7. Steel Rigid Furring Channels: ASTM C 645, hat shaped, 0.0179-inch (0.45-mm) minimum base metal thickness, unless otherwise indicated.

a. Protective Coating: ASTM A 653, G 40 (ASTM A 653M, Z 90) hot-dip galvanized coating for framing for exterior soffits and ceiling suspension members in areas within 10 feet (3 m) of exterior walls.

8. Steel Resilient Furring Channels: Standard product fabricated from steel sheet complying with ASTM A 653 (ASTM A 653M) or ASTM A 568 (ASTM A 568M) to form 1/2-inch- (12.7-mm-) deep channel of the following configuration:

a. Single- or Double-Leg Configuration: Asymmetric-shaped channel with face connected to a single flange by a single-slotted leg (web) or hat-shaped channel, with 1-1/2-inch- (38.1-mm-) wide face connected to flanges by double-slotted or expanded-metal legs (webs).

9. Grid Suspension System for Interior Ceilings: ASTM C 645, manufacturer's standard direct-hung system.

C. Steel Framing for Walls and Partitions: Provide steel framing members complying with the following requirements:

1. Protective Coating: ASTM A 653, G 40 (ASTM A 653M, attached to and within 10 feet (3 m) of exterior walls.

2. Steel Studs and Runners: ASTM C645/ASTM C754, in depth indicated and with 0.0179-inch (0.45-mm) minimum base metal thickness, unless otherwise indicated.

a. Provide 0.0329-inch (0.84-mm) minimum base metal thickness for head runner, sill runner, jamb, and cripple studs at door and other openings.

b. Provide 0.0329-inch (0.84-mm) minimum base metal thickness in locations to receive cementitious backer units.

3. Deflection Track: Steel sheet top runner manufactured to prevent cracking of finishes applied to interior partition framing resulting from deflection of structure above; in thickness not less than indicated for studs and in width to accommodate depth of studs.

a. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

1) Dietrich Metal Framing; SLP-TRK Slotted Deflection Track.
2) MBA Building Suppliers; FlatSteel Deflection Track, Slotted Deflecto Track.
3) Steel Network Inc. (The); VertiClip SLD, VertiTrack VTD Series.
4) Superior Metal Trim; Superior Flex Track System (SFT).
5) Telling Industries; Vertical Slip Track, [Vertical Slip Track II]

4. Steel Rigid Furring Channels: ASTM C 645, hat shaped, in depth indicated and with 0.0179-inch (0.45-mm) minimum base metal thickness, unless otherwise indicated.

5. Furring Brackets: Serrated-arm type, adjustable, fabricated from corrosion-resistant steel sheet complying with ASTM C 645, minimum thickness of base (uncoated) metal of 0.0329 inch (0.84 mm), designed for screw attachment to steel studs and steel rigid furring channels used for furring.

6. Steel Resilient Furring Channels: Manufacturer's standard product designed to reduce sound transmission, fabricated from steel sheet complying with ASTM A 653 (ASTM A 653M) or ASTM A 568 (ASTM A 568M) to form 1/2-inch- (12.7-mm-) deep channel of the following configuration:

a. Single- or Double-Leg Configuration: Asymmetric-shaped channel with face connected to a single flange by a single-slotted leg (web) or hat-shaped channel, with 1-1/2-inch- (38.1-mm-) wide face connected to flanges by double-slotted or expanded-metal legs (webs).

7. Z-Furring Members: Manufacturer's standard Z-shaped furring members with slotted or nonslotted web, fabricated from steel sheet complying with ASTM A 653 (ASTM A 653M) or ASTM A 568 (ASTM A 568M); with a minimum base metal (uncoated) thickness of 0.018 inch (0.45 mm), face flange of 1-1/4 inch (31.8 mm), wall-attachment flange of 7/8 inch (22.2 mm), and of depth required to fit insulation thickness indicated.

D. Fasteners for Metal Framing: Type, material, size, corrosion resistance, holding power, and other properties required to fasten steel framing and furring members securely to substrates involved; complying with the recommendations of gypsum board manufacturers for applications indicated.

E. Gypsum Board Products: Types indicated in maximum lengths available that will minimize end-to-end butt joints in each area indicated to receive gypsum board application.

1. Gypsum Wallboard: ASTM C36/C36M-01, in thickness indicated.

a. Type: Regular for vertical surfaces, unless otherwise indicated.
b. Type: Type X where required for fire-resistance-rated assemblies.
c. Type: Sag-resistant type for ceiling surfaces.
d. Edges: Tapered.
e. Proprietary Gypsum Board Products: Subject to compliance with requirements, provide one of the following products where proprietary gypsum wallboard is indicated:

1) Gyprock Fireguard C Gypsum Board; Domtar Gypsum.
2) Firestop Type C; Georgia-Pacific Corp.
3) Fire-Shield G; National Gypsum Co.; Gold Bond Building Products Division.
4) SHEETROCK Brand Gypsum Panels, FIRECODE C Core; United States Gypsum Co.
5) SHEETROCK Brand Gypsum Panels, ULTRACODE Core; United States Gypsum Co.

1. Gypsum Wallboard: ASTM C 36, in thickness indicated.

a. Type: Regular for vertical surfaces, unless otherwise indicated.
b. Type: Type X where required for fire-resistance-rated assemblies.
c. Type: Sag-resistant type for ceiling surfaces.
d. Edges: Tapered.
e. Proprietary Gypsum Board Products: Subject to compliance with requirements, provide one of the following products where proprietary gypsum wallboard is indicated:

1) Gyprock Fireguard C Gypsum Board; Domtar Gypsum.
2) Firestop Type C; Georgia-Pacific Corp.
3) Fire-Shield G; National Gypsum Co.; Gold Bond Building Products Division.
4) SHEETROCK Brand Gypsum Panels, FIRECODE C Core; United States Gypsum Co.
5) SHEETROCK Brand Gypsum Panels, ULTRACODE Core; United States Gypsum Co.

