SECTION 090353 - HISTORIC TREATMENT OF METAL CEILINGS

Revise this Section by deleting and inserting text to meet Project-specific requirements.

Verify that Section titles referenced in this Section are correct for this Project's Specifications; Section titles may have changed.

1. GENERAL
	* + 1. RELATED DOCUMENTS
				1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
			2. SUMMARY
				1. Section includes historic treatment of stamped metal ceilings as follows:

Stabilizing and protecting metal.

Repairing metal and replacing damaged and missing components in place.

Dismantling metal for shop repair and replacement of components; reinstalling repaired metal.

Repairing and replacing wood materials that support the ceiling.

* + - * 1. Related Requirements:

Retain subparagraphs below to cross-reference requirements Contractor might expect to find in this Section but are specified in other Sections.

Section 013591 "Historic Treatment Procedures" for general historic treatment requirements.

* + - 1. ALLOWANCES

Retain products and Work in this Section that are covered by cash or quantity allowance. Do not include amounts. Insert descriptions of items in Part 2 or 3 to provide information affecting the cost of the Work that is not included under the allowance. Delete this article if all work is done by lump-sum price.

Quantity allowances require a Schedule of Quantity Allowances coordinated with a Unit-Price Schedule. See "Planning the Work" Article in the Evaluations for a discussion of the bidding method.

* + - * 1. Allowances for historic treatment of metal ceilings are specified in Section 012100 "Allowances."

If using quantity allowances, retain three subparagraphs below or include similar language in Section 012100 "Allowances" to clarify how work covered by quantity allowances is to be authorized.

Perform historic treatment of metal ceilings under quantity allowances and only as authorized. Authorized work includes[**work required by Drawings and Specifications and**] work as directed in writing by **Director’s Representative** .

Retain first subparagraph below to suit Project.

Notify **Director’s Representative** [**weekly**] <**Insert time interval**> of extent of work performed that is attributable to quantity allowances.

Perform work that exceeds quantity allowances only as authorized by Change Orders.

Paragraph below is an example only; revise to suit Project. Insert additional allowances according to retained types of work and allowances established. If there are multiple drawing designations for types of work, establish separate allowances for each drawing designation.

* + - * 1. Repairing <**Insert item description**> is part of <**Insert name of allowance**>.
			1. UNIT PRICES

Retain this article if Work specified in this Section is measured and paid for under the provisions of unit prices. Do not include amounts. Insert descriptions of items in Part 2 or 3 to provide information affecting the cost of the Work that is not included under the unit price.

Retain this article with "Allowances" Article for unit-price adjustments to quantity allowances.

Retain this article without "Allowances" Article if using a single Unit-Price Schedule with a column of estimated quantities on which bids are priced and evaluated.

* + - * 1. Work of this Section is affected by unit prices specified in Section 012200 "Cost Computations."

Unit prices apply to authorized work covered by [**quantity allowances**] [**estimated quantities**].

Unit prices apply to authorized additions to and deletions from the Work as authorized by Change Orders.

* + - 1. DEFINITIONS

Retain terms that remain after this Section has been edited for a project.

* + - * 1. Cornice Depth: Measurement of how far a cornice will extend down the wall from the ceiling.
				2. Cornice Projection: Measurement of how far a cornice will extend out from the wall, across the ceiling.
			1. PREINSTALLATION MEETINGS

Retain "Preinstallation Conference" paragraph below if Work of this Section is extensive or complex enough to justify a conference.

* + - * 1. Preinstallation Conference: Conduct conference at [**Project site**] <**Insert location**>.

If needed, insert list of conference participants not mentioned in Section 013591 "Historic Treatment Procedures."

Retain one or both of first two subparagraphs below if additional requirements are necessary; include information about conference.

Review minutes of Preliminary Historic Treatment Conference that pertain to historic treatment of metal ceilings.

Review methods and procedures related to historic treatment of metal ceilings, including, but not limited to, the following:

Historic treatment specialist's personnel, equipment, and facilities needed to make progress and avoid delays.

Materials, material application, sequencing, tolerances, and required clearances.

Fire-protection plan.

Metal ceiling historic treatment program.

Coordination with building occupants.

* + - 1. SUBMITTALS
				1. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.
				2. Manufacturer’s installation instructions shall be provided along with product data.
				3. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).
				4. Product Data: For each type of product.

Include recommendations for product application and use.

Include test data substantiating that products comply with requirements.

* + - * 1. Shop Drawings:

Include plans, elevations, and sections showing locations and extent of repair and replacement work, with enlarged details of replacement parts indicating materials, profiles, methods of attachment, accessory items, and finishes.

Include field-verified dimensions and the following:

Full-size patterns with complete dimensions for new metal ceiling components and their jointing, showing relationship of existing to new components.

Directions for installing nails and other anchorages.

Identification of each new metal item and component and its location on the structure in annotated plans and elevations.

Provisions for expansion and conduits as required.

Retain "Samples for Initial Selection" and "Samples for Verification" paragraphs below for two-stage Samples.

* + - * 1. Samples for Initial Selection: For each type of metal ceiling panel and accessory with factory-applied finishes.

Include samples of available patterns and accessories involving size, color, and finish selection.

* + - * 1. Samples for Verification: For the following products in manufacturer's standard sizes unless otherwise indicated, finished as required for use in the Work:

Retain and revise subparagraphs below and insert others to suit Project.

Each type of new material to be used for replacing existing or missing metal ceiling components; whole item.

Retain "Patterns for Stamping" subparagraph below and option in "Stamped Samples" subparagraph below for tight control of appearance and size of custom-stamped components. If retaining both, consider limiting these requirements to specific, highly visible items. These requirements add to Project time and cost.

Patterns for Stamping: Before stamping components, submit the actual patterns from which dies will be made for stamping. Package and ship to prevent loss or damage, or make patterns available for inspection by **Director’s Representative**  at fabrication plant.

Stamped Samples: For stamped components, provide one of each shape, color, and texture of component, suitable and ready for installation.[**Make this submittal after acceptance of patterns for stamping.**]

Fittings and brackets.

Each type of exposed connection between components. Show method of finishing components at connections.

Each type of exposed finish prepared on metal of the same alloy to be used for the Work of this Section; 6 inches long in least dimension.

Accessories: Each type of fastener, anchor, accessory, and miscellaneous support in required finishes.

