

ADDENDUM NO. 1

TO THE SPECIFICATIONS FOR:

ROOF REPLACEMENT & EXTERIOR RENOVATION
LOUIS RINGS RESIDENCE
CITY OF DUBLIN

SEPTEMBER 16, 2020

THE ADDENDUM MUST BE ACKNOWLEDGED FOR ON THE BID FORM.

TO ALL BIDDERS:

This addendum supplements and amends the specifications and shall be taken into account in preparing your proposal. It is a part of the Contract Documents.

ITEM 1

Project Manual, Section 024119 Selective Demolition;
Add attached Section 024119 Selective Demolition.

ITEM 2

Project Manual, Section 040120 Unit Masonry Restoration Cleaning;
Discard and replace with attached Section 040120.46 Brick Masonry Repointing.

ITEM 3

Project Manual, Section 073126 Slate Shingles, Paragraph 1.1, A.;
Change "recommended" to "required".

ITEM 4

Project Manual, Section 073126 Slate Shingles, Paragraph 2.1, delete and replace with the following;

"2.1 MANUFACTURERS

A. Acceptable Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Evergreen Slate Co.
2. New England Slate.
3. Newmont Slate Co.
4. Camera Slate Products, Inc.
5. Greenstone Slate."

ITEM 5

Project Manual, Section 073126 Slate Shingles, add the following paragraph;

“3.8 SNOW GUARDS

- A. Snow Guards: Pad Style: Individually held in place attached to slate shingles. Provide two rows up from eave, above the line of exterior supporting wall (not on the overhang). Install a snow guard as indicated on the drawings, and additionally in locations shown on roof plan.
 - 1. Row offset distance as recommended by manufacturer.
 - a. Basis-of-Design: Model #PD10 Half Round Pad-Style Snow Guard, by Alpine SnowGuards, Inc.
 - 2. Copper finish.”

ITEM 6

Project Manual, Section 074646 Fiber-Cement Siding;

Add attached Section 074646 Fiber-Cement Siding.

ITEM 7

Project Manual, Section 075600 Fluid-Applied Roofing, Paragraph 1.12, delete and replace with the following;

“1.12 WARRANTY

- A. Liquid Applied Damaged Pledge™ NDL Roof Guarantee: Manufacturers standard form, without money limitation, in which GAF agrees to repair leaks through the United Coatings™ products on the roof caused by manufacturing defects, natural deterioration of, or workmanship in applying, the United Coatings™ roofing system.
 - 1. Warranty Period: 20 years from date of Substantial Completion.
- B. In addition to and without limiting any other warranty or repair requirements in the Contract Documents, Contractor shall provide a roofing installer’s written guarantee for all material and workmanship against defects.
 - 1. Warranty Period: 2 years from date of Substantial Completion.”

ITEM 8

Project Manual, Section 076110 Copper Roofing;

Discard and replace with attached Section 074113 Metal Roof Panels.

ITEM 9

Project Manual, Section 099000 Painting and Coatings;

Add attached Section 099000 Painting and Coatings.

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END OF ADDENDUM NO. 1

ATTACHMENTS: Section 024119 Selective Demolition
 Section 040120.46 Brick Masonry Repointing
 Section 074113 Metal Roof Panels
 Section 074646 Fiber-Cement Siding
 Section 099000 Painting and Coatings

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including Contract Documents and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Demolition and removal of selected portions of building or structure.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged or reinstalled.
- B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and deliver to Owner ready for reuse.
- C. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage, prepare for reuse, and reinstall where indicated.
- D. Existing to Remain: Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.
- E. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.

1.5 PREINSTALLATION MEETINGS

- A. Predemolition Conference: Conduct conference at Project site.
 - 1. Inspect and discuss condition of construction to be selectively demolished.
 - 2. Review structural load limitations of existing structure.
 - 3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
 - 4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
 - 5. Review areas where existing construction is to remain and requires protection.

1.6 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- C. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
 - 1. Hazardous materials will be removed by Owner before start of the Work.
 - 2. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.

1.7 COORDINATION

- A. Arrange selective demolition schedule so as not to interfere with Owner's operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.

3.2 PROTECTION

- A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 - 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 - 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 - 3. Protect walls and other existing finish work that are to remain or that are exposed during selective demolition operations.
- B. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

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1. Strengthen or add new supports when required during progress of selective demolition.
- C. Remove temporary barricades and protections where hazards no longer exist.

3.3 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 2. Do not use cutting torches until work area is cleared of flammable materials.
 3. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 4. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
 5. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 6. Dispose of demolished items and materials promptly.
- B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- C. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and reinstalled in their original locations after selective demolition operations are complete.

3.4 LEAD- AND CADMIUM-CONTAINING COATINGS

- A. Assume that painted and coated surfaces that may be disturbed during work contain lead and cadmium; Follow applicable OSHA, U.S. EPA, and Ohio EPA regulations.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.
1. Do not allow demolished materials to accumulate on-site.
 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn demolished materials.

