracting Officer.

3-3 SOLAR FILM REMOVAL:

- A. Remove the solar film by peeling and scraping the film from the glass. Do not damage or scratch the glass during removal.
- B. Remove all solar film adhesive residue from the glass using clean rags and solvent found to be suitable for removing the adhesive. Do not allow solvent to stain or damage the glazing gasket, sealants, concrete, or aluminum frames.

3-4 GLASS CLEANING:

- A. Clean glass following glass cleaner manufacturer's printed instructions.
- B. Remove all soil, cleaner and water from the surface of the glass and wipe adjacent aluminum frame dry.

**ACOUSTICAL TILE CEILINGS**

This document must be edited prior to its inclusion in contract documents. These specifications reflect the building's condition as of the completion of the existing conditions survey in December 1994.

**PART 1: GENERAL**

1-1 DESCRIPTION: Work in this section includes providing and installation of concealed spline acoustical tile ceilings.

1-2 QUALITY ASSURANCE: The ceiling suspension system and acoustical tile installer shall have a minimum of 5 years experience in the successful installation of suspended, concealed spline ceilings similar to the work of this Section and be recognized by the acoustical tile manufacturer as an acceptable installer.

1-3 SUBMITTALS:

A. Samples: Submit full size samples of ceiling tile, flat spline, tee spline, and wall moulding showing color and finish.

B. Shop Drawings: Prepare shop drawings showing suspension system, furring, jointing, fastening, access panel details and details at light fixtures and grills. Prepare layout of ceiling showing joint locations, location of main runners and cross tees and location and type of access panels, location of diffusers and light fixtures.

C. Sample Installation: Prepare a sample installation of the ceiling including light fixture, ceiling grill and each type of access panel at a location selected by the Contracting Officer for his approval prior to commencement of work.

**PART 2: MATERIALS**

2-1 ACOUSTICAL TILE: Square edged, rough textured, deeply fissured, acoustical ceiling tile with kerfed edges to match original ceiling tile such as Glacier by USG Interiors, Inc. Color is to be White.

2-2 SUSPENSION SYSTEMS: Concealed spline suspension system, completely concealed, giving a monolithic, uninterrupted ceiling plane and recommended and approved by the Acoustical Tile Manufacturer.

A. Provide a complete system of main runner tees, cross tees, tee splines, flat splines and wall mouldings. Provide special splines as necessary for upward and downward acting single and double leaf access panels.

B. Provide light fixture trim, attachment clips and hold down clips as necessary for a complete and finished system.

**ACOUSTICAL TILE CEILINGS (cont'd)**

2-3 FABRICATION: Conform to ASTM C635 Heavy Duty Classification, designed to support ceiling assembly with a maximum deflection of 1/360 of the span.

**PART 3: EXECUTION**

3-1 PREPARATION: Remove existing acoustical tile ceiling and exposed grid suspension system. Field verify existing conditions and dimensions. Verify that all work above the suspended ceiling system is installed in a manner that will not adversely affect the layout and installation of the ceiling.

3-2 INSTALLATION: Install in accordance with ASTM C636, CISCA Installation Standards and other applicable requirements.

A. Install in accordance with approved shop drawings and sample installation.

B. Install in accordance with manufacturer's printed requirements and details.

3-3 CLEANING: Replace damaged tile with new tile. Vacuum the surface of the tile to remove dust and leave tile clean. Remove all debris resulting from the work of this Section.

**ACOUSTICAL PANELS**

This document must be edited prior to its inclusion in contract documents. These specifications reflect the building's condition as of the completion of the existing conditions survey in December 1994.

**PART 1: GENERAL**

1-1 DESCRIPTION: Work in this section includes providing and installing perforated acoustical panels at telephone recesses.

1-2 SUBMITTALS:

A. Samples: Submit 12" by 12" sample of perforated panel with painted finish matching the specified color. Submit sample panel fasteners.

