**NOTE TO ARCHITECT: IT IS REQUIRED AT TIME OF BID TO SHOW ON DRAWINGS WHEN PATTERNED LAYOUTS, LOGOS AND MULTIPLE COLORS ARE SPECIFIED, THEREFORE PREPARE BIDDING DOCUMENTS ACCORDINGLY.**

**PART 1 - GENERAL**

**1.01 SUMMARY**

A. Provisions of Division 01 apply to this section.

B. Section Includes:

1. Vinyl composition tile flooring as indicated.

C. Related Sections:

1. Section 03 30 00: Cast-in-Place Concrete.

2. Section 09 65 10: Rubber Flooring and Stair Covering.

3. Section 09 65 00: Resilient Sheet Flooring.

4. Section 09 65 30: Rubber Base.

**1.02 DEFINITIONS**

A. Pop-up: A pop-up is defined as any surface deviation or looseness of substrate that is equal to or greater than 1/64 (0.015625) inch above the concrete floor level, regardless of the size.

**1.03 SUBMITTALS**

A. Product Data: Submit manufacturer’s published technical data describing materials, construction and recommended installation instructions. Submit technical data and installation instructions for each adhesive material. Submit list and Product Data of recommended finish materials.

B. Maintenance Instructions: Submit manufacturer’s recommendations for maintenance, care, and cleaning of vinyl composition tile.

C. Samples: Submit Samples of vinyl composition tile and any reducers or transitions in each available color and pattern. Following color selections, submit full size samples of each selected color and pattern. Submit pint cans of each type of adhesive.

D. Maintenance Materials: Before Substantial Completion, deliver one unopened container of each color and pattern of vinyl composition tile in each color and pattern installed. Label each container indicating locations installed. Include unopened cans of adhesives adequate to install the maintenance materials.

E. Installer’s Experience Qualifications: Submit list of not less than 5 projects, extending over period of not less than 5 years, indicating installer’s experience record. Submit letter from manufacturer indicating manufacturer's approval for installer of the products.

**1.04 QUALITY ASSURANCE**

A. Qualifications of Installer: Minimum 5 years experience in successfully installing the same or similar flooring materials.

B. Qualifications of Supervising Installer: In addition to the qualifications of the installer listed above, the flooring installer’s supervisor shall have a minimum of 10 hours Cal-OSHA safety training.

C. Pre-Installation and Progress meetings: Prior to start of work of this section and after approval of submittals, schedule on-site meetings between Contractor, Supervising Installer, OAR and IOR to review installation and procedures required for project.

D. Comply with the following as a minimum requirement:

1. All materials shall be ADA compliant.

2. ASTM E 84: Class A Flame Spread Rating of 25 or less.

3. CHPS Low-Emitting Materials Table: Materials submitted for vinyl tile assemblies must be listed as low emitting on the CHPS web site, [www.CHPS.net](http://www.CHPS.net), or must be tested by an independent laboratory to meet CHPS Section 01350. All components of an assembly must meet Section 01350 individually or in an assembly. Vinyl tile assemblies include tile and adhesive.

**1.05 DELIVERY, STORAGE AND HANDLING**

A. Materials shall be delivered to the Project site in original unopened manufacturer’s packaging clearly labeled with manufacturer’s name.

B. Materials shall be stored at room temperature, but not less than 70 degrees F for not less than 48 hours before installation, unless manufacturer’s instructions specify otherwise.

**1.06 PROJECT CONDITIONS**

A. Ventilation and Temperature: Verify areas that are to receive new flooring are ventilated to remove fumes from installation materials. Verify that areas are within temperature range recommended by the various material manufactures for Project site installation conditions.

**1.07 WARRANTY**

A. Manufacturer shall provide a 5 year material warranty.

B. Installer shall provide a 2 year labor warranty.

**PART 2 - PRODUCTS**

**2.01 ACCEPTABLE MANUFACTURERS**

A. Catalina Products Hybrid Vinyl Tile.

**2.02 MATERIALS**

A. Vinyl Composition Tile: Conform to ASTM F 1066, Composition 1, asbestos free, Class 2 (through pattern), 12 inch by 12 inch by minimum 1/8 inch thick, as colors and patterns as indicated on Drawings.