3.6 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

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END OF SECTION 024119

SECTION 040120.64 - BRICK MASONRY REPOINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including Contract Documents and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Repointing joints with mortar.

1.3 DEFINITIONS

- A. Low-Pressure Spray: 100 to 400 psi (690 to 2750 kPa); 4 to 6 gpm (0.25 to 0.4 L/s).

1.4 SEQUENCING AND SCHEDULING

- A. Order sand and gray portland cement for pointing mortar immediately after approval of Samples. Take delivery of and store at Project site enough quantity to complete Project.
- B. Work Sequence: Perform brick masonry repointing work in the following sequence, which includes work specified in this and other Sections:
 - 1. Inspect masonry for open mortar joints and permanently or temporarily point them before cleaning to prevent the intrusion of water and other cleaning materials into the wall.
 - 2. Clean masonry.
 - 3. Rake out mortar from joints surrounding masonry to be replaced and from joints adjacent to masonry repairs along joints.
 - 4. Repair masonry, including replacing existing masonry with new masonry materials.
 - 5. Rake out mortar from joints to be repointed.
 - 6. Point mortar and sealant joints.
 - 7. After repairs and repointing have been completed and cured, perform a final cleaning to remove residues from this work.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver packaged materials to Project site in manufacturer's original and unopened containers, labeled with manufacturer's name and type of products.
- B. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.

- C. Store hydrated lime in manufacturer's original and unopened containers. Discard lime if containers have been damaged or have been opened for more than two days.
- D. Store sand where grading and other required characteristics can be maintained and contamination avoided.

1.6 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit repointing work to be performed according to product manufacturers' written instructions and specified requirements.
- B. Temperature Limits: Repoint mortar joints only when air temperature is between 40 and 90 deg F (4 and 32 deg C) and is predicted to remain so for at least seven days after completion of the Work unless otherwise indicated.
- C. Cold-Weather Requirements: Comply with the following procedures for mortar-joint pointing unless otherwise indicated:
 - 1. When air temperature is below 40 deg F (4 deg C), heat mortar ingredients and existing masonry walls to produce temperatures between 40 and 120 deg F (4 and 49 deg C).
 - 2. When mean daily air temperature is below 40 deg F (4 deg C), provide enclosure and heat to maintain temperatures above 32 deg F (0 deg C) within the enclosure for seven days after pointing.
- D. Hot-Weather Requirements: Protect mortar-joint pointing when temperature and humidity conditions produce excessive evaporation of water from mortar materials. Provide artificial shade and wind breaks, and use cooled materials as required to minimize evaporation. Do not apply mortar to substrates with temperatures of 90 deg F (32 deg C) and above unless otherwise indicated.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Source Limitations: Obtain each type of material for repointing brick masonry (cement, sand, etc.) from single source with resources to provide materials of consistent quality in appearance and physical properties.

2.2 MORTAR MATERIALS

- A. Portland Cement: ASTM C150/C150M, Type I or Type II, except Type III may be used for cold-weather construction; white or gray, or both where required for color matching of mortar.
 - 1. Provide cement containing not more than 0.60 percent total alkali when tested according to ASTM C114.
- B. Hydrated Lime: ASTM C207, Type S.
- C. Masonry Cement: ASTM C91/C91M.

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1. Cemex S.A.B. de C.V.; Richmortar.
2. Lafarge North America Inc.; Lafarge Masonry Cement.
3. Lehigh Cement Company; Lehigh Masonry Cement.

D. Mortar Cement: ASTM C1329/C1329M.

1. Cemex S.A.B. de C.V.; Mortar Cement.
2. Essroc, Italcementi Group; Brixment.
3. Lafarge North America Inc.; Lafarge Mortar Cement.
4. Lehigh Cement Company; Lehigh Mortar Cement.

E. Mortar Sand: ASTM C144.

1. Match size, texture, and gradation of existing mortar sand as closely as possible. Blend several sands if necessary to achieve suitable match.
2. Color: Natural sand or ground marble, granite, or other sound stone of color necessary to produce required mortar color.

F. Mortar Pigments: ASTM C979/C979M, compounded for use in mortar mixes, and having a record of satisfactory performance in masonry mortars.

1. Davis Colors
2. Lanxess Corporation
3. Solomon Colors, Inc.

G. Water: Potable.

2.3 MORTAR MIXES

A. Measurement and Mixing: Measure cementitious materials and sand in a dry condition by volume or equivalent weight. Do not measure by shovel; use known measure. Mix materials in a clean, mechanical batch mixer.

1. Mixing Pointing Mortar: Thoroughly mix cementitious materials and sand together before adding any water. Then mix again, adding only enough water to produce a damp, unworkable mix that retains its form when pressed into a ball. Maintain mortar in this dampened condition for 15 to 30 minutes. Add remaining water in small portions until mortar reaches desired consistency. Use mortar within one hour of final mixing; do not retemper or use partially hardened material.

