1.1 PROJECT INFORMATION

A. Project Name: Blessed Sacrament – Phase I
   Savannah Georgia

B. Owner:
   Catholic Diocese of Savannah
   2170 East Victory Drive
   Savannah Georgia 31405

C. Architect:
   James W. Buckley & Associates, Inc.
   7 East Congress Street
   Savannah, Georgia 31401

1.2 Date of Addendum: April 26, 2016

1.3 NOTICE TO BIDDERS

A. This Addendum is issued to all registered plan holders pursuant to the Instructions to Bidders and Conditions of the Contract. This Addendum serves to clarify, revise, and supersede information in the Project Manual, Drawings, and previously issued Addenda. Portions of the Addendum affecting the Contract Documents will be incorporated into the Contract by enumeration of the Addendum in the Owner/Contractor Agreement.

B. The Bidder shall acknowledge receipt of this Addendum in the appropriate space on the Bid Form.

C. The date for receipt of bids is unchanged by this Addendum, at same time and location.

1. Bid Date: April 28, 2016
   a. Location: Pope Construction Company, Inc.
   b. Attn: Bill Vickery
   c. 1 Cone Street
   d. PO Box 724
   e. Statesboro, Georgia 30459
   f. bvickery@popeconstructionco.com
   g. Fax: 912-764-9408
1.4 **REVISIONS TO PROJECT MANUAL**

A. **Section 08 4113 ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS**
   1. Paragraphs 2.3 ADD: subparagraph A-4 “Interior framing system Center set non thermal broken designed to receive ¼” glass, Basis of design YKK -YES 45 FS 1 ¾” x 4 ½”.
      a. Interior doors To receive push pull only Narrow style and rail, doors for Exits and lever sets wide style and rail

B. **Section 08 7100 DOOR HARDWARE**
   1. Hardware set 32 Delete, ADD revised hardware set #2 Copy enclosed this addendum
   2. Hardware set #10 Delete Door 1101.1, ADD Door 1101.1 to hardware set 13A
   3. Hardware set #13 Delete Door 1101, & 1126 ADD: Door 1101 & 1126 to hardware set 13A
   4. ADD Hardware set #13A surfacing in its entirety Copy enclosed this addendum
   5. ADD Hardware set #13B surfacing in its entirety Copy enclosed this addendum
   6. Hardware set #36 Delete, ADD revised hardware set #36 Copy enclosed this addendum

C. **Section 09 3000 TILING**
   1. Delete section 09 3000 Tiling ADD: revised section 09 3000 Tiling, Copy enclosed this addendum

D. **Section 09 5100 ACOUSTICAL CEILINGS**
   1. Delete section 09 510 Acoustical Ceiling ADD: revised Section 09 5100 Acoustical Ceilings Copy Enclosed this addendum.

E. **Section 09 9000 Painting**
   1. Paragraph 3.08 Delete Subparagraph “F” Mineral coating Not used
   2. to Paragraphs 3.07 -C Add Note. Apply coating to all four elevations of new construction north of lane. Apply coatings to All four elevations of existing Sanctuary building. Apply coating to north and east elevations of existing School building. Apply coatings to bridges connecting new construction to Existing school and to Sanctuary.

F. **Section 11 0640 STAGE CURTAINS**
   1. ADD Section 11 0640 Stage Curtains. Surfacing in its entirety, Copy enclosed this Addendum

G. **Section 12 4093 WINDOW SHADES**
   1. Paragraphs 1.01-B,2 ADD “c” All “ALQ” Windows

1.5 **REVISIONS TO DRAWINGS**

A. **Sheet A2.1**
   1. Replace Sheet A2.1 with revised Sheet A2.1 attached.
   2. Add Items in Kitchen 1135: All new toilet, provide all fixtures, lighting, outlets, finishes, doors, door hardware, toilet accessories similar to Toilet 2131
   3. Add Items in Kitchen 1135: (2) Two 3’-0” x 7”-0” hollow metal door frame and wood door with all hardware similar to door 1135.2

B. **Sheet A2.2**
   1. Replace Sheet A2.2 with revised Sheet A2.2 attached.
C. **Sheet A2.3**
   1. Replace Sheet A2.3 with revised Sheet A2.3 attached.

D. **Sheet A3.0**
   1. Finish Schedule add remark: RM 1135 Kitchen: Ceiling Height – 10’-6”, Remarks – 1,5
   2. Finish Schedule add remark: RM 1135.1 Serving Line: Floor – CT, Base – CT, wall – CT, Wainscot Finish CT, Height – 11’-0”, Ceiling – CAT/PGB, Ceiling Height – Varies, Remarks – 1,

E. **Sheet A3.7**
   1. Replace Sheet A3.7 with revised Sheet A3.7 attached.

F. **Sheet A8.2**
   1. Replace Sheet A8.2 with revised Sheet A8.2 attached.

G. **Sheet A10.3**
   1. Delete Detail # 3

H. **Sheet A17.3**
   1. Replace Sheet A17.3 with revised Sheet A17.3 attached.

I. **Sheet P1.0**
   1. Replace Sheet P1.0 with revised Sheet P1.0 attached.
   2. Add Items in Kitchen 1135: All new toilet, provide all fixtures, toilet accessories similar to Toile 2131, provide a floor drain and all associated piping for new toilet.

J. **Sheet P1.1**
   1. Replace Sheet P1.1 with revised Sheet P1.1 attached.

K. **Sheet P2.0**
   1. Replace Sheet P2.0 with revised Sheet P2.0 attached.

L. **Sheet P2.1**
   1. Replace Sheet P2.1 with revised Sheet P2.1 attached.

M. **Sheet P4.0**
   1. Replace Sheet P4.0 with revised Sheet P4.0 attached.

N. **Sheet P4.1**
   1. Replace Sheet P4.1 with revised Sheet P4.1 attached.

O. **Sheet P5.0**
   1. Replace Sheet P5.0 with revised Sheet P5.0 attached.

P. **Sheet M1.0**
   1. Change size of kitchen hood from 9’-7” x 5’ to 15’ x 5’ and all associated items related to the hood at the new size.
   2. Kitchen hood to be relocated to south/west corner of kitchen, all duct, fire suppression and electrical associated with the hood will move to the new location.
   3. In the kitchen from RAC-7 provide 2 additional HVAC supply grills and associated branch duct back to the main trunk line.
4. In the kitchen provide an exhaust grill and associated duct to connect to ERV-2 for future toilet in the kitchen area.
5. In corridor west of school office 1129 from RAC-6 provide 2 additional HVAC supply grills and associated branch duct back to the main trunk line.

Q. Sheet E2.0
1. In Closet 1142 provide one “C” fixture, light switch and associated wiring. Coordinate with electrical engineer location for circuit in panel.