1. Tile shall be from same batch and run number for each color.

B. Crack Filler and Leveling Compound: 100% cementitious binder type (as defined by ASTM C150), shall be approved by Owner’s Office of Environmental Health and Safety (OEHS). The following manufacturers are currently listed approved by OEHS:

1. Webcrete # 95 as manufactured by Durabond.

2. Ardex SD-F.

3. Armstrong S183 or S184.

4. Or as recommended by flooring manufacturer and approved by OEHS.

5. Leveling Compound shall meet or exceed 200 pounds when tested in accordance with ASTM C 1583.

C. Concrete Primer: Non-staining type recommended by manufacturer of vinyl composition tile. Concrete primer shall be OEHS approved.

D. Adhesive: Water based, low odor type formulated specially for installation with vinyl composition tile, and recommended by manufacturer.

E. Reducer Strips: Tapered rubber not less than one inch wide, and thickness to match tile.

F. Moisture Detection Equipment: Calcium chloride testing system, consisting of pre-packaged anhydrous calcium chloride crystal test kits, and an electronic gram weight scale measurable in 1/10 grams. Equipment shall be manufactured by one of the following:

1. Sealflex Industries, Inc., 3303 Harbor Blvd., Unit C2, Costa Mesa, CA 92626.

2. Vaprecision Inc, 3211 W. MacArthur Blvd, Santa Ana, CA 92704.

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| **NOTE TO PROJECT ARCHITECT:** Use paragraph G below for wood construction. Delete when not used. |

G. Underlayment: Underlayment shall be one of the following. Grade indicated shall be stamped on panels.

1. Halex (9 mm) flooring underlayment.

2. Matrixx, (9 mm) by Traxx Corporation.

H. Floor Finish: One of the following systems:

1. Neutral cleaner, ACT sealer and Super Polymer 85 finish, manufactured by Maintex.

2. Sundance cleaner and Butcher’s Mainstay floor finish, manufactured by Waxie Stationary Supply.

3. S-485 neutral cleaner, S-495 Floor Sealer and S-480 floor finish by Armstrong.

**PART 3 - EXECUTION**

**3.01 COORDINATION**

A. Coordinate with related Work to assure level, dry, smooth, and clean finish surfaces to receive vinyl composition floor tile.

**3.02 EXAMINATION**

A. Field verify and correct deficiencies of all conditions affecting Work before commencing Work of this section.

**3.03 PREPARATION OF CONCRETE SLABS**

A. Do not start preparation until underlying concrete floor slabs are at least 90 days old. Any leveling compound under a vapor or moisture barrier shall be warranted to be installed in a wet or moist environment without moisture limitations.

B. Leveling: Check sub-floors for true to level and plane within the tolerance listed in Manufacturer’s installation instructions. Test floor areas both ways with a 10-foot straightedge and repair high and low areas exceeding allowable tolerance. Pop ups shall be hammered out and floor filled with an approved cementitious leveling compound. Remove high areas by power sanding, stone rubbing or grinding, chipping off and filling with an approved leveling compound, or equivalent method. Fill low areas with an approved leveling compound. Repair and level surfaces having abrupt changes in plane, such as trowel marks or ridges, whether or not within allowable tolerance. Clean areas where repairs are performed.

C. Cracks or Depressions: Fill voids with an approved cementitious leveling compound of the type recommended by flooring manufacturer for the specific Work conditions.

D. Cleaning: After leveling, clean substrates of all deleterious substances and foreign matter.

E. Moisture Testing: Test new and old concrete slabs for adequate dryness.

1. Testing shall conform to ASTM F 1869, and the following. Minimum testing requirements are 3 calcium chloride tests for the first 1,000 square feet of floor area, and one for each additional 1,000 square feet or fraction thereof. Unless more stringent requirements are recommended by flooring manufacturer, maximum allowable moisture release at time of flooring installation shall be 3 pounds per 24 hours per 1,000 square feet, or as recommended by flooring manufacturer. Provide results of moisture test to the OAR.

2. Test concrete for alkalinity. An acceptable range is between pH5 to pH9. Excessive alkalinity shall be neutralized, using manufacturer’s recommended methods, prior to installation of floor covering.

3. Delay application of flooring until sub-floors are sufficiently dry according to flooring manufacturer’s recommendations, or perform remedial measures as recommended by flooring materials manufacturer.