B. Shop Drawings: Provide shop drawings showing panel arrangement and fastening.

**PART 2: MATERIALS**

2-1 ACOUSTICAL PANELS: Perforated hardboard panels to match existing panels in telephone booths. Hole size and spacing is to match existing.

2-2 FASTENERS: Finish nails size and length to suite substrate material.

**PART 3: EXECUTION**

3-1 PREPARATION: Remove existing telephone, panels, shelves. Field verify existing conditions and dimensions.

3-2 INSTALLATION:

A. Install in accordance with approved shop drawings and sample installation.

B. The facing panels shall be shop fabricated from field measurements. Scribe and trim panels on site to neatly fit their intended location. Joints and seams shall be hairline fit.

C. Secure panels with counter sunk nails concealed with putty.

D. Install shelf with concealed fasteners.

E. Prime and paint wall panels per "Interior Painting" Specifications.

**VINYL FLOORING REPLACEMENT**

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**PART 1: GENERAL**

1-1 DESCRIPTION: Work in this section includes:

- A. Repair and replacement of vinyl tile flooring.
- B. Repair and patching of the concrete floor slab to provide a sound substrate for tile installation.

1-2 QUALITY ASSURANCE:

- A. Maintain minimum 70 degrees F. air temperature at flooring installation area for three days prior to, during, and for 24 hours after installation, unless recommended otherwise by manufacturer.
- B. Store flooring materials in area of application. Allow three days for material to reach equal temperature in area.
- C. Deliver 2 percent of total amount installed for project for maintenance use.
- D. Clearly identify each box or roll.

1-3 SUBMITTALS:

- A. Submit samples of replacement vinyl tile flooring to Contracting Officer for approval before installation.
- B. Submit drawing showing existing tile layout and pattern. Drawing shall indicate coursing and changes in the direction of the floor tile pattern. Original flooring was carefully laid out to eliminate small pieces and thin slivers of tile that might otherwise occur in the curving corridors.

1-4 SCHEDULING: Order of work shall be (1) vinyl tile replacement; (2) vinyl tile repair; and (3) vinyl tile stripping, cleaning and sealing.

**PART 2: PRODUCTS**

2-1 ACCEPTABLE MANUFACTURERS:

- A. Flexco Company, Tuscumbia, AL.

**VINYL FLOORING REPLACEMENT (cont'd)**

B. Or approved equal.

2-2 VINYL TILE: Conforming to FS SS-T-312B (10 Oct 74), Type III, 12 inch by 12 inch by 1/8 inch thick. Travertine Tile, Color No. 79AV-1 Centurian.

2-3 BASE MATERIALS: Conforming to FS SS-W-40A (28 March 66), Type II vinyl; roll form; set on type, 4 inches high, 1/8 inch thick including premolded end stops, and outside corners to match existing grey base.

2-4 ACCESSORIES/ADHESIVES/SEALERS:

A. Edge Strips: Tapered type, match finish; color selected by Contracting Officer from manufacturer's standard colors.

B. Primers and Adhesives: Waterproof, of types recommended by tile manufacturer for specific material.

C. Sealer Wax: Type recommended by resilient flooring material manufacturer for material type and location.

**PART 3: EXECUTION**

3-1 INSPECTION:

A. Ensure floor surfaces are smooth and flat with maximum variation of 1/8 inch in 10 feet in any direction from level or slopes shown.

B. Ensure floors are dry (maximum 7 percent moisture content) and exhibit no negative alkalinity, carbonization or dusting.

C. Prepare drawing of the existing flooring layout and pattern showing coursing and direction of flooring.

3-2 PREPARATION:

A. Remove cracked or broken vinyl tile to be replaced. Care must be exercised not to damage surrounding floor tile, walls, or elevator doors.

B. Repair any sub-floor ridges or bumps by grinding. Fill low spots, cracks, joints, holes and other defects with sub-floor filler.

C. Clean floor and apply, trowel and float filler to leave smooth, flat hard surface. Prohibit traffic until filler is cured.