2. Exterior Gypsum Soffit Board: ASTM C 931, with manufacturer's standard edges, in thickness indicated.

a. Type: Regular, unless otherwise indicated.

3. Water-Resistant Gypsum Backing Board: ASTM C 630, in thickness indicated.

a. Type: Regular, unless otherwise indicated.

F. Cementitious Backer Units: ANSI A118.9 and C1325, in maximum lengths available to minimize end-to-end butt joints with manufacturer's standard edges.

G. Accessories for Interior Installation: Cornerbead, edge trim, and control joints complying with ASTM C 1047, formed metal or plastic, with metal complying with the following requirement:

1. Steel sheet zinc coated by hot-dip process or rolled zinc.

H. Accessories for Exterior Installations: Cornerbead, edge trim, and control joints formed from steel sheet zinc coated by hot-dip process or rolled zinc complying with ASTM C 1047.

J. Joint Treatment Materials: Provide joint treatment materials complying with ASTM C475/C475M and the recommendations of both the manufacturers of sheet products and of joint treatment materials for each application indicated.

1. Joint Tape for Gypsum Board: Paper reinforcing tape, unless otherwise indicated.

a. Use pressure-sensitive or staple-attached, open-weave, glass-fiber reinforcing tape with compatible joint compound where recommended by manufacturer of gypsum board and joint treatment materials for application indicated.

b. Use pressure-sensitive or staple-attached, open-weave, glass-fiber reinforcing tape with compatible joint compound where recommended by manufacturer of gypsum board and joint treatment materials for application indicated.

2. Joint Tape for Cementitious Backer Units: As recommended by cementitious backer unit manufacturer.

3. Setting-Type Joint Compounds for Gypsum Board: Factory-packaged, job-mixed, chemical-hardening powder products formulated for uses indicated.

a. For prefilling gypsum board joints, use formulation recommended by gypsum board manufacturer.

b. For filling joints and treating fasteners of water-resistant gypsum backing board behind base for ceramic tile, use formulation recommended by gypsum board manufacturer.

c. For topping compound, use sandable formulation.

4. Drying-Type Joint Compounds for Gypsum Board: Factory-packaged vinyl-based products complying with the following requirements for formulation and intended use.

a. Ready-Mixed Formulation: Factory-mixed product.

1) All-purpose compound formulated for both taping and topping compounds.

5. Joint Compound for Cementitious Backer Units: Material recommended by cementitious backer unit manufacturer.

K. Acoustical Sealant for Exposed and Concealed Joints: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834 that is effective in reducing airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90. Provide sealants that have VOC content of 250g/l or less when calculated according to 40 CFR 59, supart D (EPA Method 24).

L. Acoustical Sealant for Concealed Joints: Manufacturer's standard nondrying, nonhardening, nonskinning, nonstaining, gunnable, synthetic-rubber sealant recommended for sealing interior concealed joints to reduce transmission of airborne sound.

M. Miscellaneous Materials: Provide auxiliary materials for gypsum board construction that comply with referenced standards and recommendations of gypsum board manufacturer.

1. Spot Grout: ASTM C 475, setting-type joint compound recommended for spot-grouting hollow metal door frames.

2. Fastening Adhesive for Wood: ASTM C557, as recommended by manufacturer.

3. Fastening Adhesive for Metal: Special adhesive recommended for laminating [illegible] gypsum panels to steel framing.

4. Steel drill screws complying with ASTM C 1002 for the following applications:

a. Fastening gypsum board to steel members less than 0.033 inch (0.84 mm) thick.
b. Fastening gypsum board to wood members.
c. Fastening gypsum board to gypsum board.

5. Steel drill screws complying with ASTM C 954 for fastening gypsum board to steel members from 0.033 to 0.112 inch (0.84 to 2.84 mm) thick.

6. Steel drill screws of size and type recommended by unit manufacturer for fastening cementitious backer units.

7. Gypsum Board Nails: ASTM C 514.

8. Asphalt-Saturated Organic Felt: ASTM D 226, Type I (No. 15 asphalt felt), nonperforated.

9. Foam Gaskets: Closed-cell vinyl foam adhesive-backed strips that allow fastener penetration without foam displacement, 1/8 inch (3.2 mm) thick, in width to suit metal stud size indicated.

10. Thermal Insulation: Material indicated below, of thickness and width to fill voids formed by Z-furring members:

a. Unfaced mineral-fiber blanket insulation to comply with ASTM C 665 for Type I.

b. Extruded-polystyrene board insulation to comply with ASTM C 578 for Type IV, and with flame-spread and smoke-developed ratings of 75 and 450, respectively, according to ASTM E 84.

11. Polyethylene Vapor Retarder: ASTM D 4397, thickness and maximum permeance rating as follows:

a. 4 mils (0.1 mm), 0.19 perms (10.9 ng/Pa x s x sq. m.)

12. Vapor Retarder Tape: Pressure-sensitive tape of type recommended by vapor retarder manufacturer for sealing joints and penetrations in vapor retarder.

1.3 EXECUTION

A. Install steel framing to comply with ASTM C 754 and with ASTM C 840 requirements that apply to framing installation.

1. Examine all areas and substrates including welded hollow metal frames and framing, with installer present, for compliance with requirements and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected. Comply with ASTM 840.

2. Install supplementary framing, blocking, and bracing at terminations in gypsum board assemblies to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.

3. Isolate steel framing from building structure at locations indicated to prevent transfer of loading imposed by structural movement.

a. Where building structure abuts ceiling perimeter or penetrates ceiling.

b. Where partition framing and wall furring abut structure, except at floor.

4. Do not bridge building control and expansion joints with steel framing or furring members. Independently frame both sides of joints with framing or furring members as indicated.