B. Colored Mortar: Produce mortar of color required by using specified ingredients. Do not alter specified proportions without Architect's approval.

1. Mortar Pigments: Where mortar pigments are indicated, do not add pigment exceeding 10 percent by weight of the cementitious or binder materials, except for carbon black which is limited to 2 percent, unless otherwise demonstrated by a satisfactory history of performance.

C. Do not use admixtures in mortar unless otherwise indicated.

D. Mixes: Mix mortar materials in the following proportions:

1. Pointing Mortar by Volume: ASTM C270, Proportion Specification, 1 part portland cement, 1 part lime, and 6 parts sand. Add mortar pigments to produce mortar colors required.

2. Pointing Mortar by Type: ASTM C270, Proportion Specification, Type N unless otherwise indicated; with cementitious material limited to portland cement and lime, masonry cement or mortar cement. Add mortar pigments to produce mortar colors required.
3. Pointing Mortar by Property: ASTM C270, Property Specification, Type N unless otherwise indicated; with cementitious material limited to portland cement and lime, masonry cement or mortar cement. Add mortar pigments to produce mortar colors required.

PART 3 - EXECUTION

3.1 MASONRY REPOINTING, GENERAL

- A. Appearance Standard: Repointed surfaces are to have a uniform appearance as viewed from 20 feet (6 m) away by Architect.

3.2 REPOINTING

- A. Rake out joints as follows, according to procedures:
 1. Remove mortar from joints to depth of 2 times joint width and not less than that required to expose sound, unweathered mortar. Do not remove unsound mortar more than 2 inches (50 mm) deep; consult Architect for direction.
 2. Remove mortar from brick and other masonry surfaces within raked-out joints to provide reveals with square backs and to expose masonry for contact with pointing mortar. Brush, vacuum, or flush joints to remove dirt and loose debris.
 3. Do not spall edges of brick or other masonry units or widen joints. Replace or patch damaged brick or other masonry units as directed by Architect.
- B. Notify Architect of unforeseen detrimental conditions including voids in mortar joints, cracks, loose masonry units, rotted wood, rusted metal, and other deteriorated items.
- C. Pointing with Mortar:
 1. Rinse joint surfaces with water to remove dust and mortar particles. Time rinsing application so, at time of pointing, joint surfaces are damp but free of standing water. If rinse water dries, dampen joint surfaces before pointing.
 2. Apply pointing mortar first to areas where existing mortar was removed to depths greater than surrounding areas. Apply in layers not greater than 3/8 inch (9 mm) until a uniform depth is formed. Fully compact each layer, and allow it to become thumbprint hard before applying next layer.
 3. After deep areas have been filled to same depth as remaining joints, point joints by placing mortar in layers not greater than 3/8 inch (9 mm). Fully compact each layer and allow to become thumbprint hard before applying next layer. Where existing masonry units have worn or rounded edges, slightly recess finished mortar surface below face of masonry to avoid widened joint faces. Take care not to spread mortar beyond joint edges onto exposed masonry surfaces or to featheredge the mortar.
 4. When mortar is thumbprint hard, tool joints to match original appearance of joints as demonstrated in approved mockup. Remove excess mortar from edge of joint by brushing.
 5. Cure mortar by maintaining in thoroughly damp condition for at least 72 consecutive hours, including weekends and holidays.
 6. Hairline cracking within mortar or mortar separation at edge of a joint is unacceptable. Completely remove such mortar and repoint.

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- D. Where repointing work precedes cleaning of existing masonry, allow mortar to harden at least 30 days before beginning cleaning work.

3.3 FINAL CLEANING

- A. After mortar has fully hardened, thoroughly clean exposed masonry surfaces of excess mortar and foreign matter; use wood scrapers, stiff-nylon or -fiber brushes, and clean water applied by low-pressure spray.
 - 1. Do not use metal scrapers or brushes.
 - 2. Do not use acidic or alkaline cleaners.
- B. Clean adjacent nonmasonry surfaces. Use detergent and soft brushes or cloths.
- C. Clean mortar and debris from roof; remove debris from gutters and downspouts. Rinse off roof and flush gutters and downspouts.
- D. Remove masking materials, leaving no residues that could trap dirt.

END OF SECTION 040120.64

SECTION 074113 - METAL ROOF PANELS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including Contract Documents and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Standing-seam metal roof panels.
 - 2. Snow guards.