**VINYL FLOORING REPLACEMENT (cont'd)****3-3 INSTALLATION - FLOORING:**

- A. Open floor tile cartons, enough to cover each area, and mix tile to ensure shade variations do not occur within any one area.
- B. Clean substrate. Spread cement evenly in quantity recommended by manufacturer to ensure adhesion over entire area of installation. Spread only enough adhesive to permit installation of flooring before initial set.
- C. Layout floor with guild lines following drawing prepared of original flooring. New floor pattern and layout shall match original floor pattern.
- D. Set flooring in place, press with heavy roller to ensure full adhesion. Ensure that bottom surface is in full contact with adhesive and top surface smooth, clean and free from adhesives.
- E. Lay flooring with joints and seams square to the room perimeter walls. Layout and install tile so that the minimum tile width at the perimeter of any space is no less than 1/2 of a full tile. Install with pattern grain matching adjacent pattern. Terminate tile at the centerline of door openings where adjacent floor finish is dissimilar.
- F. Scribe flooring to walls, columns, cabinets, floor outlets and other appurtenances to produce tight joints.
- G. Install edge strips at unprotected or exposed edges where flooring terminates.

**3-4 INSTALLATION - BASE:**

- A. Fit joints tight and vertical. Maintain minimum measurement of 18 inches between joints.
- B. Miter inside corners. Use premolded sections for outside corners and exposed ends.
- C. Install base on solid backing. Adhere tightly to wall and floor surfaces.
- D. Scribe and fit to door frames and other obstructions.
- E. Install straight and level. Maximum variation of 1/8 inch over 10 feet.

**3-5 PROTECTION:**

- A. Prohibit traffic from floor finish for 48 hours after installation.

**VINYL FLOORING REPLACEMENT (cont'd)**

3-6 CLEANING:

- A. Remove excess adhesive from floor, base and wall surfaces without damage.
- B. Clean, seal and wax floor and base surfaces in accordance with manufacturer's instructions.

**EXTERIOR PAINTING**

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**PART 1: GENERAL**

1-1 DESCRIPTION: Work in this section includes:

- A. Stripping to remove paint build-up and corrosion and repainting of all exterior steel railings and ceiling access panels and frames.
- B. Caulk all joints between metal elements and masonry.

1-2 QUALITY ASSURANCE:

- A. Determine that surfaces to which paint is to be applied are even, smooth, sound, clean, dry and free from defects affecting proper application. Contact the Contracting Officer after surfaces to be repainted have been cleaned and made smooth and before any paint is applied.
- B. All painting shall be executed at a temperature between 50°F. and 85°F. at a relative humidity below 60%.
- C. Follow paint manufacturer's printed instructions for surface preparation, application and clean up.
- D. Follow local and Federal Requirements for personnel protection, removal and disposal of lead based paint.

1-3 SUBMITTALS:

- A. Manufacturer's Literature: Submit paint and metal filler manufacturer's literature describing materials, required surface preparation, and recommended application procedures.
- B. Paint Finishes: Submit a minimum of 2 inch by 12 inch piece of steel with specified finish and color.
  - 1. Prepare samples by successive masking in such a manner that the completed samples will display examples of each step in the total finishing system. Clearly identify the finish system and each step of the finishing process.
- C. Dismantling Drawing: Submit drawing of metal railing to be dismantled with each piece to be removed and reinstalled identified with a number showing its location.

**EXTERIOR PAINTING (cont'd)**

1-4 FIELD MOCK-UP: Provide a field mock-up of the paint removal procedures, protection and paint and abrasive collection procedures.

**PART 2: MATERIALS****2-1 PAINT FOR EXTERIOR STEEL:**

A. Primer: Alkyd gloss such as Sherwin Williams Kromik Metal Primer.

B. Finish Coats (2 coats, base and finish): Alkyd gloss such as Sherwin Williams Metalstic II Enamel.

1. Colors:

- a. Primer: As above. Make coat clearly different in color from base finish coat.
- b. Base: Clearly different from Primer or Finish.
- c. Finish: Color shall match standards listed in Chapter V, Paint Analysis.