Retain "Coordination Drawings" paragraph below for situations where limited space could affect installation of different components or if coordination is required for installation of products and materials by separate installers. Coordinate paragraph with other Sections specifying products listed below. Preparation of coordination drawings requires the participation of each trade involved in installations within the limited space.

* + - * 1. Coordination Drawings: Reflected ceiling plans and other details, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:

Metal Ceiling[**and Cornice**] Panels: Joint locations, modular pattern layout within panels, and attachments.

Items penetrating finished ceiling, including the following:

Lighting fixtures.

Air outlets and inlets.

Speakers.

Sprinklers.

Access panels.

<**Insert item**>.

Consider "Qualification Data" and "Metal Ceiling Historic Treatment Program" paragraphs below as they relate to Project goals and importance. To require responsive action by Architect after submittal review, move one or both paragraphs to "Action Submittals" Article.

* + - * 1. Qualification Data: For historic treatment specialist.
				2. Metal Ceiling Historic Treatment Program: For historic metal ceiling.
			1. MAINTENANCE MATERIAL SUBMITTALS
				1. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents, including material, finish, source, and location on or in building.

Subparagraphs below are examples only; revise to suit Project. If preferred, replace specific number or lengths with a percentage of required total quantity of each element required. Elaborate on descriptions if some component types require extra materials, but others do not.

Stamped Metal Units: [**Five**] <**Insert number**>, additional full-size stamped [**ceiling panels**] [**and**] [**medallions**] of each type.

Linear Stamped Metal: [**Five**] <**Insert number**>, minimum [**96-inch-** ] <**Insert dimension**> lengths of each full-size configuration of stamped [**cornice**] [**and**] [**crown molding**] <**Insert item**>.

Retain "Fasteners" subparagraph below if decorative, exposed fasteners are required.

Fasteners: [**Box of 200**] <**Insert requirement**> decorative, [**cone-head**] [**finishing-head**] <**Insert item**> exposed fasteners of each configuration.

Retain "Dies for Stamping" paragraph below if future need for stamping dies can be reasonably expected and Director’s Representative has space and takes responsibility for their storage and protection. Often, the metal ceiling manufacturer stores dies for long or indefinite periods. Patterns from which dies were made might be useful for display purposes, but they are less useful for fabrication than are dies. If a pattern or patterns are required, revise this article accordingly.

* + - * 1. Dies for Stamping: On completion of manufacturing of stamped components, deliver one unused set of dies of each shape and size of component to Project site. Deliver to a location and at a time determined by Director’s Representative, to become property of Director’s Representative.

Deliver dies carefully packed, protected from dirt, moisture, and deformation so as to arrive in usable, undamaged condition and enable long-term storage and possible future use.

* + - 1. QUALITY ASSURANCE

In "Historic Treatment Specialist Qualifications" paragraph below, insert additional, specific requirements for demonstrating unique skills of firm and personnel to suit Project. See Section 013591 "Historic Treatment Procedures" for general qualifications of historic treatment specialist.

* + - * 1. Historic Treatment Specialist Qualifications: A qualified historic metal ceiling repair specialist. Experience in installing and finishing new metal ceiling systems is insufficient experience for historic treatment work on metal ceilings.
				2. Metal Ceiling Historic Treatment Program: Prepare a written, detailed description of materials, methods, equipment, and sequence of operations to be used for historic treatment work, including each process or phase of repairing metal ceilings, related work, and the protection of surrounding materials and Project site.

If materials and methods other than those indicated are proposed for any phase of historic treatment work, add a written description of such materials and methods, including evidence of successful use on comparable projects and demonstrations to show their effectiveness for this Project.

Retain required mockups in "Mockups" paragraph below; insert others to suit Project. Test areas that were prepared or are required as part of a separate contract to evaluate and establish historic treatment materials and processes are not mockups. Generally, retain option because separate mockups may not adequately show blending of new work with existing construction.

* + - * 1. Benchmarks: Prepare benchmarks of historic treatment repair processes[**on existing surfaces**] to demonstrate aesthetic effects and to set quality standards for materials, execution, fabrication, and installation. Prepare benchmarks so they are inconspicuous.

Mockups in "Dent Removal," "Replacing Panels," and "Stamped Metal Panels" subparagraphs below are examples only.

Dent Removal: Repair a [**ceiling**] [**and**] [**cornice**] <**Insert item**> panel of each type by [**pushing out dents from the back side**] [**or**] [**filling dents with sculpted metal-patching compound**], and flattening edges to align repaired panels flush with adjacent panels.

Replacing Panels: Replace a missing or excessively damaged [**ceiling**] [**and**] [**cornice**] <**Insert item**> panel of each type with new or repaired, salvaged panels, and align edges of replacement panels flush with adjacent panels.

Retain "Stamped Metal Panels" subparagraph below for custom-stamped metal panels or duplicate replacements.

Stamped Metal Panels: Submit patterns, models, or plaster castings made from existing metal ceiling panels for each replacement panel required.

Approval of benchmarks does not constitute approval of deviations from the Contract Documents contained in benchmarks unless Director’s Representative specifically approves such deviations in writing.

* + - 1. DELIVERY, STORAGE, AND HANDLING
				1. Pack, deliver, and store metal items in suitable packs, heavy-duty cartons, or wooden crates; surround with sufficient packing material to ensure that products are not deformed, cracked, or otherwise damaged.
				2. Store metal items inside a well-ventilated area, away from uncured concrete and masonry and protected from weather, moisture, soiling, abrasion, extreme temperatures, and humidity.
				3. Protect strippable protective covering on metal from exposure to sunlight and high humidity, except to the extent necessary for the period of installation.
1. PRODUCTS
	* + 1. MANUFACTURERS
				1. Source Limitations: Obtain each type of manufactured metal panel from single source from single manufacturer.
			2. METAL PANELS

Copy one or more paragraphs below and re-edit for each product.

Insert drawing designation. Use these designations on Drawings to identify each product.

Optional dimensions in paragraphs below are only examples from manufacturer's products. Standard sizes vary with manufacturer and product.

Retain second option in "Field Panel" paragraph below if an exact match is required; revise to suit Project. Revise description if lock-joint field panels are required.

* + - * 1. Field Panel <**Insert drawing designation**>: Factory-stamped[**and prefinished**] metal ceiling panel(s) for the main area of the ceiling.[**Fabricate panels that match existing by using original, historic dies or custom-made patterns and dies.**]

Consult manufacturers for recommended sheet metal thickness to suit panel size and detailing if inserting a thickness in "Material" subparagraph below.