1.3 PERFORMANCE REQUIREMENTS

- A. General Performance: Metal roof panels shall comply with performance requirements without failure due to defective manufacture, fabrication, installation, or other defects in construction.
- B. Sheet Metal Roofing Standard: Comply with SMACNA's "Architectural Sheet Metal Manual" unless more stringent requirements are specified or indicated on Drawings.
- C. Copper Roofing Standard: Comply with CDA's "Copper in Architecture Handbook". Conform to dimensions and profiles shown unless more stringent requirements are specified or indicated on Drawings.
- D. Air Infiltration: Air leakage through assembly of not more than 0.06 cfm/sq. ft. of roof area when tested according to ASTM E 1680 at the following test-pressure difference:
 - 1. Test-Pressure Difference: Negative 1.57 lbf/sq. ft.
 - 2. Test-Pressure Difference: Positive and negative 1.57 lbf/sq. ft.
 - 3. Positive Preload Test-Pressure Difference: Greater than or equal to 15.0 lbf/sq. ft. and the greater of 75 percent of building live load or 50 percent of building design positive wind-pressure difference.
 - 4. Negative Preload Test-Pressure Difference: 50 percent of design wind-uplift-pressure difference.
- E. Hydrostatic-Head Resistance: No water penetration when tested according to ASTM E 2140.
- F. Wind-Uplift Resistance: Provide metal roof panel assemblies that comply with UL 580 for wind-uplift-resistance class indicated.
 - 1. Uplift Rating: UL 90.
- G. Structural Performance: Provide metal roof panel assemblies capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated, based on testing according to ASTM E 1592:
 - 1. Wind Loads: Determine loads based on the following minimum design wind pressures:

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- a. Uniform pressure as indicated on Drawings.
 - 2. Snow Loads: 25 lbf/sq. ft.
 - 3. Deflection Limits: Metal roof panel assemblies shall withstand wind and snow loads with vertical deflections no greater than 1/180 of the span.
- H. Thermal Movements: Allow for thermal movements resulting from ambient and surface temperature changes. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
- 1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of roof panel and accessory.
- B. Shop Drawings: Show fabrication and installation layouts of metal roof panels; details of edge conditions, side-seam and end lap joints, panel profiles, corners, anchorages, trim, flashings, closures, and accessories; and special details. Distinguish between factory- and field-assembled work.
 - 1. Accessories: Include details of the following items, at a scale of not less than 1-1/2 inches per 12 inches:
 - a. Flashing and trim.
 - b. Snow guards.
- C. Samples for Initial Selection: For each type of metal roof panel indicated with factory-applied color finishes.
 - 1. Include similar Samples of trim and accessories involving color selection.
- D. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below:
 - 1. Metal Roof: 12 inches long by actual panel width. Include fasteners, clips, battens, closures, and other metal roof panel accessories.
 - 2. Accessories: 12-inch- long Samples for each type of accessory.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified Installer.
- B. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for each product.
 - 1. Metal Roof Panels: Include reports for air infiltration, water penetration, thermal performance, and structural performance.
- C. Field quality-control reports.
- D. Warranties: Samples of special warranties.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For metal roof panels to include in maintenance manuals.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: A firm and foreman with 3 years of successful experience with installation of copper sheet metal roofing of type and scope equivalent to work of this section.
- B. Preinstallation Conference: Conduct conference at Project site.
 - 1. Meet with Owner, Architect, metal roof panel Installer and metal roof panel manufacturer's representative.
 - 2. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - 3. Review methods and procedures related to metal roof panel installation, including manufacturer's written instructions.
 - 4. Examine conditions for compliance with requirements, including flatness and attachment to structural members.
 - 5. Review structural loading limitations of during and after roofing.
 - 6. Review flashings, special roof details, roof drainage, roof penetrations, and condition of other construction that will affect metal roof panels.
 - 7. Review governing regulations and requirements for testing and inspecting.
 - 8. Review temporary protection requirements for metal roof panel assembly during and after installation.
- C. Manufacturer will provide on-site inspections as required to warrant to the Architect and Owner that the systems are installed in accordance with the plans, specifications, and manufacturer's standards for the roof systems specified and that the systems can be warranted in accordance with the requirements of this specification.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver components, sheets, metal roof panels, and other manufactured items so as not to be damaged or deformed. Package metal roof panels for protection during transportation and handling.
- B. Unload, store, and erect metal roof panels in a manner to prevent bending, warping, twisting, and surface damage.
- C. Stack metal roof panels on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal roof panels to ensure dryness. Do not store metal roof panels in contact with other materials that might cause staining, denting, or other surface damage.
- D. Protect strippable protective covering on metal roof panels from exposure to sunlight and high humidity, except to extent necessary for period of metal roof panel installation.

1.9 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit metal roof panel work to be performed according to manufacturer's written instructions and warranty requirements.

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- B. Field Measurements: Verify actual dimensions of construction contiguous with metal roof panels by field measurements before fabrication.