B. Installing Steel Framing for Suspended and Furred Ceilings: As follows:

1. Sway-brace suspended steel framing with hangers used for support.

2. Install suspended steel framing components in sizes and at spacings indicated, but not less than that required by the referenced steel framing installation standard.

3. Grid Suspension System: Attach perimeter wall track or angle where grid suspension system meets vertical surfaces. Mechanically join main beam and cross-furring members to each other and butt-cut to fit into wall track.

4. For exterior soffits, install cross-bracing and additional framing to resist wind uplift according to details on Drawings.

C. Installing Steel Framing for Walls and Partitions: Install steel studs and furring at spacings indicated.

1. Where studs are installed directly against exterior walls, install asphalt felt strips or foam gaskets between studs and wall.

2. Extend partition framing full height to structural supports or substrates above suspended ceilings, except where partitions are indicated to terminate at suspended ceilings. Continue framing over frames for doors and openings and frame around ducts penetrating partitions above ceiling to provide support for gypsum board.

3. Cut studs 1/2 inch (13 mm) short of full height to provide perimeter relief.

4. For STC-rated and fire-resistance-rated partitions that extend to the underside of floor/roof slabs and decks or other continuous solid structural surfaces to obtain ratings, install framing around structural and other members extending below floor/roof slabs and decks, as needed, to support gypsum board closures needed to make partitions continuous from floor to underside of solid structure. Seal construction at perimeters, openings, joints, etc. with a continuous bead of acoustical sealant in accordance with manufactures requirements.

5. Frame door openings to comply with GA-219, and with applicable published recommendations of gypsum board manufacturer, unless otherwise indicated.

6. Frame openings other than door openings to comply with details indicated or, if none indicated, as required for door openings. Install framing below sills of openings to match framing required above door heads.

7. Install Z-furring members and thermal insulation as indicated and to comply with requirements of manufacturer's directions.

8. Install polyethylene vapor retarder where indicated to comply with the following requirements:

a. Extend vapor retarder to extremities of areas to be protected from vapor transmission. Secure in place with mechanical fasteners or adhesives. Extend vapor retarder to cover miscellaneous voids in insulated substrates, including those filled with loose mineral-fiber insulation.

b. Seal vertical joints in vapor retarders over framing by lapping not less than 2 wall studs. Fasten vapor retarders to framing at top, end, and bottom edges, at perimeter of wall openings, and at lap joints; space fasteners 16 inches (400 mm) o.c.

c. Seal joints in vapor retarders caused by pipes, conduits, electrical boxes, and similar items penetrating vapor retarders with vapor retarder tape.

d. Repair any tears or punctures in vapor retarder immediately before concealing it with the installation of gypsum board or other construction.

D. Gypsum Board Application and Finishing Standards: Install and finish gypsum panels to comply with ASTM C 840 and GA-216.

1. Install sound-attenuation blankets, where indicated, prior to installing gypsum panels unless blankets are readily installed after panels have been installed on one side.

2. Install ceiling board panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in the central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.

3. Spot grout hollow metal door frames for solid-core wood doors, hollow metal doors, and doors over 32 inches (813 mm) wide. Apply spot grout at each jamb anchor clip and immediately insert gypsum panels into frames.

4. Form control and expansion joints at locations in accordance with ASTM C840, or as indicated and as detailed, with space between edges of adjoining gypsum panels, as well as supporting framing behind gypsum panels.

5. Isolate perimeter of nonload-bearing gypsum board partitions at structural abutments, except floors, as detailed. Provide 1/4- to 1/2-inch- (6.4- to 12.7-mm-) wide spaces at these locations and trim edges with U-bead edge trim where edges of gypsum panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

6. Wood Framing: Install gypsum board panels over wood framing, with floating internal corner construction. Do not attach gypsum panels across the flat grain of wide-dimension lumber, including floor joists and headers. Float gypsum panels over these members, or provide control joints to counteract wood shrinkage.

7. Where STC-rated gypsum board assemblies are indicated, seal construction at perimeters, behind control and expansion joints, openings, and penetrations with a continuous bead of acoustical sealant including a bead at both faces of the partitions. Comply with ASTM C 919 and manufacturer's recommendations for location of edge trim and closing off sound-flanking paths around or through gypsum board assemblies.

8. Space fasteners in gypsum panels according to referenced gypsum board application and finishing standard and manufacturer's recommendations.

a. Space screws a maximum of 12 inches (304.8 mm) o.c. for vertical applications.

9. Space fasteners in panels that are tile substrates a maximum of 8 inches (203.2 mm) o.c.

10. Install cementitious backer units to comply with ANSI A108.11.

11. Install glass-mat, water-resistant gypsum backing board panels to comply with manufacturer's installation instructions.

12. Install water-resistant gypsum backing board panels at showers, tubs, and where indicated. Install with 1/4-inch (6.4-mm) open space where panels abut other construction or penetrations.

13. Acoustical Tile Base: Where gypsum panels form the base for adhesively applied acoustical tile, install gypsum wallboard panels with tapered edges taped and finished to produce a flat surface.

14. Curved Surfaces:

a. Install panels horizontally (perpendicular to supports) and unbroken, to extent possible, across curved surface plus 12-inch- (300-mm-) long straight sections at ends of curves and tangent to them.

b. For double layer construction, fasten base layer to studs with screws 16 inches (400 mm) o.c. Center gypsum board face layer over joints in base layer, and fasten to studs with screws spaces 12 inches (300 mm) o.c.

15. Single-Layer Fastening Methods: Apply gypsum panels to supports as follows in accordance with manufacturers installation instructions and specifications:

a. Fasten with screws
b. Fasten to wood supports with single nailing.
c. Fasten to wood supports with double nailing.
d. Fasten to wood supports with adhesive and supplementary nails or screws.