R. Sheet E2.0
1. Add Items in Kitchen 1135: All new toilet, provide all fixtures, lighting, outlets, finishes, doors, door hardware, toilet accessories similar to Toilet 2131

S. Sheet E3.0
1. Add Items in Kitchen 1135: All new toilet, provide all fixtures, lighting, outlets, finishes, doors, door hardware, toilet accessories similar to Toilet 2131

1.6 ATTACHMENTS

A. This Addendum includes the following attached Documents and Specification Sections: Section Issue list of drawing sheets that are issued new or as revised with this Addendum.

1. SPECIFICATIONS
   a. Revised Hardware sets
   b. 09 5100. Acoustical. Ceilings
   c. 09 3000 Tiling
   d. 11 0640 Stage Curtains.

2. DRAWINGS
   a. A2.1, A2.2, A2.3, A3.7, A8.2, A17.3
   b. P1.0, P1.1, P2.0, P2.1, P4.0, P4.1, P5.0

END OF DOCUMENT 00 9113
### Revised Hardware Sets

**HW-AL-01**

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<tr>
<td>1 Continuous Hinges</td>
<td>BO FM-HD x EPT, Dark Bronze</td>
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<tr>
<td>1 Exit Device</td>
<td>DR 9300-MLR-MS x PRT03 ALD</td>
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<tr>
<td>1 Closers</td>
<td>DR 8916-S-DST x BSHD</td>
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<tr>
<td>2 Power Transfers</td>
<td>DR ES-105</td>
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<tr>
<td>1 Power Supply</td>
<td>DR PS-610RF</td>
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<tr>
<td>1 Keypad</td>
<td>AiPhone AC-10s/F</td>
</tr>
<tr>
<td>1 Console</td>
<td>AiPone AX-8MV</td>
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<tr>
<td>1 Door Station</td>
<td>AiPone AX-DMV</td>
</tr>
<tr>
<td>1 Threshold</td>
<td>by alum. Door mfg.</td>
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<tr>
<td>1 Gasket</td>
<td>by alum. Door mfg.</td>
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Note: Console to be located at reception desk.

**HW-2**

Door: 1124 - ADORATION CHAPEL

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<tr>
<td>1 Lock Set</td>
<td>Kaba 2000- Complete lockset</td>
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<td>1 Closer</td>
<td>DR 8916-S-DS</td>
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<tr>
<td>1 Kick Plate</td>
<td>DJ 90</td>
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<tr>
<td>1 Threshold</td>
<td>NG 425</td>
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<tr>
<td>1 Sweep</td>
<td>NG C607A</td>
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<td>1 set Weather-strip</td>
<td>NG 160S</td>
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<td>1 Rain Drip</td>
<td>NG 16A</td>
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<td>1 Latch Guard</td>
<td>DJ MLP111</td>
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**HW-13A**

Doors: 1101, 1101.1, 1126

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<td>DR 8916-SPA</td>
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<td>1 Power Transfer</td>
<td>ABH PT-1000</td>
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<tr>
<td>1 Keypad</td>
<td>AiPhone AC-10s/F</td>
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<tr>
<td>1 Console</td>
<td>AiPone AX-8MV</td>
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<tr>
<td>1 Door Station</td>
<td>AiPone AX-DMV</td>
</tr>
<tr>
<td>1 Kick Plate</td>
<td>DJ 90</td>
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<tr>
<td>1 Wall Stop</td>
<td>DJ 1407</td>
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<tr>
<td>1 Set Gasket</td>
<td>NG 5050C</td>
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Note: Console to be located at reception desk.
HW-13B
Audio system for access control, provide complete system all accessories including cabling and power supplies.
Provide 3rd party program, program unit to suit owner requirements.

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<td>Power supply</td>
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HW-36
Doors: 1127

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<tr>
<td>1</td>
<td>Console</td>
<td>AiPone</td>
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<td>Kick Plates</td>
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<td>2</td>
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<td>Mullion Seal</td>
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Note: Console to be located at reception desk.
SECTION 09 3000

TILING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Ceramic tile.
   2. Stone thresholds.
   3. Crack isolation membrane.
   4. Metal edge strips.

1.3 DEFINITIONS

A. General: Definitions in the ANSI A108 series of tile installation standards and in ANSI A137.1 apply to Work of this Section unless otherwise specified.


C. TCA: Tile Council of North America, Inc

D. Module Size: Actual tile size plus joint width indicated.

E. Face Size: Actual tile size, excluding spacer lugs.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Show locations of each type of tile and tile pattern. Show widths, details, and locations of expansion, contraction, control, and isolation joints in tile substrates and finished tile surfaces.

C. Samples for Initial Selection: For each type of tile and grout indicated. Include Samples of accessories involving color selection.
D. Samples for Verification:
   1. Full-size units of each type and composition of tile and for each color and finish required.
   2. Stone thresholds in 6-inch lengths.
   3. Metal edge strips in 6-inch lengths.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified Installer.

B. Product Certificates: For each type of product, signed by product manufacturer.

C. Material Test Reports: For each tile-setting and -grouting product.

1.6 QUALITY ASSURANCE

A. Source Limitations for Tile: Obtain tile of each type from one source or producer.
   1. Obtain tile of each type and color or finish from same production run and of consistent quality in appearance and physical properties for each contiguous area.

B. Source Limitations for Setting and Grouting Materials: Obtain ingredients of a uniform quality for each mortar, adhesive, and grout component from one manufacturer and each aggregate from one source or producer.

C. Source Limitations for Other Products: Obtain each of the following products specified in this Section from a single manufacturer for each product:
   1. Stone thresholds.
   2. Waterproof membrane.
   3. Crack isolation membrane.
   4. Joint sealants.
   5. Cementitious backer units.
   6. Metal edge strips.

D. Preinstallation Conference: Conduct conference at Project site.
   1. Review requirements in ANSI A108.01 for substrates and for preparation by other trades.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirements in ANSI A137.1 for labeling tile packages.

B. Store tile and cementitious materials on elevated platforms, under cover, and in a dry location.

C. Store aggregates where grading and other required characteristics can be maintained and contamination can be avoided.

D. Store liquid materials in unopened containers and protected from freezing.
E. Handle tile that has temporary protective coating on exposed surfaces to prevent coated surfaces from contacting backs or edges of other units. If coating does contact bonding surfaces of tile, remove coating from bonding surfaces before setting tile.

1.8 PROJECT CONDITIONS

A. Environmental Limitations: Do not install tile until construction in spaces is complete and ambient temperature and humidity conditions are maintained at the levels indicated in referenced standards and manufacturer's written instructions.

PART 2 - PRODUCTS

2.1 PRODUCTS, GENERAL

A. ANSI Ceramic Tile Standard: Provide tile that complies with ANSI A137.1 for types, compositions, and other characteristics indicated.
1. Provide tile complying with Standard grade requirements unless otherwise indicated.

B. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI A108.02, ANSI standards referenced in other Part 2 articles, ANSI standards referenced by TCA installation methods specified in tile installation schedules, and other requirements specified.

C. FloorScore Compliance: Tile for floors shall comply with requirements of FloorScore Standard.

2.2 TILE PRODUCTS

A. Tile Type: CT Unglazed floor tile.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Dal-Tile – "Porcelalto", or comparable product by one of the following:
   a. American Olean; Division of Dal-Tile International Inc.
   b. Crossville, Inc.
   c. Daltile; Division of Dal-Tile International Inc.
   d. Graniti Fiandre; c/o Trans Ceramica, Ltd.
   e. United States Ceramic Tile Company.

2. Composition: Porcelain through body.
3. Face Size: 12 by 12 inches.
5. Face: Plain with square edges.
6. Color; “Desert Gray CD04”
7. Pattern: as indicated on drawings
8. Trim Units: Coordinated with sizes and coursing of adjoining flat tile where applicable and matching characteristics of adjoining flat tile. Provide shapes as follows, selected from manufacturer's standard shapes:
   a. Base Cove: Cove, module size same as adjoining flat tile.
b. External cove base Corners for Thin-Set Mortar Installations: Surface bullnose, module size

c. Internal Corners: Field-Mitered square corners. For coved base and cap, use angle pieces designed to fit with stretcher shapes.

B. Tile Type QT Quarry Tile
1. Basis-of-Design Product: Subject to compliance with requirements, provide Dal-Tile – “Ashen Gray QT-03“:
   a. American Olean; Division of Dal-Tile International Inc.
   b. Crossville, Inc.
   c. Daltile; Division of Dal-Tile International Inc.
   d. United States Ceramic Tile Company.
2. Composition: Un glazed Quarry Tile
3. Face Size: 8 by 8 inches.
5. Face: Plain with square edges.
6. Color: Gray
7. Grout Color: Black
8. Trim Units: Coordinated with sizes and coursing of adjoining flat tile where applicable and matching characteristics of adjoining flat tile. Provide shapes as follows, selected from manufacturer's standard shapes:
   a. Base Cove: Cove, module size same as adjoining flat tile. Size shall be module of adjacent tile, Floor .(Grout joint must align)
   b. External cove base Corners for Thin-Set Mortar Installations: Surface bullnose, module size
   c. Internal Corners: Field-Mitered square corners. For coved base and cap, use angle pieces designed to fit with stretcher shapes.

C. Tile Type CT- Wall Tile
1. Basis-of-Design Product: Subject to compliance with requirements, provide Dal-Tile accents or comparable by Custom made Products from one of the following:
   a. American Olean; Division of Dal-Tile International Inc.
   b. Daltile; Division of Dal-Tile International Inc.
   c. United States Ceramic Tile Company.
2. Module Size: 3 x 6 inches
3. Thickness: 5/16 inch.
4. Face: Plain with cushion edges.
5. Finish: Gloss
6. Color: Price Group 4
7. Pattern: a Total of 5 colors will be chosen for a complex pattern
8. Grout Color: Match Existing in color texture in every respect
9. Trim Units: Coordinated with sizes and coursing of adjoining flat tile where applicable and matching characteristics of adjoining flat tile. Provide shapes as follows, selected from manufacturer's standard shapes:
   a. Wainscot Cap for Thin-Set Mortar Installations: Surface bullnose, module
   b. Wainscot Cap for Flush Conditions: Regular flat tile for conditions where tile wainscot is shown flush with wall surface above it, same size as adjoining flat tile.
   c. External Corners for Thin-Set Mortar Installations: Surface bullnose, same size as adjoining flat tile.
2.3 THRESHOLDS

A. General: Fabricate to sizes and profiles indicated or required to provide transition between adjacent floor finishes.
   1. Bevel edges at 1:2 slope, with lower edge of bevel aligned with or up to 1/16 inch above adjacent floor surface. Finish bevel to match top surface of threshold. Limit height of threshold to 1/2 inch or less above adjacent floor surface.

B. Granite Thresholds: ASTM C 615, with polished finish.
   1. Description: Uniform, grained, gray stone without veining.
   2. Description: Match Architect's sample.

2.4 CRACK ISOLATION MEMBRANE

A. General: Manufacturer's standard product that complies with ANSI A118.12 for standard performance and is recommended by the manufacturer for the application indicated. Include reinforcement and accessories recommended by manufacturer.

   1. Products: Subject to compliance with requirements, provide one of the following:
      a. Boiardi Products; a QEP company; Elastiment 344 Reinforced Waterproofing and Anti-Fracture/Crack Suppression Membrane.
      b. Bonsal American; an Oldcastle company; B 6000 Waterproof Membrane with Glass Fabric.
      c. Bostik, Inc.; Hydroment Blacktop 90210.
      d. Custom Building Products; 9240 Waterproofing and Anti-Fracture Membrane.
      e. Laticrete International, Inc.; Laticrete Blue 92 Anti-Fracture Membrane.
      f. MAPEI Corporation; Mapelastic HPG with MAPEI Fiberglass Mesh.
      g. Mer-Kote Products, Inc.; Hydro-Guard 2000.

2.5 SETTING MATERIALS

   1. Cleavage Membrane: Asphalt felt, ASTM D 226, Type I (No. 15); or polyethylene sheeting, ASTM D 4397, 4.0 mils thick.
   2. Reinforcing Wire Fabric: Galvanized, welded wire fabric, 2 by 2 inches by 0.062-inch diameter; comply with ASTM A 185 and ASTM A 82 except for minimum wire size.
   3. Latex Additive: Manufacturer's standard water emulsion, serving as replacement for part or all of gaging water, of type specifically recommended by latex-additive manufacturer for use with field-mixed portland cement and aggregate mortar bed.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. Bonsal American; an Oldcastle company.
   b. Custom Building Products.
   c. Laticrete International, Inc.
   d. MAPEI Corporation.
   e. TEC; a subsidiary of H. B. Fuller Company.

2. Provide prepackaged, dry-mortar mix containing dry, redispersible, vinyl acetate or acrylic additive to which only water must be added at Project site.

3. For wall applications, provide mortar that complies with requirements for nonsagging mortar in addition to the other requirements in ANSI A118.4.

2.6 GROUT MATERIALS

A. Sand-Portland Cement Grout: ANSI A108.10, composed of white or gray cement and white or colored aggregate as required to produce color indicated.

B. Polymer-Modified Tile Grout: ANSI A118.7.
   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
      a. Bonsal American; an Oldcastle company.
      b. Bostik, Inc.
      c. Custom Building Products.
      d. Laticrete International, Inc.
      e. MAPEI Corporation.
      f. TEC; a subsidiary of H. B. Fuller Company.
   2. Polymer Type: Ethylene vinyl acetate or acrylic additive, in dry, redispersible form, prepackaged with other dry ingredients.