1.10 COORDINATION

- A. Coordinate sizes and locations of roof penetrations.
- B. Coordinate metal roof panels with rain drainage work, flashing, trim, and construction of walls, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.11 WARRANTY

- A. GENERAL: Warranties shall be in effect upon installation of materials and shall not be terminated, revoked or abridged by manufacturer or installer for any reason including but not limited to failure of installer to pay for warranty initiation fees or other cause without specific notification on manufacturer's letterhead, dated and signed by an officer of the manufacturer, delineating specific reasons for the action, delivered to the Owner by registered mail.
 - 1. For purposes of establishing end date of warranty requirements, the Warranty time period 'clock' shall start on date of substantial completion.
 - 2. Any fees for periodic manufacturer or installer inspections over the entire warranty period, and stated as necessary to maintain the Warranty, shall be either prepaid by the Contractor or waived by the manufacturer and a statement of this condition shall be attached to and referenced by the manufacturer's special warranty.
- B. Special Warranty: Manufacturer's standard or customized form, without monetary limitation, in which manufacturer agrees to repair or replace components of standing-seam metal roof panel system that fail in materials, workmanship, weather tightness, including leaks, within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Structural failures including rupturing, cracking, or puncturing.
 - b. Deterioration of metals and other materials beyond normal weathering.
 - 2. Special warranty comprehensively includes all materials specified in this specification section including but not necessarily limited to metal roofing, base flashings, roof insulation, fasteners, roofing accessories, and other components of metal roofing system. All such materials and systems shall be individually mentioned and listed in the warranty form or on a separate dated attachment specifically referenced on the warranty form.
 - 3. Warranty to be inclusive of wind speeds up to 90 mph.
 - 4. Warranty Period: 20 years from date of Substantial Completion.
- C. In addition to and without limiting any other warranty or repair requirement in the Contract Documents, Contractor shall provide a roofing installer's written guarantee for all material and workmanship against defects.
 - 1. Warranty Period: 2 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Copper Roofing Sheets: Cold-rolled copper sheet complying with ASTM B370 temper H00, unless otherwise indicated, and as follows:
1. Weight: 20 oz. per sq. ft. (0.0270-inch thick) unless otherwise indicated.
 2. Nonpainted exposed mill finish.
- B. Panel Sealants:
1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch wide and 1/8 inch thick.
 2. Joint Sealant: ASTM C 920; elastomeric polyurethane, polysulfide, or silicone sealant; of type, grade, class, and use classifications required to seal joints in metal roof panels and remain weathertight; and as recommended in writing by metal roof panel manufacturer.
 3. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C 1311.
- C. Bituminous Coating: SSPC – Paint 12, Cold-Applied Cold-Applied Asphalt Mastic (Extra Thick Film), nominally free of sulfur, compounded for 15-mil dry film thickness per coat.
- D. High Temperature Grade Water Barrier Underlayment: Cold applied, self-adhering membrane composed of a high density, cross laminated polyethylene film coated on one side with a layer of butyl rubber or high temperature asphalt adhesive. Provide primer when recommended by water barrier manufacturer.
1. Minimum Thickness: 30 mil.
 2. Tensile Strength: ASTM D412 (Die C Modified); 250 psi.
 3. Membrane Elongation: ASTM D412 (Die C Modified); 250%.
 4. Permeance (Max): ASTM E96; 0.05 Perms.
 5. Acceptable Products:
 - a. Blueskin PE 200 HT, Henry.
 - b. Ultra, W.R. Grace Company.
 - c. CCW MiraDRI WIP 300 High Temperature, Carlisle Coatings and Waterproofing.
- E. Paper Slip Sheet: Minimum 4-lb. red rosin-sized building paper.
- F. Nails for Wood Substrates: Copper or hardware bronze, 0.109 inch minimum not less than 7/8-inch long barbed with large head.
- G. Screws & Bolts: Copper, bronze, brass, or passivated stainless steel (300 Series) of sufficient size and length to sustain imposed stresses.
- H. Cleats: 16 or 20 oz ounce cold rolled copper, as required to sustain loads 2-inch wide x 3-inch long.
- I. Solder: ASTM B32; Provide 50-50 tin/lead or lead free alternative of similar or greater strength solder. Killed acid flux.
- J. Flux: Muriatic acid neutralized with zinc or approved brand of soldering flux.
- K. Rivets:
1. Pop Rivets: 1/8-inch to 3/16-inch diameter, with solid brass mandrels.

2. Provide solid copper rivet (tinner's rivets) where structural integrity of seam is required.

2.2 STANDING-SEAM METAL ROOF PANELS

- A. General: Provide factory-formed metal roof panels designed to be installed by lapping and interconnecting raised side edges of adjacent panels with joint type indicated and mechanically attaching panels to supports using concealed clips in side laps. Include clips, cleats, pressure plates, and accessories required for weathertight installation.
- B. Vertical-Rib, Seamed-Joint, Standing-Seam Metal Roof Panels: Formed with vertical ribs at panel edges and between ribs; designed for sequential installation by mechanically attaching panels to supports using concealed clips located under one side of panels and engaging opposite edge of adjacent panels, and snapping panels together.
 1. Basis-of-Design Product: Subject to compliance with requirements, provide Dimensional Metals, Inc., Double-Lock-DL1217, with seams 12" on center, or comparable product by one of the following:
 - a. Firestone Building Products.
 - b. McElroy Metals.
 - c. IMETCO.