Material: [**Aluminum**] [**Aluminum-zinc alloy-coated steel**] [**Copper**] [**Tin-plated steel**] [**Zinc**] [**or**] [**Zinc-coated (galvanized) steel**]; [**of thickness needed for panel size and embossed design**] <**Insert thickness**>.

Retain "Size" subparagraph below if these dimensions are not indicated on Drawings or by manufacturer's product name or designation.

Size: [**Match existing**] [**24 by 24 inches** ] [**or**] [**24 by 48 inches** ] <**Insert dimensions**>.

Retain "Pattern Type" subparagraph below for a general description if the pattern is not indicated on Drawings or by manufacturer's product name or designation. The last six options are examples only; most manufactures number their designs.

Pattern Type: [**Match existing**] [**Match Director’s Representative's samples**] [**As selected by Director’s Representative from manufacturer's full range**] [**Classic coffer as selected by Director’s Representative from industry's full range**] [**Concentric squares as selected by Director’s Representative from industry's full range**] [**Deco diamonds as selected by Director’s Representative from industry's full range**] [**Deco sunburst as selected by Director’s Representative from industry's full range**] [**Framed floral as selected by Director’s Representative from industry's full range**] [**Framed medallions as selected by Director’s representative from industry's full range**] <**Insert requirement**>.

Panel Assembly: Where indicated on Drawings or by manufacturer's product name or designation, form panels with matched seams that form a larger medallion or design.

Retain "Pattern Repeat" subparagraph below if this dimension is not indicated on Drawings or by manufacturer's product name or designation.

Pattern Repeat: [**Match existing**] [**3 inches** ] [**6 inches** ] [**12 inches**] [**24 inches** ] <**Insert dimension**>

Concealed Finish: [**Mill finish**] [**Manufacturer's standard primer**] <**Insert finish**>.

Exposed Finish: [**Match design reference sample**] [**Match existing**] [**As indicated on Drawings**] [**Bright mill finish**] [**Antiqued**] [**Primed for on-site painting**] [**Powder coated**] [**with**] [**clear organic coating**] <**Insert finish**>.

Retain "Color" subparagraph below for factory-applied color finishes.

Color: [**As indicated by manufacturer's designations**] [**Match Director’s Representative’s samples**] [**As selected by Director’s Representative from full range of industry colors and color densities**] <**Insert color**>.

Retain second option in "Field Panel" paragraph below if an exact match is required; revise to suit Project.

* + - * 1. Filler Panel <**Insert drawing designation**>: Factory-stamped[**and -prefinished**] metal ceiling panel(s) for the ceiling perimeter between field panels and cornice.[**Fabricate panels that match existing by using original, historic dies or custom-made patterns and dies.**]

Consult manufacturers for recommended sheet metal thickness to suit panel size and detailing if inserting a thickness in "Material" subparagraph below.

Material: [**Aluminum**] [**Aluminum-zinc alloy-coated steel**] [**Copper**] [**Tin-plated steel**] [**Zinc**] [**or**] [**Zinc-coated (galvanized) steel**]; [**of thickness needed for panel size and embossed design**] <**Insert thickness**>.

Panel Length: [**24 inches** ] [**or**] [**48 inches** ] <**Insert dimension**>.

Retain "Panel Width" subparagraph below if this dimension is not indicated on Drawings or by manufacturer's product name or designation.

Panel Width: [**Match existing**] [**11.5 inches** ] [**20 inches** ] [**24 inches** ] <**Insert dimension**>.

Retain "Pattern Type" subparagraph below for a general description if the pattern is not indicated on Drawings or by manufacturer's product name or designation. The last four options are examples only; most manufactures number their designs.

Pattern Type: [**Match existing**] [**Match Director’s Representative’s samples**] [**As selected by Director’s Representative from manufacturer's full range**] [**Floral band on dimpled background as selected by Director’s Representative from industry's full range**] [**Medallions on dimpled background as selected by Director’s Representative from industry's full range**] [**Nondirectional dimples as selected by from industry's full range**] [**Nondirectional weave as selected by Director’s Representative from industry's full range**] <**Insert requirement**>.

Retain "Pattern Repeat" subparagraph below for other than nondirectional patterns if this dimension is not indicated on Drawings or by manufacturer's product name or designation.

Pattern Repeat: [**Match existing**] [**12 inches** ] [**24 inches** ] <**Insert dimension**>.

Concealed Finish: [**Mill finish**] [**Manufacturer's standard primer**] <**Insert finish**>.

Exposed Finish: [**Match design reference sample**] [**Match existing**] [**As indicated on Drawings**] [**Bright mill finish**] [**Antiqued**] [**Primed for on-site painting**] [**Powder coated**] [**with**] [**clear organic coating**] <**Insert finish**>.

Retain "Color" subparagraph below for factory-applied color finishes.

Color: [**As indicated by manufacturer's designations**] [**Match Director’s Representative’s samples**] [**As selected by Director’s Representative from full range of industry colors and color densities**] <**Insert color**>.

Retain second option in "Cornice Panel" paragraph below if required. A ceiling cornice is also called a "crown molding." Brian Greer's Tin Ceilings and perhaps other manufacturers offer returned safety hems. Retain last option if an exact match is required; revise to suit Project.

* + - * 1. Cornice Panel <**Insert drawing designation**>: Factory-stamped[**and prefinished**] metal ceiling panel(s) for the ceiling perimeter at top of walls[**; with returned safety hems**].[**Fabricate panels that match existing by using original, historic dies or custom-made patterns and dies.**]

Consult manufacturers for recommended sheet metal thickness to suit panel size and detailing if inserting a thickness in "Material" subparagraph below.

Material: [**Aluminum**] [**Aluminum-zinc alloy-coated steel**] [**Copper**] [**Tin-plated steel**] [**Zinc**] [**or**] [**Zinc-coated (galvanized) steel**]; [**of thickness needed for panel size and embossed design**] <**Insert thickness**>.

Retain "Projection and Depth" subparagraph below if these dimensions are not indicated on Drawings or by manufacturer's product name or designation.

Projection and Depth: [**Match existing**] [**2.25 x 2.25 inches** ] [**3 x 3 inches** ] [**4 x 6 inches** [**6 x 8 inches** ] [**9 x 9 inches** ] [**10 x 12 inches** ] <**Insert dimensions**>.

Panel Length: [**48 inches** ] <**Insert dimension**>.

Before retaining Miters" subparagraph below, verify availability of preformed miters with manufacturer and design required. Outside miters are the more difficult to field form.