2.7 ELASTOMERIC SEALANTS

A. General: Provide sealants, primers, backer rods, and other sealant accessories that comply with the following requirements and with the applicable requirements in Section 079200 "Joint Sealants."

B. Colors: Provide colors of exposed sealants to match colors of grout in tile adjoining sealed joints unless otherwise indicated.

C. One-Part, Mildew-Resistant Silicone Sealant: ASTM C 920; Type S; Grade NS; Class 25; Uses NT, G, A, and, as applicable to nonporous joint substrates indicated, O; formulated with fungicide, intended for sealing interior ceramic tile joints and other nonporous substrates that are subject to in-service exposures of high humidity and extreme temperatures.
   1. Products: Subject to compliance with requirements, provide one of the following:
      a. Dow Corning Corporation; Dow Corning 786.
      b. GE Silicones; a division of GE Specialty Materials; Sanitary 1700.
      d. Pecora Corporation; Pecora 898 Sanitary Silicone Sealant.
e. Tremco Incorporated; Tremsil 600 White.

2.8 MISCELLANEOUS MATERIALS

A. Trowelable Underlayments and Patching Compounds: Latex-modified, portland cement-based formulation provided or approved by manufacturer of tile-setting materials for installations indicated.

B. Metal Edge Strips: Angle or L-shape, height to match tile and setting-bed thickness, metallic or combination of metal and PVC or neoprene base, designed specifically for flooring applications; stainless-steel, ASTM A 666, 300 Series exposed-edge material.

C. Edge Protection and Transition Profiles:
   1. Provide at all base to floor locations, top of wainscot, external corners, internal corners at walls
   2. Depth and style required for tile setting and thickness.
   3. Angle or “T”-type for adhesive bonding to substrate.
   4. Color to match Tile
   5. Provide as follows Design based on Seluter System:
      a. Floor to wall: DILEX-HK
      b. Wall external corner: RONDEC
      c. Walls Internal corner: DILEX-HKW
      d. Edge of tile: RONDEC-DB
      e. Control joints: DILEX-AKWS
      f. Stair Nosing: TREP-SE

D. Tile Cleaner: A neutral cleaner capable of removing soil and residue without harming tile and grout surfaces, specifically approved for materials and installations indicated by tile and grout manufacturers.

E. Grout Sealer: Manufacturer's standard silicone product for sealing grout joints and that does not change color or appearance of grout.
   1. Products: Subject to compliance with requirements, provide one of the following:
      a. Bonsal American; an Oldcastle company; Grout Sealer.
      b. Bostik, Inc.
      c. Custom Building Products; Surfaceguard Sealer.
      d. TEC; a subsidiary of H. B. Fuller Company; TA-256 Penetrating Silicone Grout Sealer.

2.9 MIXING MORTARS AND GROUT

A. Mix mortars and grouts to comply with referenced standards and mortar and grout manufacturers' written instructions.

B. Add materials, water, and additives in accurate proportions.

C. Obtain and use type of mixing equipment, mixer speeds, mixing containers, mixing time, and other procedures to produce mortars and grouts of uniform quality with optimum performance characteristics for installations indicated.
PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of installed tile.

1. Verify that substrates for setting tile are firm, dry, clean, and free of coatings that are incompatible with tile-setting materials including curing compounds and other substances that contain soap, wax, oil, or silicone; and comply with flatness tolerances required by ANSI A108.01 for installations indicated.

2. Verify that concrete substrates for tile floors installed with bonded mortar bed or thin-set mortar comply with surface finish requirements in ANSI A108.01 for installations indicated.
   a. Verify that surfaces that received a steel trowel finish have been mechanically scarified.
   b. Verify that protrusions, bumps, and ridges have been removed by sanding or grinding.

3. Verify that installation of grounds, anchors, recessed frames, electrical and mechanical units of work, and similar items located in or behind tile has been completed.

4. Verify that joints and cracks in tile substrates are coordinated with tile joint locations; if not coordinated, adjust joint locations in consultation with Architect.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Fill cracks, holes, and depressions in concrete substrates for tile floors installed with thin-set mortar with trowelable leveling and patching compound specifically recommended by tile-setting material manufacturer.

B. Where indicated, prepare substrates to receive waterproofing by applying a reinforced mortar bed that complies with ANSI A108.1A and is sloped 1/4 inch per foot toward drains.

C. Blending: For tile exhibiting color variations, verify that tile has been factory blended and packaged so tile units taken from one package show same range of colors as those taken from other packages and match approved Samples. If not factory blended, either return to manufacturer or blend tiles at Project site before installing.

D. Field-Applied Temporary Protective Coating: If indicated under tile type or needed to prevent grout from staining or adhering to exposed tile surfaces, precoat them with continuous film of temporary protective coating, taking care not to coat unexposed tile surfaces.
3.3 TILE INSTALLATION

A. Comply with TCA's "Handbook for Ceramic Tile Installation" for TCA installation methods specified in tile installation schedules. Comply with parts of the ANSI A108 Series "Specifications for Installation of Ceramic Tile" that are referenced in TCA installation methods, specified in tile installation schedules, and apply to types of setting and grouting materials used.

B. Extend tile work into recesses and under or behind equipment and fixtures to form complete covering without interruptions unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.

C. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.

D. Provide manufacturer's standard trim shapes where necessary to eliminate exposed tile edges.

E. Jointing Pattern: Lay tile in pattern indicated on drawings. Lay out tile work and center tile fields in both directions in each space or on each wall area. Lay out tile work to minimize the use of pieces that are less than half of a tile. Provide uniform joint widths unless otherwise indicated.

1. For tile mounted in sheets, make joints between tile sheets same width as joints within tile sheets so joints between sheets are not apparent in finished work.
2. Where adjoining tiles on floor, base, walls, or trim are specified or indicated to be same size, align joints.
3. Where tiles are specified or indicated to be whole integer multiples of adjoining tiles on floor, base, walls, or trim, align joints unless otherwise indicated.

F. Joint Widths: Unless otherwise indicated, install tile with the following joint widths:

2. Quarry Tile: 1/4 inch.

G. Lay out tile wainscots to dimensions indicated or to next full tile beyond dimensions indicated.

H. Expansion Joints: Provide expansion joints and other sealant-filled joints, including control, contraction, and isolation joints, where indicated. Form joints during installation of setting materials, mortar beds, and tile. Do not saw-cut joints after installing tiles.