2.3 SNOW GUARDS

- A. Snow Guards: Pad Style: Individually held in place by stainless-steel clamps attached to vertical ribs of standing-seam copper roofing. Provide two rows up from eave, above the line of exterior supporting wall (not on the overhang). Install a snow guard every other seam, and additionally in locations shown on roof plan.
 1. Row offset distance as recommended by manufacturer.
 - a. Basis-of-Design: Model # ASG33G Standing Seam Pad-Style Snow Guard, by Alpine SnowGuards, Inc.
 2. Brass Finish.

2.4 FABRICATION

- A. Fabricate metal roof panels and accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes and as necessary to fulfill indicated performance requirements. Comply with indicated profiles and with dimensional and structural requirements.
- B. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.
- C. Fabricate metal roof panel side laps with factory-installed captive gaskets or separator strips that provide a tight seal and prevent metal-to-metal contact, in a manner that will seal weathertight and minimize noise from movements within panel assembly.
- D. Sheet Metal Accessories: Fabricate flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of item indicated.

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1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
2. End Seams: Fabricate nonmoving seams with flat-lock seams. Tin edges to be seamed, form seams, and solder.
3. Sealed Joints: Form nonexpansion but movable joints in metal to accommodate elastomeric sealant to comply with SMACNA standards.
4. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.
5. Fabricate cleats and attachment devices of size and metal thickness recommended by SMACNA's "Architectural Sheet Metal Manual" or by metal roof panel manufacturer for application, but not less than thickness of metal being secured.

2.5 FINISHES

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. 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.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal roof panel supports, and other conditions affecting performance of the Work.
- B. Examine primary and secondary roof framing to verify that rafters, purlins, angles, channels, and other structural panel support members and anchorages have been installed within alignment tolerances required by metal roof panel manufacturer.
- C. Examine roof decking to verify that decking joints are supported and that installation is within flatness tolerances required by metal roof panel manufacturer.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Miscellaneous Framing: Install subpurlins, eave angles, furring, and other miscellaneous roof panel support members and anchorage according to metal roof panel manufacturer's written instructions.

3.3 METAL ROOF PANEL INSTALLATION, GENERAL

- A. Provide metal roof panels of full length from eave to ridge unless otherwise indicated or restricted by shipping limitations.

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- B. Thermal Movement. Rigidly fasten metal roof panels to structure at one and only one location for each panel. Allow remainder of panel to move freely for thermal expansion and contraction. Pre-drill panels for fasteners.
- C. Install metal roof panels as follows:
 - 1. Field cutting of metal panels by torch is not permitted.
 - 2. Install panels perpendicular to purlins.
 - 3. Locate and space fastenings in uniform vertical and horizontal alignment.
 - 4. Provide metal closures at each side of ridge caps.
 - 5. Flash and seal metal roof panels with weather closures at eaves, rakes, and perimeter of all openings.
 - 6. Install ridge caps as metal roof panel work proceeds.
 - 7. End Splices: Locate panel end splices over, but not attached to, structural supports. Stagger panel end splices to avoid a four-panel splice condition.
 - 8. Install metal flashing to allow moisture to run over and off metal roof panels.
- D. Anchor Clips: Anchor metal roof panels and other components of the Work securely in place, using manufacturer's approved fasteners according to manufacturers' written instructions.
- E. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating, by applying rubberized-asphalt underlayment to each contact surface, or by other permanent separation as recommended by metal roof panel manufacturer.
 - 1. Coat back side of roof panels with bituminous coating where roof panels will contact wood, ferrous metal, or cementitious construction.
- F. Joint Sealers: Install gaskets, joint fillers, and sealants where indicated and where required for weatherproof performance of metal roof panel assemblies. Provide types of gaskets, fillers, and sealants indicated or, if not indicated, types recommended by metal roof panel manufacturer.
 - 1. Seal metal roof panel end laps with double beads of tape or sealant, full width of panel. Seal side joints where recommended by metal roof panel manufacturer.

3.4 METAL ROOF PANEL INSTALLATION

- A. Standing-Seam Metal Roof Panels: Fasten metal roof panels to supports with concealed clips at each standing-seam joint at location, spacing, and with fasteners recommended by manufacturer.
 - 1. Install clips to supports with self-tapping fasteners.
 - 2. Install pressure plates at locations indicated in manufacturer's written installation instructions.
 - 3. Snap Joint: Nest standing seams and fasten together by interlocking and completely engaging factory-applied sealant.
 - 4. Seamed Joint: Crimp standing seams with manufacturer-approved, motorized seamer tool so clip, metal roof panel, and factory-applied sealant are completely engaged.

3.5 ACCESSORY INSTALLATION

- A. General: Install accessories with positive anchorage to building and weathertight mounting and provide for thermal expansion. Coordinate installation with flashings and other components.