2. Dry Film Thickness: Apply materials at not less than manufacturer's recommended spreading rate, to establish a total dry film thickness as indicated or, if not indicated, as recommended by coating manufacturer.

C. Metal Filler: Two part epoxy metal filler, putty grade such as Devcon "Plastic Steel A" or Bondo.

2-2 DRY GRIT BLASTING: Medium grit no. 2 at 80-100 psi.

2-3 WIRE BRUSH: Non-ferrous metal brush such as brass.

2-4 BACKER ROD: Polyethylene compressible rod 50% larger in diameter than joint.

2-5 SEALANT: Polyurethane sealant, light buff in color to match window paint color.

2-6 WEATHERSTRIPPING: Gaskets and materials to match original window weatherstripping materials.

**EXTERIOR PAINTING (cont'd)****PART 3: EXECUTION****3-1 PROTECTION:**

- A. For material that cannot be removed and is to be cleaned in place, enclose dry grit blasting work areas with temporary scaffolding or framework sufficient to support tarpaulin enclosure to prevent escape of abrasive. Shield adjacent masonry and glass with a temporary covering of cardboard or fiberboard held in place with heavy-duty strapping tape or wood bracing.
- B. Dismantle metal railing prior to cleaning. Label each section of metal railing with a number indicating the location of the railing. Remove railing in sections removing bolts and screws. Package and label all fasteners with railing sections.

**3-2 CLEANING:**

- A. Remove all paint, rust and scale from all steel surfaces including removed fasteners, especially undersides, at connections and hidden locations by mechanical and manual methods as necessary to bright metal removing all traces of rust and scale without pitting or abrasion of metal surfaces.
- B. Paint removal may be done by dry grit blasting, scraping or sanding. Surface shall be cleaned to a SSPC-SP-2 (Steel Structures Painting Council- Surface Preparation) finish.
- C. Remove all caulking between metal and masonry.
- D. Remove residual grit from all surfaces by air blasting. Prime metal WITHIN ONE HOUR of cleaning.
- E. Replace or repair any badly deteriorated pieces of metalwork to match the original in size, shape and location.
- F. Clean the bare metal of all oily or greasy residue with a degreaser such as trichlorethylene, available commercially in standard metal degreasers.
- G. Fill all small holes, depressions and cracks with metal filler following the manufacturer's written directions. Finish all filled areas by sanding flush after curing time has elapsed. Prime all repaired metal areas to match the adjacent primed surface.
- H. Seal all open joints between metal elements and masonry with backer rods and sealant. Joint shall be concave with smooth finish. Do not allow sealant to extend over the face of the metal frame or the face of the masonry.

**EXTERIOR PAINTING (cont'd)**

## 3-3 PAINTING:

- A. Apply base coat to dismantled items prior to reassembly and reinstallation.
- B. Reinstall dismantled railing in original locations as indicated by dismantling drawing. Reuse original bolts and screws. Replace fasteners not suitable for reuse.
- C. Paint all exposed steel to match color specified in the Paint Analysis in Chapter V. Brush apply material evenly without runs, sags, or other defects. Work each coat onto the material being coated at an average rate of coverage recommended. Cover surfaces completely to provide uniform color and appearance. Make edges of paint adjoining other materials or colors sharp and clean and without overlaps.
- D. Drying Time: Minimum time as recommended. Do not apply succeeding coats until the undercoat is thoroughly dry.
- E. Cleanup: Remove temporary protection and masking after completion of the painting. Remove all paint where it has spilled or spattered. Do not drip any paint on adjacent materials not to be painted.

**INTERIOR PAINTING**

This document must be edited prior to its inclusion in contract documents. These specifications reflect the building's condition as of the completion of the existing conditions survey in December 1994.

**PART 1: GENERAL**

1-1 DESCRIPTION: Painting all interior painted surfaces.