1. Where joints occur in concrete substrates, locate joints in tile surfaces directly above them.

I. Stone Thresholds: Install stone thresholds in same type of setting bed as adjacent floor unless otherwise indicated.

1. At locations where mortar bed (thicks set) would otherwise be exposed above adjacent floor finishes, set thresholds in latex-Portland cement mortar (thin set).
2. Do not extend crack isolation membrane under thresholds set in latex-portland cement mortar. Fill joints between such thresholds and adjoining tile set on crack isolation membrane with elastomeric sealant.

J. Metal Edge Strips: Install where exposed edge of tile flooring meets carpet, VCT, wood, or other flooring that finishes flush with top of tile where exposed edge of tile flooring meets carpet, VCT, wood, or other flooring that finishes flush with or below top of tile and no threshold is indicated.

K. Grout Sealer: Apply grout sealer to grout joints in tile floors according to grout-sealer manufacturer's written instructions. As soon as grout sealer has penetrated grout joints, remove excess sealer and sealer from tile faces by wiping with soft cloth.

3.4 CRACK ISOLATION MEMBRANE INSTALLATION

A. Install crack isolation membrane to comply with ANSI A108.17 and manufacturer's written instructions to produce membrane of uniform thickness and bonded securely to substrate.

B. Do not install tile or setting materials over crack isolation membrane until membrane has cured.

3.5 CLEANING AND PROTECTING

A. Cleaning: On completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.
   1. Remove latex-portland cement grout residue from tile as soon as possible.
   2. Clean grout smears and haze from tile according to tile and grout manufacturer's written instructions but no sooner than 10 days after installation. Use only cleaners recommended by tile and grout manufacturers and only after determining that cleaners are safe to use by testing on samples of tile and other surfaces to be cleaned. Protect metal surfaces and plumbing fixtures from effects of cleaning. Flush surfaces with clean water before and after cleaning.
   3. Remove temporary protective coating by method recommended by coating manufacturer and that is acceptable to tile and grout manufacturer. Trap and remove coating to prevent drain clogging.

B. Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining, damage, and wear. If recommended by tile manufacturer, apply coat of neutral protective cleaner to completed tile walls and floors. Repair cover tough construction process, remove one day prior to architect performing deficiency list.

C. Prohibit foot and wheel traffic from tiled floors for at least seven days after grouting is completed.

D. Before final inspection, remove protective coverings and rinse neutral protective cleaner from tile surfaces.
3.6 INTERIOR TILE INSTALLATION SCHEDULE

A. Interior Floor Installations, Concrete Subfloor:

   a. Tile Type: Floor tile
   b. Thin-Set Mortar: Latex- portland cement mortar.
   c. Bonded water proof membrane
   d. Grout: Polymer-modified sanded grout.

2. Tile Installation Suspended Slab: Thin-set mortar on Water proof membrane; TCA F122A.
   a. Tile Type: Floor tile
   b. Thin-Set Mortar: Latex- portland cement mortar.
   c. Bonded water proof membrane
   d. Grout: Polymer-modified sanded grout.

3. Interior Floor Installations, Concrete Subfloor (Mud Set): Tile Installation F121-14:
   a. Location: Kitchen, Freezer Cooler, Dry Storage Serving Lines.
   b. Tile Type: Quarry Tile and Porcelain Tile
   c. Unbounded: Mortar Bed
   d. Bonded water proof membrane
   e. Grout: Polymer-modified sanded grout.

B. Interior Wall Installations, Masonry or Concrete:

1. Tile Installation W201 with no membrane
   a. Tile Type: CT
   c. Grout: Polymer-modified sanded grout.

END OF SECTION 093000
SECTION 09 5100

ACOUSTICAL CEILINGS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this Section.

1.02 SUMMARY

A. Extent of each type of acoustical ceiling shown and scheduled on drawings.

B. Types of acoustical ceilings specified in this section include following:
   1. Acoustical panel ceilings, exposed suspension.

1.03 SUBMITTALS

A. Product Data: Submit manufacturer's technical data for each type acoustical ceiling unit and suspension system required.

B. Coordination Drawings:
   1. Submit reflected ceiling plans, prepared by Installer for installation purposes, drawn accurately to scale and coordinated with related mechanical, electrical and other work above, penetrating, or connected to acoustical ceiling.
   2. Show ceiling suspension members, method of anchorage to building structure of hangers, size and location of initial access modules for acoustical tile ceilings (if any), and ceiling-mounted work including light fixtures, diffusers, grilles, and special moldings.
   3. Scale: \(\frac{1}{4}" = 1'-0"\).

C. Samples for Initial Selection Purposes:
   1. Submit manufacturers' standard size samples of acoustical units, but min. 6" square, and of exposed ceiling suspension members including wall and special moldings.
   2. Provide samples showing full range of colors, textures and patterns available for each type component required.

D. Samples for Verification Purposes: Submit following:
   1. 6" square samples of each acoustical panel type, pattern and color.
   2. Set of 12" long samples of exposed runners and moldings for each color and system type required.

E. Certificates: Submit certificates from manufacturers of acoustical ceiling units and suspension systems attesting that their products comply with specification requirements.

1.04 QUALITY ASSURANCE

A. Fire Performance Characteristics:
   1. Provide acoustical ceiling components identical to those tested for following fire performance characteristics, according to ASTM test method indicated, by UL or other testing and inspecting agency acceptable to authorities having jurisdiction.
2. Identify acoustical ceiling components with appropriate marking of applicable testing and inspecting agency.

3. Surface Burning Characteristics: As follows, tested per ASTM E 84.
   a. Flame Spread: 25 or less.
   b. Smoke Developed: 50 or less.

B. Coordination of Work: Coordinate layout and installation of acoustical ceiling units and suspension system components with other work supported by, or penetrating through, ceilings, including light fixtures, HVAC equipment, fire-suppression system components (if any), and partition system (if any).

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver acoustical ceiling units to project site in original, unopened packages and store in fully enclosed space where protected against damage from moisture, direct sunlight, surface contamination or other causes.

B. Before installing acoustical ceiling units, permit them to reach room temperature and stabilized moisture content.

C. Handle acoustical ceiling units carefully to avoid chipping edges or damaging units in any way.

1.06 PROJECT CONDITIONS

A. Space Enclosure: Do not install interior acoustical ceilings until space enclosed and weatherproof, wet-work in space completed and nominally dry, work above ceilings complete, and ambient conditions of temperature and humidity continuously maintained at values near those indicated for final occupancy.

1.07 SPECIAL WARRANTY:

A. Ceiling Panel Types AT and CAT only - Manufacturer’s Written Warranty:
   1. 10 years against sagging and warping of ceiling panels in temperatures up to 104°F and in unlimited relative humidity conditions except exterior application and direct exposure to moisture or standing water.
   2. Applies to conditions before and after installation of ceiling panels.

B. Suspension System Only- Manufacturer’s Written Warranty:
   1. 10 years against Rust in temperatures up to 120 degrees F and unlimited relative humidity conditions except exterior applications and direct exposure to moisture or standing water. Applies to conditions before and after installation of Suspension System.