16. Multilayer Fastening Methods: Apply base layers of gypsum panels and face layer to base layers as follows:

a. Fasten both base layers and face layers separately to supports with screws.
b. Fasten base layers with screws and face layer with adhesive and supplementary fasteners.
c. Fasten base layers to wood supports with nails and face layer with adhesive and supplementary fasteners.

E. Direct-Bonding to Substrate: Where gypsum panels are indicated as directly adhered to a substrate (other than studs, joists, furring members, or base layer of gypsum board), comply with gypsum board manufacturer's recommendations, and temporarily brace or fasten gypsum panels until fastening adhesive has set.

F. Exterior Soffits and Ceilings: Apply exterior gypsum soffit board panels perpendicular to supports, with end joints staggered over supports. Install with 1/4-inch (6.4-mm) open space where panels abut other construction or structural penetrations. Fasten with corrosion-resistant screws.

G. Installing Trim Accessories: For trim accessories with back flanges, fasten with same fasteners used to fasten gypsum board. Otherwise, fasten trim accessories according to accessory manufacturer's directions for type, length, and spacing of fasteners.

1. Install cornerbead at external corners.

2. Install edge trim where edge of gypsum panels would otherwise be exposed. Provide edge trim type with face flange formed to receive joint compound, except where other types are indicated.

a. Install LC-bead where gypsum panels are tightly abutted to other construction and back flange can be attached to framing or supporting substrate.
b. Install L-bead where edge trim can only be installed after gypsum panels are installed.
c. Install U-bead where indicated.
d. Install aluminum trim and other accessories where indicated.
e. Install control joints at locations indicated.
f. Install control joints according to ASTM C 840 and manufacturer's recommendations and in specific locations approved by Architect for visual effect.

H. Finishing Gypsum Board Assemblies: Treat gypsum board joints, interior angles, flanges of cornerbead, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration.

1. Prefill open joints, rounded or beveled edges, and damaged areas using setting-type joint compound.

2. Apply joint tape over gypsum board joints, except those with trim accessories having flanges not requiring tape.

3. Apply joint tape over gypsum board joints and to flanges of trim accessories, except those with trim having flanges not intended for tape, as recommended by trim accessory manufacturer.

4. Levels of Gypsum Board Finish: Provide the following levels of gypsum board finish per GA-214/ASTM C840.

a. Level 1 for ceiling plenum areas, concealed areas, and where indicated, unless a higher level of finish is required for fire-resistance-rated assemblies and sound-rated assemblies.

b. Level 2 where panels form substrates for tile and where indicated.

c. Level 4 for gypsum board surfaces, unless otherwise indicated.

d. Level 5 for gypsum board surfaces, as indicated on drawings. Level 5 - The highest quality finish is the most effective method to provide a uniform surface and minimize the possibility of joint photographing and of fasteners showing through the final decoration. This level of finish is required where gloss, semi-gloss or enamel are specified, or when flat joints are specified over an untextured surface, or where critical lighting conditions occur. The prepared surface shall be coated with a drywall primer prior to the application of final decoration. All joints and interior angles shall have tape embedded in joint compound and immediately wiped with a joint knife or trowel, leaving a thin coating of joint compound over all joints and interior angles. Two separate coats of joint compound shall be applied over all flat joints and one separate coat of joint compound applied over interior angles. Fastener heads and accessories shall be covered with three separate coats of joint compound. A thin skim coat of joint compound shall be trowel applied to the entire surface. Excess compound is immediately sheared off, leaving a film or skim coating of compound completely covering the paper. As an alternative to a skim coat, a material manufactured especially for this purpose may be applied. The surface must be smooth and free of tool marks and ridges. The prepared surface shall be covered with a drywall primer prior to the application of the final decoration.

5. For Level 4 gypsum board finish, embed tape in joint compound and apply first, fill (second), and finish (third) coats of joint compound over joints, angles, fastener heads, and accessories. Touch up and sand between coats and after last coat as needed to produce a surface free of visual defects and ready for decoration.

6. Where Level 2 gypsum board finish is indicated, embed tape in joint compound and apply first coat of joint compound.

7. Where Level 1 gypsum board finish is indicated, embed tape in joint compound.

8. Finish exterior gypsum soffit board using setting-type joint compounds to prefill joints and embed tape, and for first, fill (second), and finish (third) coats, with the last coat being a sandable product. Smooth each coat before joint compound hardens to minimize need for sanding. Sand between coats and after finish coat.

a. Painting exterior gypsum soffit board after finish coat has dried is specified in another Division 9 Section.

9. Finish cementitious backer units to comply with unit manufacturer's directions.

END OF SECTION 09250

SECTION 09300 - TILE

1.1 General

A. ANSI Tile Standards: Comply with ANSI A137 Standard Specification for Ceramic Tile and ANSI 108 series of tile installation standards included under "American National Standard specifications for the Installation of Ceramic Tile."

B. TCA Installation Guidelines: TCA "Handbook for Ceramic Tile Installation"; comply with TCA installation methods indicated.

C. Performance Requirements:

1. Static Coefficient of Friction: For tile installed on walkways surfaces, provide products with the following values as determined by testing identical products per ASTM C1028:

a. Level Surfaces: Minimum 0.50 thru 0.60 static coefficient of friction.
b. Step Treads: Minimum 0.50 static coefficient of friction.
c. Ramp Surfaces: Minimum 0.80 static coefficient of friction.

2. Manufacturer shall verify compliance and submittal documentation for all materials installed on all walking surfaces.

D. Submittals: With manufacturer's product data and installation instructions for tile work, submit samples of each type, color, and texture of tile mounted on 12-inch- square backing with joints grouted.

1.2 Products

A. Colors, Textures, and Patterns: For tile, grout, and other products requiring selection of colors, surface textures, patterns, and other appearance characteristics, comply with the following requirements

1. Provide selections made by Architect from manufacturer's full range of standard colors, textures, and patterns for products of type indicated.

B. Sizes and Thickness: As indicated or, if not indicated, as selected by Architect from manufacturer's standard sizes and thicknesses.