Miters: Provide [**inside**] [**and**] [**outside**] preformed miters.

Retain "Pattern Type" subparagraph below for a general description if the pattern is not indicated on Drawings or by manufacturer's product name or designation. The last six options are examples only; most manufactures number their designs.

Pattern Type: [**Match existing**] [**Match Director’s Representative samples**] [**As selected by Director’s Representative from manufacturer's full range**] [**Combination of forms as selected by Director’s Representative from industry's full range**] [**Deco as selected by Director’s Representative from industry's full range**] [**Egg and dart as selected by Director’s Representative from industry's full range**] [**Floral as selected by Director’s Representative from industry's full range**] [**Ribbed cove as selected by Director’s Representative from industry's full range**] [**Rope as selected by Director’s Representative from industry's full range**] <**Insert requirement**>.

Concealed Finish: [**Mill finish**] [**Manufacturer's standard primer**] <**Insert finish**>.

Exposed Finish: [**Match design reference sample**] [**Match existing**] [**As indicated on Drawings**] [**Bright mill finish**] [**Antiqued**] [**Primed for on-site painting**] [**Powder coated**] [**with**] [**clear organic coating**] <**Insert finish**>.

Retain "Color" subparagraph below for factory-applied color finishes.

Color: [**As indicated by manufacturer's designations**] [**Match Director’s Representative's samples**] [**As selected by Director’s Representative from full range of industry colors and color densities**] <**Insert color**>.

Retain second option in "Molding" paragraph below if required. Brian Greer's Tin Ceilings and perhaps other manufacturers offer returned safety hems. Retain last option if an exact match is required; revise to suit Project. Revise paragraph text if the molding is being used in lieu of a filler panel between field panels and cornice.

* + - * 1. Molding <**Insert drawing designation**>: Factory-stamped[**and prefinished**] metal molding panel(s) for the ceiling perimeter to cover continuous joint or space between edges of field and filler panels[**; with returned safety hems**].[**Fabricate panels that match existing by using original, historic dies or custom-made patterns and dies.**]

Consult manufacturers for recommended sheet metal thickness to suit panel size and detailing if inserting a thickness in "Material" subparagraph below.

Material: [**Aluminum**] [**Aluminum-zinc alloy-coated steel**] [**Copper**] [**Tin-plated steel**] [**Zinc**] [**or**] [**Zinc-coated (galvanized) steel**]; [**of thickness needed for panel size and embossed design**] <**Insert thickness**>.

Panel Length: [**27 inches** ] [**or**] [**48 inches** ] <**Insert dimension**>.

Retain "Panel Width" subparagraph below if this dimension is not indicated on Drawings or by manufacturer's product name or designation.

Molding Width: [**Match existing**] [**3.25 inches** ] [**4 inches** ] [**7 inches** ] <**Insert dimension**>.

Retain "Pattern Type" subparagraph below for a general description if the pattern is not indicated on Drawings or by manufacturer's product name or designation. The last four options are examples only; most manufactures number their designs.

Pattern Type: [**Match existing**] [**Match Director’s Representative's samples**] [**As selected by Director’s Representative from manufacturer's full range**] [**Geometric Deco as selected by Director’s Representative from industry's full range**] [**Egg and dart as selected by Director’s Representative from industry's full range**] [**Floral as selected by Director’s Representative from industry's full range**] [**Rope as selected by Director’s Representative from industry's full range**] <**Insert requirement**>.

Concealed Finish: [**Mill finish**] [**Manufacturer's standard primer**] <**Insert finish**>.

Exposed Finish: [**Match design reference sample**] [**Match existing**] [**As indicated on Drawings**] [**Bright mill finish**] [**Antiqued**] [**Primed for on-site painting**] [**Powder coated**] [**with**] [**clear organic coating**] <**Insert finish**>.

Retain "Color" subparagraph below for factory-applied color finishes.

Color: [**As indicated by manufacturer's designations**] [**Match Director’s Representative's samples**] [**As selected by Director’s Representative from full range of industry colors and color densities**] <**Insert color**>.

Insert other panel or trim types, such as beam covers, if required.

* + - 1. MATERIALS
				1. Provide metal ceiling materials made of the alloys, forms, and types that match existing metals and have the ability to receive finishes matching existing finishes unless otherwise indicated. Exposed-to-view surfaces exhibiting imperfections inconsistent with existing materials are unacceptable.

Insert salient properties for specific metal types if required; contact manufacturers for recommendations. Manufacturers seldom disclose on their websites their metal thicknesses or composition.

* + - 1. ACCESSORIES

Retain "Metal-Patching Compound" paragraph below for filling nonstructural defects in existing metal surfaces that will be painted; revise to suit Project.

* + - * 1. Metal-Patching Compound: Two-part, epoxy- or polyester-resin metal-patching compound; knife-grade formulation as recommended in writing by manufacturer for type of metal repair indicated, tooling time required for the detail of work, and site conditions. Compound shall be produced for filling metal that has deteriorated because of corrosion or deformation. Filler shall be capable of filling deep holes and spreading to feather edge.
				2. Fasteners: Fasteners shall be of the same basic metal as fastened metal unless otherwise indicated. Use metals that are noncorrosive and compatible with each metal joined.

Match existing fasteners in material and in type of fastener unless otherwise indicated.

Use concealed fasteners for interconnecting metal ceiling components and for attaching them to other work unless exposed fasteners are [**unavoidable**] [**or**] [**the existing fastening method**].

Finish exposed fasteners to match finish of metal fastened unless otherwise indicated.

In "Nails for Ceiling Panels" subparagraph below, retain nail length on the basis of height (thickness) of embossed pattern of panel where nail is driven; cone head is the traditional nail-head shape for metal ceilings.

Nails for Ceiling Panels: [**1-inch-** ] [**or**] [**1.5-inch-** ] long, [**cone-head**] [**or**] [**finishing**] <**Insert requirement**> nails.

In "Fasteners for Nailable Substrates" subparagraph below, retain screw length on the basis of thickness of the nailable substrate (furring or plywood) being attached to structural supports above and on the penetration required into the structural supports.

Fasteners for Nailable Substrates: [**1.5-inch-** ] [**2-inch-** ] <**Insert dimension**> long, [**flat-head nails**] [**or**] [**countersunk, flat-head wood screws**].

Sealant types specified in "Sealant" paragraph below are paintable. Type OP is for opaque sealants containing color or extender pigments, which are useful for painted finishes; Type C is for clear or translucent sealants, which are useful for bright metal finishes. Grade NF indicates that the sealant is not tested for low-temperature flexibility, which is unnecessary for interior installations.