1-2 QUALITY ASSURANCE:

A. Determine that surfaces to which painting and other finishes are to be applied are even, smooth, sound, clean, dry and free from defects affecting proper application. Correct or report defective surfaces to Contracting Officer.

B. All painting shall be executed at a temperature between 50°F and 85°F at a relative humidity below 60%.

C. Follow the paint manufacturer's printed instructions for surface preparation, application and clean up.

1-3 SUBMITTALS:

A. Manufacturer's Literature: Submit paint and filler manufacturer's literature describing materials, required surface preparation, and recommended application procedures.

B. Paint Finishes: Submit a minimum of 12 inch by 12 inch sample of each type of material to be painted with specified finish and color.

1. Prepare samples by successive masking in such a manner that the completed samples will display examples of each step in the total finishing system. Clearly identify the finish system and each step of the finishing process.

**PART 2: MATERIALS**

2-1 PAINT:

A. Primer: Alkyd or latex semi-gloss such as Sherwin Williams Wood and Wall Primer for use on plaster and wood surfaces.

B. Base and Finish: Alkyd or latex semi-gloss or flat interior enamel such as that manufactured by Benjamin Moore, Sherwin Williams (PRO-MAR Alkyd Semi-Gloss and STYLE PERFECT Latex Semi-Gloss Enamel), or Martin Senour.

**INTERIOR PAINTING (cont'd)**

- C. Colors: Colors shall match standards listed in Chapter V, Paint Analysis.
- D. Sanded Paint: Provide a sanded paint admixture recommended by the paint manufacturer to replicate the original sand finished plaster ceilings.

**PART 3: EXECUTION**

3-1 Remove all dirt, dust, grime, oil, grease and loosely bonded paint by hand scraping or sanding. Rinse all powdery plaster (that isn't the result of current and ongoing moisture problems) with a solution of one pint of vinegar in one gallon of clean water mixed in a clean plastic bucket. Clean surfaces with commercial detergent (non-ionic soap such as Ivory Liquid) or trisodium phosphate (such as TSP made by the Savogran Company, Norwood, MA), rinse thoroughly and dry.

3-2 Fill all indentations or holes in the wall surfaces, particularly where paint samples have been taken, (see floor plans in Chapter V for locations), and sand to a smooth flush surface.

3-3 All woodwork shall be clean, dry, smooth and free from knots, cracks, holes, stains or other surface imperfections. All holes shall be filled with wood putty and sanded smooth after the application of the prime coat. The putty shall match the color of the finish stain.

3-4 Apply one to two coats of paint as needed to provide thorough coverage. Apply material evenly without runs, sags, or other defects. Work each coat into the material being coated at an average rate of coverage recommended. Cover surfaces completely to provide uniform color and appearance with a minimum of dry film thickness of 2 mils. Make edges of paint adjoining other materials or color sharp and clean, and without overlaps.

3-5 Apply sanded paint finish to ceilings using a brush, spray or roller as necessary to replicate the original sand finished plaster ceiling finish.

**VENETIAN BLINDS**

This document must be edited prior to its inclusion in contract documents. These specifications reflect the building's condition as of the completion of the existing conditions survey in December 1994.

**PART 1: GENERAL**

1-1 DESCRIPTION: Work in this section includes providing and installing venetian blinds, complete with all necessary hardware, brackets, anchors, fastenings and accessories.

1-2 QUALITY ASSURANCE: The blind shall be manufactured and installed by a firm that specializes in the fabrication and installation of custom venetian blinds as described in this Section.

**1-3 SUBMITTALS:**

A. Samples: Submit one complete venetian blind unit for review and approval. Sample shall be full size and color required. Sample shall be fabricated to fit and installed at a location selected by the Contracting Officer.

B. Shop Drawings: Provide shop drawings indicating each type of installation.

**PART 2: MATERIALS**

2-1 BLINDS: Blinds shall be fabricated with clean, smooth surfaces, rolled and formed to shape. Exposed metal surfaces shall be finished with baked enamel.