C. Tile Grade: "Standard Grade" unless otherwise indicated.

D. Unglazed Ceramic Mosaic Tile: Factory-mounted flat tile and as indicated on finish schedule to comply with manufacturers requirements.

E. Glazed Ceramic Mosaic Tile: Provide factory-mounted flat tile as indicated on finish schedule to comply with manufacturers requirements.

F. Trim Shapes: Same material, size, color, and texture as field tile.

G. Marble Thresholds: ASTM C503, with a minimum abrasion resistance of 10 per ASTM C1353 or ASTM C241and with honed finish.

1. Description: Uniform, fine to medium-grained white stone.
2. Description: Match Architect's sample as indicated on finish schedule.

H. Setting Materials: See Section 09305 TILE AND STONE SETTING MATERIALS AND ACCESSORIES

I. Elastomeric Sealants: Manufacturer's standard chemically curing, elastomeric sealants of base polymer indicated that comply with requirements of Division 7 Section "Joint Sealers" including ASTM C 920 as referenced by Type, Grade, Class, and Uses.

1. One-Part Mildew-Resistant Silicone Sealants: ASTM C 920, Type S, Grade NS, Class 25, Uses NT, G, A, and O (for use in joints in nontraffic areas).

J. Cementitious Backer Units: Proprietary backing units with glass fiber mesh reinforcing and water-resistant coating on both faces, complying with the following requirements:

1. Cement-Coated Portland Cement Panels: High-density portland cement surface coating on both faces and lightweight concrete core composed of portland cement and expanded ceramic aggregate; fabricated in panels 7/16-inch thick by 36 inches wide, weighing 3.2 - 3.8 psf.

K. Miscellaneous Materials: Provide the following materials as recommended by manufacturer as compatible with both tile units and grout:

1. Temporary Protective Coating: Where applicable, provide protective coating to protect exposed surfaces of tile against adherence of mortar and grout, as recommended by manufacturer compatible with tile and mortar/grout products.

L. Crack Isolation Membrane:

1. General: Installing Contractor is required to field inspect substrate prior to tile installation for acceptable surfaces and provide crack isolation membrane as recommended by manufacturer to achieve proper tile installation results.

2. Provide Manufacturer's standard product that complies with ANSI A118.12 for standard performance and is recommended by the manufacturer for the application where required. Include reinforcement and accessories recommended by manufacturer.

1.3 Execution

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

B. Extend tile work into recesses and under or behind equipment and fixtures, to form a complete covering without interruptions, except as otherwise shown. Terminate work neatly at obstructions, edges and corners without disrupting pattern or joint alignments. 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 that plates, colors, or covers overlap tile.

C. Field-Applied Temporary Protective Coating: Contractor to verify and coordinate with tile manufacturer methods to prevent adhesion or staining of exposed tile surfaces by grout and comply with manufacturers recommendations and installation instructions.

3. Protection: When recommended by tile manufacturer, apply a protective coat of neutral protective cleaner to completed tile walls and floors. Protect installed tile work with Kraft paper or other heavy covering during construction period to prevent damage and wear.

D. At "wet areas," install cementitious backer units and treat joints to comply with manufacturer's instructions for type of application indicated.

E. Installation: Comply with ANSI A108.1 and 108.4 through A108.10, as applicable for type of tile, setting materials, grout, and methods of installation indicated. Comply with manufacturer instructions for application of proprietary materials.

1. Prohibit foot and wheel traffic from using tiled floors for at least three (3) days after grouting is completed.

F. Joint Pattern: Use grid pattern with 1/16-inch-wide joints unless otherwise indicated. Align joints when adjoining tile on floor, base, walls and trim are the same size. Lay out tile work and center tile fields in both directions within each space or on each wall area. Adjust to minimize tile cutting. Provide uniform joint widths.

G. Expansion, Control, Contraction, and Isolation Joints: As indicated, or as in accordance with TCA Handbook Method EJ171. Keep joints free of adhe[illegible]

1. Seal tile joints with elastomeric sealants to comply with Division 7 Section "Joint Sealers."

2. Sealing tile joints is specified in Division 7 Section "Joint Sealers."

H. Cleaning: Upon completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter. Use only recommended cleaners by the tile and grout manufacturer's and only after determining that cleaners are safe to use by testing on samples of the tile and other surfaces to be cleaned.

1. Remove latex portland cement grout residue from tile as soon as possible.

2. Unglazed tile may be cleaned with acid solutions only when permitted by tile and grout manufacturer's printed instructions but no sooner than 14 days after installation. Protect metal surfaces, cast iron, and vitreous plumbing fixtures from effects of acid cleaning. Flush surface with clean water before and after cleaning.

3. Before final inspection, remove temporary protective coating, by method recommended by coating manufacturer that is acceptable to brick and grout manufacturer. Trap and remove coating to prevent it from clogging drains.

4. Finished Tile Work: Leave finished installation clean and free of cracked, chipped, broken unbonded, or otherwise defective tile work.

SECTION 09305 - TILE AND STONE SETTING MATERIALS AND ACCESSORIES (ARDEX)

Part 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings, general provisions of the Contract, and other related construction documents such as Division 01 specifications apply to this Section

1.2 SUMMARY

A. This Section includes materials for the preparation of substrates and materials for the installation of tile and stone finishes to include setting materials and grouts.

B. Complete ARDEX product and system installation details are provided in their corresponding Technical Brochure available at www.ardexamericas.com.