* + - * 1. Sealant: Acrylic latex or siliconized acrylic latex, ASTM C834, [**Type OP, colored to match painted ceiling panels being installed**] [**Type C for bright metal finish**], Grade NF.
				2. Nailable Substrates:

Retain "Wood Furring" or "Plywood" subparagraph below, depending on whether wood furring requires replacement in kind or with a plywood substrate; revise to suit Project. Second option in first subparagraph is often preferred. If retaining both subparagraphs, indicate locations of each material on Drawings or by inserts.

Wood Furring: [**1-by-2-inch nominal** ] [**1-by-3-inch nominal** ] <**Insert dimensions**> size and according to furring requirements as specified in Section 061000 "Rough Carpentry."

Plywood: [**3/8-inch** ] <**Insert dimension**> nominal thickness structural[**, fire-retardant-treated**] plywood sheathing panels as specified in Section 061600 "Sheathing."

Retain "Wood Blocking" subparagraph below with "Wood Furring" or "Plywood" subparagraph above.

Wood Blocking: Concealed[**, fire-retardant-treated**] wood supports as specified in Section 061000 "Rough Carpentry."

* + - 1. PREPARATORY CLEANING MATERIALS

See Section 050371 "Historic Decorative Metal Cleaning" for additional cleaning materials and methods.

If local water is known to be unsuitable, consider informing Contractor of this in "Water" paragraph below. Hard or softened water may be unsuitable even though potable.

* + - * 1. Water: Potable.

Retain "Hot Water" paragraph below if heated water is required.

* + - * 1. Hot Water: Water heated to a temperature of 140 to 160 deg F.

Retain remaining paragraphs below to suit Project.

Revise "Detergent Solution, Job Mixed" paragraph below for specific laundry detergent requirements if known. Detergent products vary in composition.

* + - * 1. Detergent Solution, Job Mixed: Solution prepared by mixing 2 cups of tetrasodium pyrophosphate (TSPP), 1/2 cup of laundry detergent, and 20 quarts of hot water for every 5 gal. of solution required.
				2. Abrasive Materials:

Abrasives can be used for paint removal as well as for cleaning surfaces, depending on the abrasive type and how it is used.

Materials in "Abrasive Pads" subparagraph below can add fine scratches to stainless steel and other bright-metal finishes. Use these pads only after pretesting the method of use.

Abrasive Pads: Nonscratch, of the following type(s):

Abrasive Pad with Sponge: Combination plastic abrasive pad, consisting of a sponge enclosed with a woven urethane, polypropylene, or other plastic mesh or fabric, without other abrasive components that can scratch metal.

Abrasive Pad of Plant Fibers: Agave, loofa, or another tough plant fiber, without other abrasive components that can scratch metal.

Material in "Medium Abrasives for Ferrous Metals" subparagraph below can remove paint and plating from ferrous metals. If mechanically cleaning stainless-steel surfaces, allow only stainless-steel tools. Carbon-steel residues can rust and stain stainless-steel surfaces.

Medium Abrasives for Ferrous Metals: Aluminum oxide paper, emery paper, fine steel wool, steel scrapers, and steel-wire brushes of various sizes.

* + - * 1. Wash Cloths: Lint-free, absorbent, durable cloth without abrasives that can scratch metal.

Product in "Rust Remover" paragraph below is commonly used to remove iron oxide and leave behind a protective iron phosphate compound that resists further corrosion.

* + - * 1. Rust Remover: Manufacturer's standard phosphoric acid-based gel formulation, also called "naval jelly," for removing corrosion from iron and steel.
			1. MISCELLANEOUS MATERIALS
				1. Liquid Strippable Masking Agent: Manufacturer's standard liquid, film-forming, strippable masking material for protecting glass, metal, glazed masonry, and polished stone surfaces from damaging effects of acidic and alkaline cleaners.
				2. Masking Tape: Nonstaining, nonabsorbent material; compatible with chemical solutions being used and substrate surfaces, and that will easily come off entirely, including adhesive.
				3. Other Products: Select materials and methods of use based on the following, subject to approval of a benchmark:

Previous effectiveness in performing the work.

Little possibility of damaging exposed surfaces.

Consistency of each application.

Uniformity of the resulting overall appearance.

Do not use products or tools that could do the following:

Remove, alter, or in any way harm the present condition or future preservation of existing surfaces, including surrounding surfaces not in the Contract.

Leave an unintended residue on surfaces.

* + - 1. PANEL FABRICATION

Revise paragraphs below to suit Project.

* + - * 1. Fabricate metal ceiling items and components in sizes and profiles to match existing metal ceiling unless otherwise indicated, with accurate curves, lines, and angles. Mill joints to a tight, hairline fit.
				2. Stamped panels shall have embossed designs that are sharp and clear and shall be trimmed to exact size, so that installed edges will be concealed by proximity to the raised beads of the panel design.

Retain "Date Identification" paragraph below for historic treatment projects where differentiation of new materials from original materials is required.

* + - * 1. Date Identification: Permanently label, on a concealed, interior surface of the metal body of each new panel, in easily read characters, "MADE <**Insert year**>." Manufacturer's name may also be labeled. Do not deform panels with this identification process.
			1. FINISHES, GENERAL
				1. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
				2. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.
			2. ALUMINUM FINISHES

Retain finishes in this article for aluminum panels to suit Project; insert other finishes if required. Refinishing is specified in Section 050373 "Historic Decorative Metal Refinishing." These aluminum finishes are shop applied. If retaining more than one, indicate location of each on Drawings or by inserts.

* + - * 1. Mill finish.
				2. Bright mill finish.

"Baked-Enamel or Powder-Coat Finish" paragraph below references AAMA standard for pigmented organic coating on extrusions and panels. Indicate color on Drawings or in the Historic Metal Ceiling Schedule.

* + - * 1. Baked-Enamel or Powder-Coat Finish: AAMA 2603. Comply with coating manufacturer's written instructions for cleaning, conversion coating, applying, and baking finish.

Consider inserting other high-performance finishes from Section 057000 "Decorative Metal."

* + - 1. FERROUS METAL FINISHES

Retain finishes in this article for ferrous metal panels to suit Project; insert other finishes if required. If retaining more than one, indicate location of each on Drawings or by inserts. Repaired steel sheet generally require immediate priming to prevent corrosion before final painting.