A. Headrail: Steel, one piece, not less than .020 inch thick, U-shaped construction.

B. Bottom Rail: Steel, one piece, tubular lock seam or ribbed construction, not less than 2 inches wide and 1/2 inch thick. Contour of top surface shall nest curvature of slats. Ends shall be closed with metal or plastic caps.

C. Slats: Steel, single arc, flexible, 2 inch wide by .007 inches thick.

D. Ladder Tapes: Fabric tapes with cross tapes welded to or interwoven with the face tapes. Tapes shall be color fast and resist fire and grease. Tapes shall not stretch or shrink more than 1/2 of one percent.

E. Tilt and Lift Cords: Cords shall be braided nylon, .141 inch in diameter, with a pull strength of 250 pounds before breaking. Cord ends shall be fused and terminate in plastic tassels.

**2-2 FINISH:**

A. Metal: Baked-on enamel, grey color to match the color of the original blinds.

**VENETIAN BLINDS (cont'd)**

B. Fabric Tapes and Cords: Grey to match metal.

2-3 FABRICATION:

A. Field verify dimensions prior to fabricating blinds. Length of blind shall allow 1/2 inch between bottom of bottom rail and sill. Width shall allow a maximum clearance of 3/4 inch from end of blinds to jambs.

B. Distance between ladder tapes shall not be more than 30 inches.

C. Number each blind with permanent identification indicating the installation location of the blind. Place corresponding number on the inside of the mounting frame, and visible after frame has been installed.

**PART 3: EXECUTION**

3-1 PREPARATION: Remove existing blinds. Field verify existing conditions and dimensions.

3-2 INSTALLATION: Blind support shall be anchored securely into the structure of the building.

A. Install in accordance with approved shop drawings and sample installation.

B. Install in accordance with manufacturer's printed requirements and details.

3-3 CLEANING: Replace damaged blinds with new blinds. Clean and dust all blinds after installation to remove dust and finger prints. Remove all debris resulting from the work of this Section.

**SKELETON CLOCK REPRODUCTION**

This document must be edited prior to its inclusion in contract documents. These specifications reflect the building's condition as of the completion of the existing conditions survey in December 1994.

**PART 1: GENERAL**

1-1 DESCRIPTION: Work in this section includes:

A. Fabrication of skeleton clocks to match the originals and installation of the skeleton clocks in their original locations.

1-2 SHOP DRAWINGS:

A. Fabricate clocks based on original photograph of clock in Lobby from HUD Building Manager's Office (Room 5168) and original specification Section 64, "Electrical Communications and Signaling Systems," provided by the Contracting Officer.

B. Provide template traced off of the existing wall at original skeleton clock location. Template shall show the location of the number anchors for cover plate and numerals, size of plate behind dial and size and configuration of back box. Prepare template at one concrete wall and one wood paneling clock location.

C. Provide shop drawings of clock showing full size elevations and profiles of all numerals and clock hands. Show methods of fastening, installing and connecting clock and mechanism. Show finished faces, colors and adjacent existing materials.

D. Clock fabricator shall furnish copies of shop drawings and templates for the approval of the Contracting Officer.

1-3 SUBMITTALS:

A. Submit sample of each type of numeral and each type of clock hand with specified finish. Sample shall be submitted with fasteners with which it is to be installed.

B. Submit manufacturer's descriptive data on finish materials and clock mechanism.

1-4 FIELD SAMPLES: Install one complete and functioning skeleton clock at a location selected by the Contracting Officer using approved materials and methods. Approved clock installation will be incorporated into the work.

**SKELETON CLOCK REPRODUCTION (cont'd)****PART 2: MATERIALS**

2-1 METALS: All exposed parts of the clocks are to be painted aluminum.