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1. Install components required for a complete metal roof panel assembly including trim, copings, ridge closures, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.
- B. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.
 1. Install exposed flashing and trim that is without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and to result in waterproof and weather-resistant performance.
 2. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped expansion provisions cannot be used or would not be sufficiently weather resistant and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1-inch deep, filled with mastic sealant (concealed within joints).

3.6 ERECTION TOLERANCES

- A. Installation Tolerances: Shim and align metal roof panel units within installed tolerance of 1/4 inch in 20 feet on slope and location lines as indicated and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

3.7 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect metal roof panel installation, including accessories. Report results in writing.
- B. Remove and replace applications of metal roof panels where inspections indicate that they do not comply with specified requirements.
- C. Additional inspections, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.8 CLEANING

- A. Remove temporary protective coverings and strippable films, if any, as metal roof panels are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of metal roof panel installation, clean finished surfaces as recommended by metal roof panel manufacturer. Maintain in a clean condition during construction.
- B. Replace metal roof panels that have been damaged or have deteriorated beyond successful repair.

END OF SECTION 074113

SECTION 074646 - FIBER-CEMENT SIDING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including Contract Documents and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes fiber-cement soffit.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Samples for Initial Selection: For fiber-cement soffit including related accessories.

1.4 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For each type of fiber-cement siding and soffit.
- B. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for fiber-cement siding.
- C. Research/Evaluation Reports: For each type of fiber-cement siding required, from ICC-ES.
- D. Sample Warranty: For special warranty.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For each type of product, including related accessories, to include in maintenance manuals.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store packaged materials in original containers with labels intact until time of use.
- B. Store materials on elevated platforms, under cover, and in a dry location.

1.7 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace products that fail in materials or workmanship within specified warranty period.

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1. Failures include, but are not limited to, the following:
 - a. Structural failures including cracking and deforming.
 - b. Deterioration of materials beyond normal weathering.
2. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain products, including related accessories, from single source from single manufacturer.

2.2 FIBER-CEMENT SOFFIT

- A. General: ASTM C 1186, Type A, Grade II, fiber-cement board, noncombustible when tested according to ASTM E 136; with a flame-spread index of 25 or less when tested according to ASTM E 84.
 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. CertainTeed Corporation.
 - b. James Hardie Building Products, Inc.
 - c. James Hardie Siding Products.
 - d. Nichiha Fiber Cement.
- B. Nominal Thickness: Not less than 5/16 inch.
- C. Pattern: 24-inch-wide sheets, cut to fit, with smooth texture.
- D. Ventilation: Provide unperforated soffit.
- E. Factory Priming: Manufacturer's standard acrylic primer.

2.3 ACCESSORIES

- A. Fasteners:
 1. For fastening to wood, use siding nails of sufficient length to penetrate a minimum of 1 inch into substrate.
 2. For fastening to metal, use ribbed bugle-head screws of sufficient length to penetrate a minimum of 1/4 inch, or three screw-threads, into substrate.
 3. For fastening fiber cement, use stainless-steel fasteners.
- B. Continuous Soffit Vents: Aluminum, hat-channel shape, with perforations; 3 inches wide and not less than 96 inches long.
 1. Net-Free Area: 4 sq. in./linear ft.
 2. Finish: Mill finish.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates for compliance with requirements for installation tolerances and other conditions affecting performance of fiber-cement soffit and related accessories.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrates of projections and substances detrimental to application.

3.3 INSTALLATION

- A. General: Comply with manufacturer's written installation instructions applicable to products and applications indicated unless more stringent requirements apply.
 - 1. Do not install damaged components.
 - 2. Install fasteners no more than 24 inches o.c.
- B. Install joint sealants to produce a weathertight installation.

3.4 ADJUSTING AND CLEANING

- A. Remove damaged, improperly installed, or otherwise defective materials and replace with new materials complying with specified requirements.
- B. Clean finished surfaces according to manufacturer's written instructions and maintain in a clean condition during construction.

END OF SECTION 074646

SECTION 099000 – PAINTING AND COATINGS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the contract, including Contract Documents and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes surface preparation, painting, and finishing of exterior items and surfaces. Work includes:
 - 1. Surface preparation, priming, and finish coats specified in this section are in addition to shop priming and surface treatment specified under other sections.
 - 2. Labor, materials, scaffolding, tools, and equipment necessary to complete painting, filling, and sealing requirements of the project as indicated on the drawings and as specified.
- B. Exterior items include, but are not limited to:
 - 1. Wood trim and fiber-cement soffits.

1.3 SUBMITTALS

- A. Submit product data, manufacturer's technical information, label analysis, and application instructions for each material proposed for use.
 - 1. List each material and cross-reference the specific coating and finish system and application. Identify each material by the manufacturer's catalog number and general classification.
- B. Submit color samples.