Retain one of or both "Repair Primer" and "Finish Primer" paragraph below. Retain option in first paragraph to require primer to be compatible with remaining existing paint, if any, and with applied finish.

* + - * 1. Repair Primer: Manufacturer's standard, rust-inhibiting, fast-curing, lead- and chromate-free universal primer, compatible with[**firmly adhered existing paint and**] applied finish. Comply with coating manufacturer's written instructions for cleaning, pretreatment, application, and minimum dry film thickness.
				2. Finish Primer: Primer complying with applicable requirements in [**Section 090391 "Historic Treatment of Plain Painting"**] <**Insert Section number and title**> for finish painting of primed historic metal.

Finish in "Baked-Enamel or Powder-Coat Finish" Paragraph below is shop applied to thoroughly cleaned bare metal only. These finishes are for new panels to suit Project. Refinishing is specified in Section 050373 "Historic Decorative Metal Refinishing."

* + - * 1. Baked-Enamel or Powder-Coat Finish: Manufacturer's standard baked-on finish, consisting of prime coat and thermosetting topcoat. Comply with coating manufacturer's written instructions for cleaning, pretreatment, application, and minimum dry film thickness.
			1. STAINLESS-STEEL FINISHES

Retain finishes in this article for stainless-steel panels to suit Project. Refinishing is specified in Section 050373 "Historic Decorative Metal Refinishing." These finishes can be shop or field applied. If retaining more than one, indicate location of each on Drawings or by inserts.

* + - * 1. Surface Preparation: Remove tool and die marks and stretch lines from new replacement stainless steel, or blend into finish.

Retain "Restored Finish" Paragraph below for finish applied to match existing stainless steel or Director’s Representative’s sample.

* + - * 1. Restored Finish: Grind and polish surfaces to produce uniform, directionally textured, polished finish to match [**existing finish**] [**Director’s Representative’s sample**], free of cross scratches.

Run grain to match existing metal.

When polishing is completed, passivate and rinse surfaces. Remove embedded foreign matter and leave surfaces chemically clean.

Retain "Bright, Cold-Rolled, Unpolished Finish" Paragraph below for nondirectional finish not required to match existing stainless steel; revise to suit Project.

* + - * 1. Bright, Cold-Rolled, Unpolished Finish: No. 2B.
1. EXECUTION
	* + 1. HISTORIC TREATMENT SPECIALIST

Retain this article if list of preapproved firms is used as quality-control procedure.

If retaining second option in "Historic Treatment Specialist Firms" paragraph below, include procedure for approving other firms in Document 002213 "Supplementary Instructions to Bidders.

* + - * 1. Historic Treatment Specialist Firms: Subject to compliance with requirements, [**provide historic metal ceiling repair by one of the following**] [**firms that may provide historic metal ceiling repair include, but are not limited to, the following**]:

<**Insert, in separate subparagraphs, names of historic treatment specialist firms**>.

* + - 1. PROTECTION
				1. Comply with each manufacturer's written instructions for protecting building and other surfaces against damage from exposure to its products. Prevent chemical solutions from coming into contact with people and surfaces that could be harmed by such contact.

Cover adjacent surfaces with materials that are proved to resist chemical solutions being used unless products being used will not damage adjacent surfaces. Use protective materials that are waterproof and UV resistant. Apply masking agents to comply with manufacturer's written instructions. Do not apply liquid masking agent to painted or porous surfaces. When no longer needed, promptly remove masking to prevent adhesive staining.

Neutralize alkaline and acid wastes before disposal.

* + - 1. HISTORIC METAL CEILING REPAIR, GENERAL

Revise this article to suit Project. See Section 013591 "Historic Treatment Procedures" for general historic treatment procedures.

Retain "Repair Appearance Standard" paragraph below to control overall appearance from a distance.

* + - * 1. Repair Appearance Standard: Repaired surfaces are to have a uniform appearance as viewed from [**10 feet** ] [**20 feet** ] <**Insert distance**> away by **Director’s Representative’s**.
				2. Execution of the Work: In repairing historic items, disturb remaining existing work as minimally as possible and as follows:

Stabilize metal ceilings to reestablish structural integrity while maintaining the existing form of each item.

Remove deteriorated coatings and corrosion.

Sequence work to minimize time before protective coatings are reapplied.

Repair items where stabilization is insufficient to stop progress of deterioration.

Repair items in place unless otherwise indicated, and retain as much original material as possible.

Replace or reproduce historic items where indicated or scheduled.

Make historic treatment of materials reversible whenever possible.

Install temporary protective measures to stabilize metal ceilings that shall be repaired later.

* + - * 1. Mechanical Coating Removal: Use gentlest mechanical methods, such as scraping and wire brushing, that do not abrade metal substrate. Do not use abrasive methods, such as sanding, or power tools except as indicated as part of the historic treatment program and approved by **Director’s Representative**.
				2. Repairing Metal Ceiling Panels: Match existing materials and features, retaining as much original material as possible to complete the repair.

Unless otherwise indicated, repair metal ceiling panels by straightening patching, piecing-in, splicing, or otherwise reinforcing metals with new metal, matching existing metal, form, and texture.

Where indicated, repair metal ceiling by limited replacement to the extent indicated, matching existing material.

* + - * 1. Replacing Metal Ceiling Panels: Where indicated, duplicate and replace panels with new metal, matching existing metal.

Replace heavily deteriorated or missing features of metal ceiling with compatible materials, using surviving prototypes to create patterns or dies for duplicate replacements.

Retain one of two subparagraphs below. Indicate on Drawings or in the Historic Metal Ceiling Schedule where substitute materials may be used. If retaining second subparagraph, insert requirements for substitute materials in Part 2.

Do not use substitute materials unless otherwise indicated.

Compatible substitute materials may be used.

* + - 1. PREPARATORY CLEANING

Retain cleaning methods in this article for cleaning metal before performing repair work; revise to suit Project; consult a preservation specialist before retaining or inserting other methods. See the Evaluations in Section 050371 "Historic Decorative Metal Cleaning." Spray methods are typically inappropriate for interior ceilings.

* + - * 1. Perform preparatory cleaning before performing repair work. Use only those methods indicated for each type of metal ceiling and its location.

Brushes: If using wire brushes, use brushes of same base metal composition as metal being treated. Use brushes that are resistant to chemicals being used.

Uniformity: Perform each cleaning method in a manner that results in uniform coverage of all surfaces, including corners, contours, and interstices, and that produces an even effect without streaks or damaging surfaces.