A. Cast Aluminum: Casting alloy of aluminum, heat treated, cast in permanent molds, quench and age castings. Cast parts of a suitable alloy composition for casting and hand finishing. Patterns for castings shall be iron. The modeling of patterns must be crisp, true to detail and uniform in execution. All details of cast ornamentation must be plainly brought out by hand finishing. Where ornaments are made in parts, the joints must be finished and designed so as to cause no break in the ornamentation. All burrs and sharp edges must be removed from all faces and surfaces of the castings.

B. Plate and Sheet: ASTM B209 aluminum of thickness and size necessary to match the original clock fabrication.

2-2 ANCHORS AND ACCESSORIES: Fasteners shall be stainless steel. Provide concealed fasteners where possible. Exposed fasteners shall be finished to match the finish of the element being fastened. Heads of exposed fasteners shall be contoured so that when installed the head will match the profile of the element being fastened.

2-3 MECHANISM:

A. Wiring for clocks shall utilize existing conduits and boxes. Any damage to existing walls surfaces shall be repaired to match existing.

B. Wiring shall conform to the National Electrical Code. There shall be no exposed wires.

C. Clock mechanism shall be compatible with the HUD Building's existing synchronized clock system.

2-4 FINISH:

A. Finish all exposed materials with one coat of zinc chromate primer and two coats of alkyd exterior gloss enamel, spray applied, following paint manufacturer's application instructions. Finish materials in the shop and allow to cure prior to installing.

B. Finish Colors shall match Federal Standard 595B, 1989 "Federal Standard Colors" (FS) as listed below.

1. Numerals and aluminum cover plate at concrete walls painted Light Grey, FS #17886.

2. Hands to be painted Blue FS #15123.

**SKELETON CLOCK REPRODUCTION (cont'd)****2-5 FABRICATION:**

- A. Field verify existing conditions at each clock location. Verify mounting height, existing wall materials, existing outlet box size and access, wiring connections, size of cover plate required, mounting location of numerals and information for the fabrication, installation and connection of new skeleton clocks.
- B. Fabricate elements to approved shop drawings.
  - 1. Clocks shall be approximately 12" in diameter as verified in field and from original photograph.
  - 2. Numerals shall be cast aluminum "Arabic Numerals" with size and profiles to match original letters.
  - 3. Clock hands shall be cast aluminum with size and profile to match original hands.
  - 4. At concrete walls provide a painted aluminum plate to cover outlet box.

**PART 3: EXECUTION**

3-1 **PREPARATION:** Remove existing clock and repair wall as necessary to match the original surface. Verify with Contracting Officer that wall surface is clean and suitable for skeleton clock installation. Do not proceed with the clock installation until surface is acceptable.

**3-2 INSTALLATION:**

- A. Place the clock installation template on the wall to locate the numeral fasteners and protect wall surface during clock installation. Fasteners shall be in original fastener locations.
- B. Drill for fasteners and install numerals using original fastening methods. Install and connect clock, clock mechanism, cover plates and hands. Adjust clock as necessary to indicate proper time.
- C. Replace elements where finish has been abraded or damaged with new element or remove, refinish and reinstall element. Clean and polish clock cover plate, hands and numerals to remove all marks and finger prints.
- D. Clean wall to remove scuff marks dust and debris resulting from clock installation.

**SKELETON CLOCK REPRODUCTION (cont'd)**

## 3-3 SKELETON CLOCK SCHEDULE:

## A. First Floor:

1. North Elevator Lobby: One at the south concrete wall between elevators #10 and #11, centered approximately 12 feet above the floor.
2. South Elevator Lobby: One at the north concrete wall between elevators #6 and #7, centered approximately 12 feet above the floor.

## B. Tenth Floor:

## 1. Departmental Conference Room:

- a. One clock at the north end of the east wood paneled wall, adjacent to the bulletin board.
- b. One clock at the south end of the west wood paneled wall, between the closet doors.