C. Related Sections include the following:

1. Division 09 Tile & Stone Sections

1.3 REFERENCES

A. AMERICAN NATIONAL STANDARDS INSTITUTE (A.N.S.I.)

1. A-118.3 Chemical Resistant, Water Cleanable Tile Setting & Grouting Epoxy
2. A-118.4 Fast-setting latex thin-set mortar and latex Portland cement mortar
3. A-118.7 High Performance Cement Grouts for Tile Installation
4. A-118.10 Thin, Load Bearing Waterproofing Membrane
5. A-118.11 EGP latex Portland cement mortar.
6. A-118.12 Crack Isolation Membrane
7. A-108.01 General Requirements for Subsurfaces and Preparations by Other Trades
8. A-108.10 Installation of Grout in Tilework
9. A-108.5 Installation of Ceramic Tile with Latex Thin-Set Mortar
10. A-108.17 Installation of Crack Isolation Membrane

B. TILE COUNCIL OF AMERICA, INC.

1. Handbook for Ceramic Tile Installation

C. INTERNATIONAL STANDARDS ORGANIZATION (ISO)

1. ISO 13007 - Ceramic Tile-Grouts & Adhesives

1.4 SUBMITTALS

A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used. Include manufacturer's Material Safety Data Sheets.

B. Qualification Data: For Installer

1.5 DELIVERY, STORAGE AND HANDLING

A. Deliver products in original packaging, labeled with product identification, manufacturer, batch number and shelf life.

B. Store products in a dry area with temperature maintained between 50° and 85°F (10° and 29°C) and protect from direct sunlight.

C. Handle products in accordance with manufacturer's printed recommendations.

1.6 PROJECT CONDITIONS

A. Maintain temperature in tile areas at not less than 50ºF (10ºC) or more than 85ºF (29ºC) during installation and for at least 7 days after completion, unless otherwise indicated in the product instructions and/or in ANSI A108 installation standards.

1.7 WARRANTY

The ARDEX products as specified herein qualify for the 10 year ARDEX SYSTEM ONE Extended Warranty Program.

PART 2 - PRODUCTS

2.1 SETTING MORTAR

A. Acceptable Products Manufactured by ARDEX Engineered Cements: 400 Ardex Park Drive, Aliquippa, PA 15001 USA, (724) 203-5000, www.ardexamericas.com :

1. ARDEX X 5™ Thin Set Mortar (No Substitutions)

B. Performance and Physical Properties: Meet or exceed the following values for material cured at 70° F+/-3°F (21° C+/-3°C) and 50% +/-5% relative humidity:

1. Meets or Exceeds ANSI A 118.11 & ANSI A 118.4

2.2 GROUT & CAULK

A. Acceptable Products Manufactured by ARDEX Engineered Cements: 400 Ardex Park Drive, Aliquippa, PA 15001 USA (724)203-5000, www.ardexamericas.com

1. ARDEX FL™ Sanded Grout; color: Ocean Gray (No Substitutions)

B. Performance and Physical Properties: Meet or exceed the following values for material cured at 70° F+/-3°F (21° C+/-3°C) and 50% +/-5% relative humidity:

1. Pot Life: 30 minutes
2. Working Time: 30 minutes
3. Open to Traffic: 90 minutes

C. ARDEX SX Caulk - color to match grout

SECTION 09305 - TILE AND STONE SETTING MATERIALS AND ACCESSORIES (MAPEI)

1.1 GENERAL

A. Section Includes

1. Tile and stone setting mortars and adhesives.
2. Grout for tile and stone.
3. Self Leveling Underlayment, skimcoating and patching.
4. Moisture Mitigation System

B. RELATED SECTIONS

1. Section 09300 - Tile: Ceramic tile materials.
2. Section 09380 - Cut Natural Stone Tile: Stone tile materials.

C. REFERENCES

1. ANSI A108 Series/A118 Series - American National Standards for Installation of Ceramic Tile.
2. ASTM C 150 - Standard Specification for Portland Cement.
3. TCNA (HB) - Handbook for Ceramic Tile Installation; Tile Council of America.
4. ISO 13007 - International Standards Organization; classification for Grout and Adhesives.

D. SUBMITTALS

1. Submit under provisions of Section 01300.
2. Manufacturer's technical information for each product specified.
3. Samples: Color charts for selection of grout.
4. Installation Instructions: Manufacturer's printed instructions for each product.

E. QUALITY ASSURANCE

1. Provide tile grout, setting materials, additives, and factory-prepared polymer modified mortars from the same manufacturer.

F. DELIVERY, STORAGE AND HANDLING

1. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use.

2. Prevent damage or contamination to materials by water, freezing, foreign matter or other causes.

a. Do not use frozen materials unless specifically allowed by manufacturer.
b. Deliver and store materials on site at least 24 hours before work begins.
c. Provide heated and dry storage facilities on site.

G. PROJECT CONDITIONS

1. Maintain environmental conditions and protect work during and after installation to comply with referenced standards and manufacturer's printed recommendations.

2. Vent temporary heaters to exterior to prevent damage to tilework from carbon dioxide buildup.

3. Maintain temperatures at not less than 50 deg F (10 deg C) in tiled areas during installation and for 7 days after completion, unless higher temperatures are required by referenced installation standards or manufacturer's written instructions.

1.2 PRODUCTS

A. MANUFACTURERS

1. Acceptable Manufacturer: MAPEI Americas U.S.A., [illegible] Center Rd., [illegible] Beach, FL 33442, ASD. Toll Free Tel: 800-42-MAPEI; Web: www.mapei.com/US-EN.

2. Acceptable Manufacturer: MAPEI, Inc. Canada, [illegible] Francis-Hughes, Laval, PQ, Canada [illegible] ASD. Tel: 450-662-1212; Fax: 450-662-0444; Email: mnordloh@mapei.com; Web: www.mapei.com/CA-EN.

3. Substitutions: Not permitted.

B. MORTAR MATERIALS

1. Setting Mortar for Large Module Tile and Stone: Medium-bed polymer-modified single-component mortar complying with ANSI A118.4 and ISO 13007; MAPEI "Ultracontact", ISO 13007; C2ES1P1 or MAPEI "Ultracontact RS", ISO 13007 C2FS1P1 (floors only), or MAPEI "Granirapid", ISO C2FS2P2 (for walls) or MAPEI, "Ultralite", ISO 13007; C2TES1P1 or MAPEI, "Ultraflex LFT", ISO 13007;C2TES1P1 or MAPEI Ultraflex 3, ISO 13007; [illegible]

g. Applications: Interior floor installations; interior wall installations.