Protection: After cleaning is complete, remove protection no longer required. Remove tape and adhesive marks.

Generally, retain last option in "Water Cleaning" paragraph below for metal ceilings with desirable patina. This method can remove patina if used aggressively.

* + - * 1. Water Cleaning: Clean with [**cold**] [**hot**] water applied with sponges or wash cloths. Supplement with [**natural-fiber**] [**or**] [**plastic**] bristle brush[**and abrasive pads**]. Use small brushes to remove soil and loose paint from joints and crevices.[**Leave uniform patina intact.**]
				2. Detergent Cleaning:

Wet surface with [**cold**] [**hot**] water applied with sponges or wash cloths.

Generally, retain last option in first subparagraph below for decorative metals with desirable patina. This method can remove patina if used aggressively.

Scrub surface with detergent solution and [**natural-fiber**] [**or**] [**plastic**] bristle brush[**and abrasive pads**] until soil and loose paint is thoroughly dislodged and can be removed by rinsing. Use small brushes to remove soil and loose paint from joints and crevices. Dip brush in solution often to ensure that adequate fresh detergent is used and that surface remains wet.[**Leave uniform patina intact.**]

Retain one of first two options in subparagraph below.

Rinse with [**cold**] [**hot**] water applied with sponges or wash cloths to remove detergent solution, soil, and loose paint.

Method in "Chemical Rust Removal" paragraph below is commonly used to convert reddish-brown iron oxide (rust) into a water-soluble, black, iron phosphate compound that is easier to remove and resists further corrosion.

* + - * 1. Chemical Rust Removal:

Remove loose rust scale with approved, medium abrasives for ferrous metals.

Apply rust remover with brushes or as recommended in writing by manufacturer.

Allow rust remover to remain on surface for period recommended in writing by manufacturer or as determined by testing. Do not allow extended dwell time.

Wipe off residue with mineral spirits and either steel wool or soft rags, or clean with method recommended in writing by manufacturer to remove residue.

Dry immediately with clean wash cloths. Follow direction of grain in metal.

Prime immediately to prevent rust. Do not touch cleaned metal surface until primed.

Method in "Mechanical Rust Removal" paragraph below is labor intensive but avoids use of harsh chemicals.

* + - * 1. Mechanical Rust Removal:

Remove rust with approved, medium abrasives for ferrous metals.

Wipe off residue with mineral spirits and either steel wool or soft rags.

Dry immediately with clean wash cloths. Follow direction of grain in metal.

Prime immediately to prevent rust. Do not touch cleaned metal surface until primed.

* + - 1. PANEL DISMANTLING AND REPAIR
				1. Repair metal ceiling panels in place insofar as practicable, unless otherwise indicated. Where necessary, dismantle panels from their substrate and repair and reinstall them according to approved historic treatment program.

Indicate on Drawings or in the Historic Metal Ceiling Schedule which items are to be dismantled and reinstalled. Dismantled and salvaged items may be available for creating duplicates. Verify condition and availability of existing materials for repair and reinstallation or to create dies or patterns.

* + - * 1. Deformed Panels: Flatten bent and deformed panels, so that embossed pattern along full length of panel edges will again nest tightly against adjacent panels insofar as practicable.

Retain "Defects in Painted Metal Surfaces" paragraph below for filling defects in existing metal surfaces that will be painted.

* + - * 1. Defects in Painted Metal Surfaces: Repair defects in existing metal surfaces, including dents and gouges more than [**1/16 inch** ] [**1/8 inch** ] <**Insert dimension**> deep or [**1/2 inch** ] [**1 inch** ] <**Insert dimension**> across and all holes and tears by filling with metal-patching compound. Remove burrs. Prime iron and steel surfaces immediately after repair to prevent flash rusting.

Apply metal-patching compound to fill depressions, nicks, cuts, and other voids created by rusted, removed, or missing metal.

Mix only as much patching compound as can be applied according to manufacturer's written instructions.

Apply patching compound in layers as recommended in writing by manufacturer until the void is completely filled.

Finish patch surface smooth and shaped flush with adjacent contours, without voids in patch material.

Clean spilled compound from adjacent materials immediately.

Retain "Defects in Bare Metal Surfaces" paragraph below for bright mill or patina finishes that will not be painted. Revise this paragraph based on Director’s Representative's knowledge of the applicable finishes and experience with similar work.

* + - * 1. Defects in Bare Metal Surfaces: Repair defects in existing metal surfaces, including dents and gouges more than [**1/16 inch** ] [**1/8 inch** ] <**Insert dimension**> deep or [**1/2 inch** ] [**1 inch** ] <**Insert dimension**> across and all holes and tears by filling with metal-patching compound, colored to match the metal finish. Do not extend patching compound beyond the local area of the repair. Remove burrs.

Apply colored metal-patching compound to fill depressions, nicks, cuts, and other voids created by rusted, removed, or missing metal.

Mix only as much patching compound as can be applied according to manufacturer's written instructions.

Apply patching compound in layers as recommended in writing by manufacturer until the void is completely filled.

Finish patch surface smooth and shaped flush with adjacent contours, without voids in patch material.

Clean spilled compound from adjacent materials immediately.

* + - 1. NAILABLE SUBSTRATES
				1. Repair damaged nailable substrates that are exposed by removed or missing ceiling panels. Replace nailable substrate in kind where it is lost or irreparable and where repairs are extensive according to approved historic treatment program.

Revise "Furring" paragraph below if closer spacing is required. Retain all options for fully nailed installations. Consider using furring in lieu of plywood for very deep panel designs and where structural members are not level, because furring is easier to adjust for a flat ceiling installation.

* + - * 1. Furring: Install [**longitudinally**] [**and**] [**transversely**] across the ceiling area at 24 inches o.c. and flush with each other unless otherwise indicated. Fasten to structural members above ceiling. Where structural members are not level, insert shims between furring strips and the structural members before fully tightening the fasteners. Install fasteners with heads flush with or slightly recessed beneath surface of furring; sand smooth and flush any projections to prevent misalignment of the metal ceiling panels.
				2. Plywood: Install as specified in Section 061600 "Sheathing" unless otherwise indicated. Fasten to structural members above ceiling. Install fasteners with heads flush with or slightly recessed beneath surface of plywood; sand smooth and flush any projections to prevent misalignment of the metal ceiling panels.
				3. Blocking: Install blocking to support unsupported ends and edges of nailable substrates.
			1. PANEL INSTALLATION

Retain one or more paragraphs below; revise to suit Project. Insert other panel or trim types, such as beam covers, if required.