## 2. Secretary's Suite Reception Area:

- a. One clock on the north wall of the reception area centered between columns A6 and A7. Mount on curved concrete wall at 8 feet above the floor.
- b. One clock on the north wall of the reception area centered between columns C6 and C7. Mount on curved concrete wall at 8 feet above the floor.

## 3. Secretary's Suite:

- a. One clock in Conference Room 10208, on east wall at midpoint between the door and start of the wall curve. Mount on wood paneled wall at 8 feet above the floor.
- b. One clock in Conference Room 10106, on east wall at midpoint between the door and start of the wall curve. Mount on wood paneled wall at 8 feet above the floor.

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**LIGHT FIXTURE REPRODUCTION**

This document must be edited prior to its inclusion in contract documents. These specifications reflect the building's condition as of the completion of the existing conditions survey in December 1994.

**PART 1: GENERAL**

1-1 DESCRIPTION: Work in this section includes:

A. Replacement of light fixtures in the first floor Cafeteria (Fixture Type G) and tenth floor Departmental Conference Room (Fixture Type FG) to match original light fixtures.

B. Replacement of original light fixtures globes (Fixture Type OA) on nine concrete light standards located on Seventh Street plaza (7 fixtures), D Street (north) elevation (1 fixture) and Frontage Road/Southwest Freeway (south) elevation (1 fixture).

C. Rewiring and relamping existing original light fixtures with new energy efficient lamps.

D. Refer to Light Fixture Schedule in Chapter IX for fixture identification, lamp requirements and drawing.

1-2 SHOP DRAWINGS: All fixtures are to be reproduced from original construction documents. Fabricators shall be furnished with copies of original drawings. Materials and finishes are to match existing fixtures. Lighting fixture fabricators shall furnish copies of shop drawings for the approval of the Contracting Officer.

1-3 SAMPLES:

A. Submit sample 6 inch by 6 inch of each type of metal and finishes required.

B. Submit samples of each proposed fixture and replacement part indicating fabrication technique. Samples shall be finished as shown on shop drawings.

**PART 2: MATERIALS**

2-1 METALS: All exposed parts of fixtures are to be of the materials as specified.

A. Cast Aluminum: Casting alloy of aluminum, heat treated, cast in permanent molds, quench and age castings.

1. Wrought: Of a suitable alloy composition for hand working and finishing.

2. Cast: Of a suitable alloy composition for casting and hand finishing.

**LIGHT FIXTURE REPRODUCTION (cont'd)**

B. Slip and Seating Rings: Shall be solid, turned metal. They shall be threaded as required and of metal compatible with fixture.

2-2 CASTINGS: Patterns for castings shall be iron. The modeling of patterns must be crisp, true to detail and uniform in execution. All details of cast ornamentation must be plainly brought out by hand finishing. Where ornaments are made in parts, the joints must be brazed and designed so as to cause no break in the ornamentation. All burrs and sharp edges must be removed from wire ways.

2-3 WIRING:

A. Wiring for new fixtures shall utilize existing conduits, where possible. Any damage to interior finishes shall be repaired to match existing.

B. Wiring shall conform to the National Electrical Code.

2-4 FINISH: Finishes shall match existing fixtures and the finishes indicated on the original drawings.

2-5 GLASSWARE: All glassware and plastic diffusers must be free from flaws of any kind and conform to individual specifications given for each fixture type.

2-6 FABRICATION: Fabricate fixtures to replicate size, appearance, light distribution, light beam spread and finishes indicated on original drawings.

**PART 3: EXECUTION**

3-1 EXTERIOR LIGHT FIXTURE REPLACEMENT:

A. Reproduce fixtures as shown on original drawings.

B. Remove existing globes and install new light fixture to match original. Install fixtures in a water tight manner and seal joints to prevent water infiltration.

3-2 CAFETERIA AND DEPARTMENTAL CONFERENCE ROOM CEILING FIXTURES:

A. Remove existing ceiling fixtures and discard.

B. Install new ceiling fixtures in conjunction with the installation of the new concealed spline ceiling system to match original ceiling and fixture installation.