2. Fast-Setting Thin-Set and Medium-Bed Mortar: Latex modified hydraulic cement mortar; MAPEI "Granirapid System" two-component system, of hydraulic mortar and flexible liquid polymer additive complying with ANSI A118.4 and ISO 13007 C2FS2P2 or MAPEI, " Ultracontact RS" ISO 13007; C2FS1P1 or "Ultraflex LFT Rapid Set", ISO 13007;C2TFS1P1

a. Applications: Interior wall and floor installations.

C. GROUT MATERIALS

1. Grout: Fast setting sanded polymer-modified grout, ANSI A118.6, ANSI A118.7 and ISO 13007 CG2WAF; MAPEI "Ultracolor Plus

a. Compressive Strength: When tested in accordance with ÅSTM C109 at 110 percent flow:
b. Color: 27 Silver
c. Applications: All interior and exterior tile; joints between 1/8 inch and 1 inch (3 mm and 25 mm) wide.
d. Applications: Use for all tile for which a different grout is not specified.

D. ACCESSORIES

1. Floor Skimming Coating and Patching: Per Mapei recommendations.

2. Self-Leveling Fast Track Underlayment: Pre-blended cementitious, for fast track floor covering installation, for use in dry interior applications.

a. Acceptable Product: MAPEI Ultraplan 1 Plus, fast setting; for over cured concrete, exterior grade plywood, 1/8 inch to 1 inch (3 mm to 25 mm).
b. Acceptable Product: MAPEI Ultraplan M20 Plus, fast setting; for over concrete and exterior grade plywood, 1/4 inch (6 mm) to 2 inches (50 mm).
c. Acceptable Product: MAPEI Ultraplan Easy, fast setting reduced surface preparation self leveling underlayment featheredge to 2 inches (50 mm), over cured concrete, exterior grade plywood, and adhesives residues.
d. Primer: As recommended by underlayment manufacturer.

3. Self-Leveling Underlayment: Pre-blended cementitious, for thicknesses from feather edge, for use in dry interior applications.

a. Acceptable Product: MAPEI Novoplan 2, normal-setting, polymer-modified; for over cured concrete, exterior grade plywood, 1/8 inch to 1 inch (3 mm to 25 mm).
b. Acceptable Product: MAPEI Novoplan Easy, medium setting reduced surface preparation self-leveling underlayment 1/8 inch to 1 inch (3 mm to 25 mm), over cured concrete, exterior grade plywood, and adhesives residues.
c. Primer: As recommended by underlayment manufacturer

4. Moisture Reduction Barrier for Concrete Substrates: Suitable moisture reduction barrier to treat substrate moisture levels that exceed the manufacturers of subsequent flooring recommendations.

a. Acceptable Product: Planiseal VS: A two-component, 100 percent solids epoxy, one-coat moisture barrier for concrete slabs that exhibit moisture vapor emissions rates (MVER) up to 25 lbs per 1000 square feet (9.07 kg per 92,9 m²) per 24 hours and reduces transmission rates to less than 3 lbs (1.36 kg).
b. Acceptable Product: Planiseal EMB: A two component, 100 percent solids epoxy, one-coat moisture barrier for concrete slabs that exhibit moisture vapor emissions rates (MVER) up to 20 lbs per 1000 square feet (9.07 kg per 92,9 m²) per 24 hours and reduces transmission rates to less than 3 lbs (1.36 kg).
c. Testing: Prior to use, test using Calcium Choride per ASTM F1869 and ASTM F 2170.

5. Grout Release and Sealers: MAPEI Ultracare

E. MIXES

1. Proportion and mix materials in accordance with manufacturer's most current written instructions and applicable ANSI standards.

1.3 EXECUTION

A. EXAMINATION

1. Examine surfaces to receive tilework and conditions under which tile will be installed.

2. Do not proceed with tilework until surfaces and conditions comply with requirements indicated in reference tile installation standard and manufacturer's printed instructions.

B. INSTALLATION

1. Install tile in accordance with manufacturer's printed instructions and the applicable requirements of ANSI A108 Series for the materials being used.
2. Install tile using TCA methods specified on the drawings.
3. Floor Tile install in accordance with TCNA method F205 and F125 Full.
4. Wall Tile install in accordance with TCNA method W244C, W224F, W245, W246..
5. Install expansion and control joints in accordance with TCNA method EJ171.

C. GROUTING

1. Grout joints in accordance with manufacturer's instructions and ANSI A108.10.
2. Clean sanding water, dust, and foreign substances from joints to be grouted.
3. Clean and dry tile surfaces.
4. After grouting, remove all grout residue promptly.

D. PROTECTION

1. Floors: Protect from all traffic for at least 72 hours after installation.

a. Do not step on floor for at least 24 hours; if traffic is unavoidable after that, use plywood stepping boards.
b. Protect from heavy traffic for at least 7 days after installation.
c. When fast-setting materials are used to allow faster occupancy, comply with the manufacturer's recommendations.

2. Walls: Protect from impact, vibration and heavy hammering on adjacent and opposite walls for at least 14 days after installation, unless manufacturer's instructions allow a shorter period.