1.4 QUALITY ASSURANCE

- A. Provide primers and undercoat paint produced by same manufacturer as finish coat.
- B. Provide manufacturer's best quality trade sale paint material of the various coating types specified. Paint material containers not displaying manufacturer's product identification will not be acceptable.
 - 1. Proprietary names used to designate colors or materials are not intended to imply that products named are required or to exclude products of other manufacturers.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to the job site in the manufacturer's original, unopened packages and containers bearing manufacturer's name and label and the following information:
 - 1. Product name or title of material.

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2. Product description (generic classification or binder type).
3. Federal Specification number, if applicable.
4. Manufacturer's stock number and date of manufacturer.
5. Contents by volume, for pigment and vehicle constituents.
6. Thinning instructions.
7. Application instructions.
8. Color name and number.

B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 degrees F. Maintain containers used in storage in a clean condition, free of foreign materials and residue.

1. Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily. Take necessary measures to ensure workers and work areas are protected from fire and health hazards resulting from handling, mixing, and application.

1.6 PROJECT CONDITIONS

A. Apply water-based paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 50 degrees F and 90 degrees F.

B. Apply solvent-thinned paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 45 degrees F and 95 degrees F.

C. Do not apply paint in snow, rain, fog, or mist, when the relative humidity exceeds 85 percent, at temperatures less than 5 degrees F above dew point, or to damp or wet surfaces.

1. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by the manufacturer during application and drying periods.

1.7 EXTRA MATERIALS

A. Furnish extra materials described below that are from same production run (batch mix) as materials applied and that are packaged for storage and identified with labels describing contents.

1. Quantity: Furnish an additional 5 percent, but not less than 1 gal. of each material and color applied.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Manufacturer: Equal products by the following manufacturers are also acceptable provided that, in the opinion of the Architect, appearance and manufacturing quality, meet specified standards.

1. Benjamin Moore and Co.
2. ICI Paints.
3. Pratt and Lambert.
4. PPG Architectural Finishes, Inc.
5. The Sherwin-Williams Co.

2.2 EXTERIOR PAINTING SCHEDULE

- A. Wood and Fiber-Cement Board – (Satin): (Latex)
 - 1. Primer: Exterior Latex, 4.0 mils, wet.
 - 2. Finish Coats: Exterior Latex, 4.0 mils, wet: two coats.
 - 3. Surfaces: Exterior wood trim and fiber-cement soffit boards.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions under which painting will be performed for compliance with requirements for application of paint. Do not begin paint application until unsatisfactory conditions have been corrected.
 - 1. Start of painting constitutes Applicator's acceptance of surfaces and conditions within a particular area.

3.2 PREPARATION

- A. Clean and prepare surfaces to be painted in accordance with the manufacturer's instructions for each particular substrate condition and as specified.
- B. Materials Preparation: Carefully mix and prepare paint materials in accordance with manufacturer's directions.
 - 1. Maintain containers used in mixing and applications of paint in a clean condition, free of foreign materials and residue.
 - 2. Stir material before application to produce a mixture of uniform density; stir as required during application. Do not stir surface film into material. Remove film and, if necessary, strain material before using.
 - 3. Use only paint manufacturer approved thinners. Comply with manufacturer's recommended limits.

3.3 APPLICATION

- A. Apply paint in accordance with manufacturer's directions. Use applicators and techniques best suited for substrate and type of material being applied.
- B. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
 - 1. The number of coats and film thickness required is the same regardless of the application method. Do not apply succeeding coats until the previous coat has cured as recommended by the manufacturer. Sand between applications where sanding is required to produce an even, smooth surface in accordance with the manufacturer's directions.
 - 2. Apply additional coats when undercoats, stains, or other conditions show through final coat of paint until paint film is of uniform finish, color and appearance. Take special care to ensure that all edges, corners, crevices, welds, and exposed fasteners, receive a dry film thickness equivalent to that of flat surfaces.

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3. Sand lightly between each succeeding enamel coat.
 4. Omit primer on metal surfaces that have been shop-primed and touch up painted.
- C. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.
1. Allow sufficient time between successive coats to permit proper drying. Do not recoat until paint has dried to where it feels firm, and does not deform or feel sticky under moderate thumb pressure and where application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.
 2. Minimum Coating Thickness: Apply materials at not less than the manufacturer's recommended spreading rate.

DO NOT APPLY FINAL COAT OF PAINT UNTIL ARCHITECT HAS REVIEWED SURFACE.

- D. Prime Coats: Before application of finish coats, apply a prime coat of material as recommended by the manufacturer to material that is required to be painted or finished and has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to assure a finish coat with no burn through or other defects due to insufficient sealing.
- E. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish or repaint work not in compliance with specified requirements.

3.4 CLEANING

- A. Cleanup: At the end of each work day, remove empty cans, rags, rubbish, and other discarded paint materials from the site.
- B. Upon completion of painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping, using care not to scratch or damage adjacent finished surfaces.

END OF SECTION 099000