1.08 EXTRA MATERIALS

A. Deliver extra materials to Owner.

B. Furnish extra materials described below matching products installed, packaged with protective covering for storage and identified with appropriate labels.

C. Acoustical Ceiling Units: Furnish quantity of full size units equal to 2.0% of amount installed.

D. Exposed Suspension System Components: Furnish quantity of each exposed component equal to 2.0% of amount installed.
PART 2 - PRODUCTS

2.01 ACOUSTICAL CEILING UNITS, GENERAL

A. Standard for Acoustical Ceiling Units: Provide manufacturer's standard units of configuration indicated, prepared for mounting method designated and complying with FS SS-S-118 requirements, including those indicated by reference to type, form, pattern, grade (NRC or NIC' as applicable), light reflectance coefficient (LR), edge detail, and joint detail (if any).

1. Mounting Method for Measuring NRC: No. 7 (mechanically mounted on special metal support), FS SS-S-118; or Type E-400 mounting as per ASTM E 795.

B. Sound Attenuation Performance: Provide acoustical ceiling units with ratings for ceiling sound transmission class (STC) of range indicated as determined according to AMA 1-II “Ceiling Sound Transmission Test by Two-Room Method” with ceilings continuous at partitions and supported by a metal suspension system of type appropriate for ceiling unit of configuration indicated (concealed for tile, exposed for panels).

C. Colors, Textures, and Patterns: Provide products to match appearance characteristics indicated or, if not otherwise indicated, selected by Architect from manufacturer's standard colors, surface textures, and patterns available for acoustical ceiling units and exposed metal suspension system members of quality designated.

2.02 ACOUSTICAL PANELS

A. Type ACT-1: Mineral Composition - Water Felted Panels with Standard Washable Painted Finish, Fissured and Perforated Pattern, Non-Fire Resistance Rated, High Acoustics :

1. Physical Characteristics:
   a. Color/Light Reflectance: White, LR .85 Minimum; Black at room 2126 TV Studio
   b. NRC: .55 Minimum, UL Certified Performance Marked on Each Carton
   c. AC: 180 Minimum, UL Certified Performance Marked on Each Carton
   d. CAC: 35 Minimum, UL Certified Performance Marked on Each Carton
   e. Edge Detail: Square Edge Lay-in
   f. Size: 24” x 24” x 5/8” except as otherwise indicated

2. Products: Subject to full compliance with requirements provide one of the following:
   a. “Fine Fissured” Armstrong World Industries, Inc. # 1728
   b. “Certain teed “Fine Fissured” ”, # HHF-157
   c. “Radar Clima” Plus – USG Interiors #2210

B. Type ACT-2: Mineral Composition - Water Felted Panels with Standard Washable Painted Finish, Fissured and Perforated Pattern, Non-Fire Resistance Rated, High Acoustics :

1. Physical Characteristics:
   a. Color/Light Reflectance: White, LR .85 Minimum;
   b. NRC: .55 Minimum, UL Certified Performance Marked on Each Carton
   c. AC: 180 Minimum, UL Certified Performance Marked on Each Carton
   d. CAC: 35 Minimum, UL Certified Performance Marked on Each Carton
   e. Edge Detail: Angled Regular Lay-in
   f. Size: 24” x 24” x 5/8” except as otherwise indicated

2. Products: Subject to full compliance with requirements provide one of the following:
   a. “Fine Fissured” Armstrong World Industries, Inc. # 1732
   b. “Certain teed “Fine Fissured” ”, # HHF-154
   c. “Radar Clima” Plus – USG Interiors #2220
C. Type CAT: Mineral Composition - Water Felted Panels with Scrubbable Vinyl Plastic or Acrylic Coated Finish, Non- Fire Resistance Rated:
   1. Physical Characteristics:
      a. Color/Light Reflectance: White, LR .84 Minimum
      b. NRC: .55 Minimum, UL Certified Performance Marked on Each Carton
      c. CAC: 33 Minimum, UL Certified Performance Marked on Each Carton
      d. Edge Detail: Square Edge Lay-in
      e. Size: 24” x 24” x 5/8” except as otherwise indicated
   2. Products: Subject to full compliance with requirements provide one of the following:
      c. “Radar Ceramic ClimaPlus” USG Interiors-56644

D. Type GLP : Gypsum Panels – Gypsum Core, with Vinyl Facing, Stippled Pattern, Fire Resistant Rated:
   1. Physical Characteristics:
      a. Color/Light Reflectance: White LR/1 (75% and over).
      b. Grade: Not Applicable.
      c. STC Range: 45-49
      d. Edge Detail: Square
      e. Size: 24” x 24” x ½”
   2. Products: Subject to compliance with requirements, provide one of the following:
      a. “Vinyltone Vinyl Faced Gypsum Lay-in Panels”; BPB.
      c. “GLIP Stipple Pattern”; USG Acoustical Products Co.

2.03 METAL SUSPENSION SYSTEMS, GENERAL

A. Standard for Metal Suspension Systems: Provide metal suspension systems of type, structural classification and finish indicated which comply with applicable ASTM C 635 requirements.

B. Finishes and Colors:
   1. Provide manufacturer's standard factory-applied finish for type of system indicated.
      a. White unless otherwise noted
      b. Black at TV studio
   2. For exposed suspension members and accessories with painted finish, provide color indicated or, if not otherwise indicated, as selected by Architect from manufacturer's full range of standard colors.

C. High Humidity Finish: Hot-Dipped Galvanized Steel grid members with Aluminum Capping rated severe environmental, ASTM C 635, required at:
   1. Type CAT (coated acoustical panels).

D. Attachment Devices: Size for 5 times design load indicated in ASTM C 635, Table 1, Direct Hung.

E. Hanger Wire: Galvanized carbon steel wire, ASTM A 641, soft temper, prestretched, Class 1 coating, sized so that stress at 3-times hanger design load (ASTM C 635, Table 1, Direct Hung), will be less than yield stress of wire, but provide min. 12 gage.
F. Edge Moldings and Trim:
   1. Metal of types and profiles indicated or, if not indicated, provide manufacturer’s standard molding for edges and penetrations of ceiling which fits with type of edge detail and suspension system indicated.
   2. For circular penetrations of ceiling, provide edge moldings fabricated to diameter required to fit penetration exactly.
   3. Provide; radius moldings at radius walls bull nose and round columns.

2.04 EXPOSED METAL DIRECT-HUNG SUSPENSION SYSTEMS

A. Non-Fire-Resistance-Rated Double Web Steel Suspension System: Manufacturer’s standard system roll-formed from prefinished cold-rolled steel sheet with 15/16” wide exposed faces on structural members; other characteristics as follows:

B. Manufacturers: Subject to compliance with requirements, provide products of one of following:
   1. Manufacturers of Non-Fire-Resistance-Rated Double Web Steel Suspension Systems:
      a. Chicago Metallic Corporation.
      b. Donn Corporation.
      d. National Rolling Mills, Inc.