3. Protect from food products and chemicals which can cause staining for at least 14 days.

4. Protect from freezing and total water immersion for at least 21 days after installation.

END OF SECTION

SECTION 09306 - WATERPROOFING & CRACK ISOLATION COMPOUND

PART 1 - GENERAL

Refer to Section 09305 Part 1 General

PART 2 - PRODUCTS

A. Acceptable Products Manufactured by ARDEX Engineered Cements: 400 Ardex Park Drive, Aliquippa, PA 15001 USA, (724) 203-5000, www.ardexamericas.com:

2.1 ARDEX 8+9™

A. Performance and Physical Properties: Meet or exceed the following values for material cured at 70° F+/-3°F (21° C+/-3°C) and 50% +/-5% relative humidity:

1. Meets or Exceeds ANSI A 118.10 & ANSI A 118.12
2. Pot Life: 45 Minutes
3. Coats: 2
4. Dry Time: 1 hr. - coat 1, 2-hr coat 2
5. Accepts Tile: Within 90 minutes
6. VOC Content: 0 g/L (calculated)
7. Flood Test: Begin 4 hours after second coat has been applied

2.2 ARDEX WA Epoxy Adhesive & Grout, Color #20 Ocean Gray

A. To be used in locations utilizing ARDEX 8+9 instead of sanded grout

B. Performance and Physical Properties: Meet or exceed the following values for material cured at 70° F+/-3°F (21° C+/-3°C) and 50% +/-5% relative humidity:

C. Meets or Exceeds ANSI A-118.3

2.3 ARDEX K15 & ARDEX FEATHER FINISH (UNDERLAYMENT & PATCH) as required

2.4 ARDEX MC™ Moisture Control Systems (RAPID or ULTRA) as required

PART 3 - EXECUTION

3.1 PREPARATION

A. Subfloors: Prepare substrate in accordance with manufacturer's instructions.

1. Prior to proceeding please refer to ANSI A 108.01 "General Requirements for Subsurface" and the TCNA's "Handbook for Ceramic Tile Installation" for detailed information. Substrate and ambient temperatures must be a minimum of 50°F (10°C).

2. All subfloors must be clean and completely free of all contaminants, including dust, oil, grease, wax, sealers, paint, varnish, etc. Prepare floor as required by mechanical means. Do not use chemicals to clean the floor.

3. Install cementitious patch and underlayment as required and in accordance with manufacturer's recommendations.

B. Joint Preparation

1. Moving Joints - Expansion joints must be provided over existing moving joints and cracks, and where substrate materials change composition or direction per ANSI A108 AN-3.7. A flexible sealing compound such as ARDEX ArdiSeal™ Rapid Plus may be installed.

2. Saw Cuts and Control Joints - fill all non-moving joints with ARDEX ArdiFix™ Joint Filler, as recommended by the manufacturer.

3.2 APPLICATION OF WATERPROOFING AND CRACK ISOLATION COMPOUND

A. Examine substrates and conditions under which materials will be installed. Do not proceed with installation until unsatisfactory conditions are corrected.

B. Coordinate installation with adjacent work to ensure proper sequence of construction. Protect adjacent areas from contact due to mixing and handling of materials.

C. Install Waterproofing and Crack Isolation Compound

1. Reference A-108.13 Installation of Waterproofing Membranes and A-108.17 Installation of Crack Isolation Membrane

2. Comply with manufacturer's printed instructions for mixing of material, installation, and cure. For questions, contact the ARDEX Technical Services Department at (724) 203-5000.

D. Installation with Thin-Set Mortar

1. Install tiles following the general office outline procedure set forth in ANSI A108.5.

Comply with manufacturer's printed instructions for mixing of material, installation, and cure. For questions, contact the ARDEX Technical Services Department at (724) 203-5000.

3.3 FIELD QUALITY CONTROL

A. When required, contact manufacturer for field sampling methods and procedures.

3.4 PROTECTION

A. Prior to the installation of the finish flooring from abuse by other trades by the use of plywood, Masonite or other suitable protection course.

Order Plans @ www.LDILine.com

RGLA
rgla solutions, inc.
5100 River Road, Ste 125
Schiller Park, IL 60176
p: 847.671.7452
f: 847.671.4200
www.rgla.com

REVISIONS:	DATE:
LL & ULTA REVIEW	06/03/2019
BID ISSUE	06/03/2019
PERMIT ISSUE	06/04/2019

robert g. lyon + associates, inc.
retail architecture
5100 River Road, Ste 125
Schiller Park, IL 60176
p: 847.671.7452
f: 847.671.4200
www.rgla.com

SEAL:

THE ABOVE DRAWINGS AND SPECIFICATIONS AND IDEAS, DESIGNS AND ARRANGEMENTS REPRESENTED THEREBY ARE AND SHALL REMAIN THE PROPERTY OF THIS OFFICE: AND NO PART THEREOF SHALL BE COPIED, DISCLOSED TO OTHERS OR USED IN THE CONNECTION WITH ANY WORK OR PROJECT OTHER THAN THE SPECIFIC PROJECT FOR WHICH THEY HAVE BEEN PREPARED AND DEVELOPED WITHOUT THE WRITTEN CONSENT OF THIS OFFICE. VISUAL CONTACT WITH THESE DRAWINGS OR SPECIFICATIONS SHALL CONSTITUTE CONCLUSIVE EVIDENCE OF ACCEPTANCE OF THESE RESTRICTIONS.

WRITTEN DIMENSIONS ON THESE DRAWINGS SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS: CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB AND THIS OFFICE MUST BE NOTIFIED OF ANY VARIATIONS FROM THE DIMENSIONS AND CONDITIONS SHOWN BY THESE DRAWINGS. SHOP DETAILS MUST BE SUBMITTED TO THIS OFFICE FOR APPROVAL BEFORE PROCEEDING WITH FABRICATION.

©2018 RGLA SOLUTIONS, INC.
©2018 ROBERT G. LYON & ASSOCIATES, INC.

ULTA BEAUTY

ULTA #1613
SHOPPES OF MADISON
8201 HIGHWAY 72 WEST
SUITE C
MADISON, AL 35758

SPECIFICATIONS

DRAWN BY	CHECKED BY	JOB NUMBER	SHEET NAME
IA	PK	19047	SP4