Retain option in "Installation" paragraph below if installing panels in existing ceiling installation.

* + - * 1. Installation: Install ceiling panels according to approved historic treatment program and new-product manufacturer's written instructions.[**Lap panels matching existing method of lapping panels.**]

Panel Reinstallation: Use original nail holes to reinstall repaired panels.

* + - * 1. Field Panels: Overlap and nest panels' beads with each other, and nail panels to substrate, locating nails on the nailing bead. Where needed, use flat-head nails on the concealed side of beads to temporarily hold panels in position until final nailing. Lap panels to minimize joint visibility from entrance to room unless otherwise indicated. Space nails 6 inches o.c. around panel perimeter and 12 inches o.c. in center area of panel where nails will penetrate nailable substrate. Nail center area before final nailing around perimeter.
				2. Filler Panels: Slip filler panels beneath field panels. Overlap and nest panels with each other, and nail panels to substrate, locating nails to blend with the embossed design. Lap panels to minimize joint visibility from entrance to room unless otherwise indicated. Space nails 6 inches o.c.
				3. Cornice: Overlap and nest panels with each other, overlap the field or filler panels, and nail panels to substrate, locating nails to blend with the embossed design. Lap panels to minimize joint visibility from entrance to room unless otherwise indicated. Space nails 6 inches o.c. along the top edge and 12 inches o.c. along the bottom edge.

Before retaining "Preformed Miters" subparagraph below, verify availability of preformed miters with manufacturer and design required. Outside miters are the more difficult to field form.

Preformed Miters: Install [**inside**] [**and**] [**outside**] preformed miters.

Retain one or both options in "Field-Formed" Miters" subparagraph below to suit Project, or delete subparagraph.

Field-Formed Miters: Use the same location in the cornice's pattern to begin the miter cuts of both pieces to ensure a symmetrical seam. [**Form inside miters by running first panel to wall and coping the abutting panel to the profile of first panel.**] [**Form outside miters by nicking small cuts in mitered edges at regular intervals and bending back to form a tight seam.**]

* + - * 1. Moldings: Overlap and nest panels with each other, overlap the field and filler panels, and nail panels to substrate, locating nails to blend with the embossed design. Lap panels to minimize joint visibility from entrance to room unless otherwise indicated. Space nails 6 inches o.c. along the edges.
				2. Tamping: Tamp edge of open seams lightly with rubber mallet and wood block, so that they close flush and nest snugly along edges with adjacent panels. Install sealant where tamping is insufficient to close seams.

Retain option in "Tolerance" paragraph below to establish a measurable quality standard for new ceiling installations; revise to suit Project.

* + - * 1. Tolerance: New panel installations shall nest snugly with each other, concealing panel joints.[**Joint opening shall not exceed 1/32 inch at any point. Dismantle and reinstall panels that do not meet tolerance requirements.**]

Revise "Sealant" paragraph below to suit Project conditions. New replacement panels should not require sealant, because their edges are manufactured to nest together perfectly. Field-installed miters may require sealant.

* + - * 1. Sealant: After ceiling panel installation, apply sealant to repaired panel joints that cannot be closed tightly after flattening the panels before installation or by tamping. Keep joints to receive sealant dry and free of debris. Apply and cure sealant according to manufacturer's written instructions.

Seal joints that are more than [**1/32 inch** ] <**Insert dimension**> and as necessary to prevent joint shadows.

Fill sealant joints with specified joint sealant as recommended in writing by sealant manufacturer:

Install sealant using only proven installation methods that ensure sealant is deposited in a uniform, continuous ribbon, without gaps or air pockets. Fill joint flush with surrounding metal.

Do not allow sealant to overflow or spill onto adjoining surfaces, or to migrate into the voids of adjoining surfaces, particularly rough or sculptural textures. Promptly remove excess and spillage of sealant as the work progresses. Clean adjoining surfaces by means necessary to eliminate evidence of spillage, without damage to adjoining surfaces or finishes, as demonstrated in an approved benchmark .

Before field painting, cure sealant.

Retain "Touch Up" paragraph below for prefinished panels and bare metal finishes; revise to suit Project.

* + - * 1. Touch Up: At completion of installation, touch up and restore damaged or defaced finish surfaces and nail heads.
			1. PRIMING AND PAINTING

Retain one or more paragraphs below; revise to suit Project.

* + - * 1. Repair Primer: Apply immediately after completing a repair.
				2. Finish Primer: Apply as soon after cleaning as possible according to applicable requirements in [**Section 090391 "Historic Treatment of Plain Painting"**] <**Insert Section number and title**> for finish painting of primed historic metal.

Retain "Finish Painting" and "Touch Up" paragraphs below for on-site painting of unfinished panels; revise to suit Project.

* + - * 1. Finish Painting: Apply as soon as possible after repair and installation according to applicable requirements in [**Section 090391 "Historic Treatment of Plain Painting"**] <**Insert Section number and title**>.
				2. Touch Up: At completion of installation, touch up and restore damaged or defaced painted surfaces.
			1. HISTORIC METAL CEILING SCHEDULE

This schedule demonstrates a method to indicate extensive historic treatment requirements for metal ceilings. A schedule helps to prevent confusion where Project includes several items of varying sizes, characteristics, and complexities; where extensive drawing notations would otherwise be needed; and where direction by a historic treatment specialist is considered insufficient. The design professional must decide what to include in a schedule and what should be indicated on Drawings. This schedule is an example only; revise to suit Project.

Insert drawing designation for each item to be treated, and indicate the methods of treatment that apply to the item. Use these designations on Drawings to identify locations.

* + - * 1. Treatment of Metal Ceiling [**MC-1**] <**Insert drawing designation**>:

Perform repair work [**in the shop**] [**or**] [**in the field**].

Paint Removal: As specified in Section 050371 "Historic Decorative Metal Cleaning," except use no spray methods.

Rust Removal: [**Chemical**] [**Mechanical**] <**Insert method**>.

Repair: [**Flatten deformed panels**] [**and**] [**patch holes by filling with metal-patching compound**] <**Insert description**>.

Painted Finish: As specified in [**Section 090391 "Historic Treatment of Plain Painting."**] <**Insert Section number and title**>.

Color: <**Insert requirement**>.

Gilding: As specified in [**Section 090398 "Historic Treatment of Gilding."**] <**Insert Section number and title**>.

END OF SECTION 090353