2.05 MISCELLANEOUS MATERIALS

A. Acoustical Sealant: Resilient, non-staining, non-shrinking, non-hardening, non-skinning, non-drying, non-sag sealant intended for interior sealing of concealed construction joints.
   1. Products: Subject to compliance with requirements, provide one of following:
      a. BA-98; Pecora Corp.
      b. Tremco Acoustical Sealant; Tremco.
      c. Norseal V-730; Norton

PART 3 - EXECUTION

3.01 PREPARATION

A. Coordination:
   1. Furnish layouts for inserts, clips, or other supports required to be installed by other trades for support of acoustical ceilings.
   2. Furnish concrete inserts and similar devices to other trades for installation well in advance of time needed for coordination of other work.

B. Testing Substrates: Before installing adhesively applied tile on wet-placed substrates such as cast-in-place concrete or plaster, test and verify that moisture level below tile manufacturer’s recommended limits.

C. Measure each ceiling area and establish layout of acoustical units to balance border widths at opposite edges of each ceiling.
   1. Avoid use of less-than-half width units at borders.
   2. Comply with reflected ceiling plans wherever possible.
3.02 INSTALLATION

A. General: Install materials in accordance with manufacturer's printed instructions, and to comply with governing regulations, fire resistance rating requirements as indicated, and CISCA standards applicable to work.

B. Arrange acoustical units and orient directionally-patterned units (if any) in manner shown by reflected ceiling plans.
   1. Install tile with pattern running in one direction.

C. Install suspension systems to comply with ASTM C 636, with hangers supported only from building structural members.
   1. Locate hangers min. 6" from each end and 4'-0" along each carrying channel or direct-hung runner, unless otherwise indicated, leveling to tolerance of 1/8" in 12'-0".
   2. Provide additional hanger at each corner of grid supporting light fixtures or similar items where weight of item exceeds max. recommended by grid manufacturer.

D. Secure wire hangers by looping and wire-tying, either directly to structures or to inserts, eye-screws, or other devices secure and appropriate for substrate, and not deteriorate or fail with age or elevated temperatures.
   1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum not part of supporting structural or ceiling suspension system.
   2. Splay hangers only where required to miss obstructions and offset resulting horizontal force by bracing, countersplaying or other equally effective means.

E. Install edge moldings of type indicated at perimeter of acoustical ceiling area and at locations where necessary to conceal edges of acoustical units.

F. Sealant Bed: Apply continuous ribbon of acoustical sealant, concealed on back of vertical leg before installing moldings.

G. Screw-attach moldings to substrate at max. intervals of 16" o.c. and max. 3" from ends, leveling with ceiling suspension system to tolerance of ¼" in 12'-0".
   1. Miter corners accurately and connect securely.
   2. Provide ¼” x 1½” hex-head Tapcon screws at concrete and masonry walls.

H. Install acoustical panels in coordination with suspension system, with edges concealed by support of suspension members.
   1. Scribe and cut panels to fit accurately at borders and at penetrations.
   2. Install hold-down clips in areas indicated, and in areas where required by governing regulations or for fire-resistance ratings; space as recommended by panel manufacturer, unless otherwise indicated or required.

3.03 CLEANING

A. Clean exposed surfaces of acoustical ceilings, including trim, edge moldings, and suspension members; comply with manufacturer's instructions for cleaning and touch-up of minor finish damage.
   1. Remove and replace work not successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION 09 5100
SECTION 11 0640

STAGE CURTAINS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this Section.

1.02 SUMMARY

A. Types of stage curtains specified in this Section include following:
   1. Front setting including valance, front curtain, and tormentors.
   2. Cyclorama setting including side leg, rear curtain in 2 sections.
   3. Ceiling Borders.

1.03 SUBMITTALS

A. Product Data: Submit product data, installation instructions, and general recommendations, including data which substantiates that materials comply with requirements.

B. Certification: Submit written certification from manufacturer that stage curtains comply with requirements for flame resistance.

C. Shop Drawing:
   1. Include plans, elevations, and detail sections of typical rigging elements.
   2. Show anchors, hardware, operating equipment, and other components not included in manufacturer's standard product data.

D. Samples for verification purposes: 12” square of each fabric in color indicated.

E. Samples for initial selection: Fabric manufacturer's standard color card, together with 12” square physical sample (any color) for each fabric required.

1.04 QUALITY ASSURANCE

A. Fabricator/Installer Qualifications: Firm with min. five years of successful experience in fabrication and installation of stage curtains similar to those required for Project.

B. Flame Resistance Requirements:
   1. Provide stage curtains certified flame resistant in accordance with requirements of NFPA 701.
   2. Permanently attach label to each curtain indicating whether curtain permanently and inherently flame resistant, or whether retreatment required after dry cleaning.
PART 2 - PRODUCTS

2.01  FRONT SETTING FABRIC

   1. Provide manufacturers subject to compliance with above:
      a. Dazian
      b. Melfabsco
      c. Valley Forge

B. Colors: As selected from manufacturers standard colors.

2.02  CYCLORAMA SETTING

A. Synthetic Boucle: Cyclorama; Fabric basis of design to 13 oz 100% inherently flame resistant polyester IFR
   Chevron 2000 as manufactured by KM Fabrics, Inc.
   1. Provide products from one of the listed manufacturers, subject to compliance with above.
      a. Melfabco
      b. Dazian
      c. Valley Forge

2.03  FABRICATION

A. Curtains:
   1. General:
      a. Provide min. 50% additional fullness for curtains, unless otherwise indicated.
      b. Horizontal seams and fabric less than half-width not permitted.
   2. Vertical Hems: Provide vertical hems min. 3” wide, double-stitched and machine-sewn with no
      selvage material visible from front of curtain.
   3. Turnbacks:
      a. Where specified, provide turnbacks, formed by folding 24” of face fabric back at each end of
         panels and securing by sewing across top hem and grommeting through both layers of fabric.
      b. Do not sew turnbacks vertically.
   4. Top Hems: Reinforce top hems by double-stitching 3-1/2 inches wide heavy jute webbing to top edge
      with minimum 1” of face fabric turned under.
   5. Pleats:
      a. Provide fullness in curtains by sewing 6” of additional material into box pleats spaced 12” o.c.
         along top hem reinforcing.
      b. Provide min. size #2 brass grommets spaced 12” o.c. and centered on box pleats, for tie lines
         or "S" hooks.
      c. Provide #3 brass grommets for velour curtains at 6” o.c.
   6. Pleats:
      a. Provide fullness in curtains with round pleats formed by grommeting.
      b. Provide min. size #2 brass grommets along top hem reinforcing, spaced so 6” of material
         gathered into pleat every 12”, by means of tie lines or "S" hooks.
      c. Provide #3 brass grommets for velour curtains 6” o.c.
   7. Arrange vertical seams of valances and borders so they fall within pleats.
   8. Bottom Hems:
      a. Except for curtains which hang to floor, provide bottom hems min. 6” deep.
      b. For floor-length curtains, provide 6” hems with separate interior heavy canvas chain pockets
         equipped with No. 8 cadmium-plated jack chain.
9. Stitch chain pocket so chain rides 2" above bottom edge of curtain.

10. Letters:
   a. Provide school letters across valance, Four letters to be chosen by the owner
   b. Letter Style: Roman Block

B. Front Setting:
1. Valance: Fabricate valance of heavy weight velour.

C. Front Curtain: Fabricate front curtain of heavy weight velour, with 24 turnbacks at each end of both panels.

D. Tormentors: Fabricate tormentor curtains of heavy weight velour matching front curtain.

E. Borders and Legs: Fabricate border and leg curtains of repp.

F. Battens:
1. Fabricate battens from black iron pipe with min. number of joints.
2. As necessary for required lengths, connect pipe by means of drive fit pipe sleeve min. 18" long, and secure with four flush rivets, plug welds, or other equally secure method.
3. Shop paint completed pipe battens with good quality primer in grey color with 1" wide yellow stripe at center of each batten.

G. Straight Curtain Tracks:
1. Steel Tracks, General:
   a. Fabricate of min. 0.075 inch (14-ga.) nominal thickness galvanized roll-formed steel, with continuous bottom slot, and with each half of track in one continuous piece.
   b. Provide curtain carriers for track spaced at 12 inch o.c.
2. Heavy-Duty Track:
   a. Equip track with heavy-duty live end double pulley and heavy-duty dead end single pulley, with 5" nominal cast-iron wheels on ball bearings, enclosed in steel housings.
   b. Provide curtain carriers of molded nylon with pair of neoprene-tired, ball-bearing wheels riveted parallel to body.
   c. Equip carriers with neoprene or rubber bumper, heavy-duty swivel eye and trim chain for attachment of curtain snap or "S" hook.
   d. Provide end stops for track and adjustable floor block designed to maintain proper tension on ⅜" stretch-resistant operating line of braided polypropylene or fiberglass center cord.
   e. Equip carriers with back pack guide accessory to permit offstage curtain folding. Products: Subject to compliance with requirements, provide one of following:
      (1) Atlas Silk Model No. 418; H&H Specialties, Inc.
      (2) Silent Steel Model No. 282; Automatic Devices Company.
      (3) Tru-Roll Model No. 1000; R.L. Grosh & Sons Scenic Studios.
      (4) Model No. 732; J.R. Clancy, Inc.

H. Curved Curtain Tracks:
1. Fabricate curved curtain tracks for walk-along operation without cord or pulleys, designed for rigid attachment to ceiling or hanging clamps.
2. Fabricate track of nominal thickness 11-gage extruded aluminum in I-beam configuration, with intermediate flange.
3. Provide carriers spaced 12" o.c. and constructed of two nylon wheels fastened parallel to zinc-plated steel body by steel rivet, with rubber or neoprene bumpers.
4. Equip carriers with heavy-duty swivel eye for attachment of curtain snap or "S" hook.
5. Shop fabricate curved portions of track in accordance with approved shop drawings.
6. Products: Subject to compliance with requirements, provide one of following:
   a. Atlas Silk Model No. 301; H&H Specialties, Inc.
   b. Rig-I-Flex Model No. 142; Automatic Devices Company.
   c. Model No. 142; J.R. Clancy, Inc.

PART 3 - EXECUTION

3.01 PREPARATION
A. Furnish layouts for inserts, clips, or other supports installed by other trades for support of tracks and battens.

3.02 INSTALLATION
A. General: Install materials in accordance with manufacturer's printed instructions and recommendations, and to comply with governing regulations.

B. Battens:
   1. Install battens by suspending at proper heights with steel chains spaced max. 10 ft. o.c.
   2. Secure chains either directly to structures or to inserts, eye-screws, or other devices secure and appropriate to substrate, and not deteriorate or fail with age or elevated temperatures.

C. Tracks:
   1. Ceiling-Mounted: Drill track at intervals not greater than manufacturer's recommended spacing and fasten directly to structural ceiling.
   2. Wall-Mounted: Install tracks by suspending from manufacturer's special bracket clamps securely mounted to wall construction at recommended spacing.
   3. Batten-Hung: Install track by suspending from pipe batten with manufacturer's special pipe clamps at recommended spacing.

D. Track Support:
   1. Heavy-Duty Track: Do not exceed 7' between supports.
   2. Curved Walk-Along Track: Do not exceed 4' between supports, and provide additional supports at curves and splices.

E. Install track for center-parting curtains with min. 2'-0" overlap of track sections at center, supported by special lap clamps.

F. Curtains:
   1. Track-Hung: Secure curtains to track carriers with track manufacturer's special heavy-duty "S" hooks or snap hooks.
   2. Batten Hung: Secure curtains to pipe battens with min. 3/8” wide x 36" long braided soft cotton tie lines.
3.03 CLOSEOUT PROCEDURES

A. Provide services of Installers technical representative, and manufacturer's technical representative where required, to instruct Owner's personnel in operation and maintenance of stage curtains.

B. Schedule training with Owner, provide at least 7-day notice to Contractor and Architect/Engineer of training date.

C. Provide instructional video tapes for Owner's permanent library describing operation and maintenance of system.

3.04 STAGE CURTAIN SCHEDULE

<table>
<thead>
<tr>
<th>NO.</th>
<th>DESCRIPTION</th>
<th>MATERIAL</th>
<th>SIZE</th>
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<tbody>
<tr>
<td>1.</td>
<td>Front Valance</td>
<td>26 oz KM Prestige Unlimited</td>
<td></td>
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<tr>
<td>2.</td>
<td>Front Curtain</td>
<td>26 oz KM Prestige Unlimited</td>
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<tr>
<td>3.</td>
<td>Teasors #1</td>
<td>26 oz KM Prestige Unlimited</td>
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<tr>
<td>4.</td>
<td>Ceiling Border #1</td>
<td>IFR Chevron 2000</td>
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<tr>
<td>5.</td>
<td>Side Legs #1</td>
<td>IFR Chevron 2000</td>
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<tr>
<td>6.</td>
<td>Ceiling Border #2</td>
<td>IFR Chevron 2000</td>
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<tr>
<td>7.</td>
<td>Back Curtain</td>
<td>IFR Chevron 2000</td>
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END OF SECTION 11064