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| **NOTE TO PROJECT ARCHITECT:** Use paragraph G below for wood construction. Delete when not used. |

**3.04 PREPARATION OF WOOD SUB-FLOORS**

A. Install underlayment according to manufacturer’s instructions.

B. Sweep floors and vacuum the sanding dust.

**3.05 INSTALLATION OF TILE**

A. Color and pattern: Install tiles in the pattern indicated on Drawings. If no pattern is indicated, tiles shall be installed in a rectangular pattern, in one color.

B. Special designs/school logo:

1. Fabricate of sizes and colors indicated on drawings and from electronic file provided by Architect.

2. Precision cut VCT tiles using either computer aided water-jet or laser technologies to a tolerance of 0.005 inch.

C. Install vinyl composition floor tile when ambient temperature is 70 degrees F or higher or manufacturer’s range.

D. Install the tile adhesive in a thin film evenly with a notched trowel. Trowel notches shall be as recommended by adhesive manufacturer.

1. Mix adhesive in accordance with manufacturer’s instructions. Provide all safety precaution during mixing.

2. Install adhesive only in area that can be covered by flooring material within the adhesive manufacture’s recommended working time. Do not set tile into wet adhesive.

3. Tile must be set into dry, but still tacky, adhesive film. Remove adhesive that has dried beyond recommended time, or has filmed over and is no longer tacky.

4. Adhesive application rate shall be as required to avoid telegraphing trowel lines to the surface after maintenance coatings are applied. Adjust tile runoff during installation if necessary.

5. Immediately remove any excess adhesive from the tile surface using the adhesive manufacturer’s recommended cleaner and a damp, not wet, cloth.

E. Provide reducer where floor covering edges are exposed, such as at center of the door or where floor coverings terminate.

F. Install tiles symmetrically about centerlines of areas progressing toward walls. Adjust border tiles as required. Tiles shall be straight and joints close. Tile shall be cut to fit snugly at doorframes, and walls. No slivers at edges.

G. Mechanically cut flooring material to produce square true edges.

H. As floor tile is installed and within adhesive’s recommended working time, roll with a clean, smooth, 100-pound roller in both directions. As the rolling proceeds, replace any loosened, defective, or damaged tile with new and finish to the specified condition.

I. Remove all dust, debris, and soil with any combination of sweeping, micro-fiber dust-mopping with a properly treated, non-oily mop and vacuuming.

**3.06 CLEANING, WAXING, AND COMPLETION**

A. Maintain all flooring surfaces clean as installation progresses.

B. Use a sprayer to mist the area to be cleaned with a neutral cleaning solution prepared in accordance with manufacturer’s instructions.

C. Gently scrub the floor using red or maroon cleaning, not stripping pads, mounted on a single disc, 175 RPM floor machine; or preferably, with a machine that uses horizontally mounted brushes with a counter-rotating spindle motion. Never allow the machine to remain running stationary.

D. Remove the resulting slurry with a wet vacuum.

E. Rinse the floor at least four times, each time using a clean mop and clean rinse water. On the first rinse, apply just enough water to keep the floor wet until the solution is picked-up with a vacuum. The next two rinses should be with a fairly well wrung-out, damp mop. The final rinse should produce virtually clean rinse water. Ensure the rinse water is clean throughout the rinsing process. Avoid tracking the floor after the final rinse. Project Inspector will check the floor after the final rinse for any missed areas and re-scrub/rinse as needed. Repeat the rinsing process until all signs of the cleaning solution are removed and the floor shows no sign of haziness or dusting when dry. If the Contractor has lightweight “automatic” floor machines capable of achieving the same result as described above, they may be used in-place of this method. Do not flood or excessively dampen floor at any time.

F. Allow the Work to dry thoroughly.

G. Finish vinyl composition tile with 2 coats of sealer, and 4 coats of finish (wax), (approved by the FUSD Custodial Dept.) applied in accordance with manufacturer’s instruction. Each coat shall dry for a period of time recommended by the manufacturer. The last coat of floor wax shall be burnished in accordance with manufacturer's written instructions. Take care not to allow any foreign material, including dust and mop fibers to become embedded in any coat of wet sealer or finish.

H. After the last coat of floor finish has dried sufficiently according to the manufacturer’s instructions, burnish work, using high speed equipment, in accordance with manufacturer’s written instructions to bring the entire surface, including the corners and edges, to high level of luster, free of all types of marks and dust embedded in finish

I. Clean adjacent baseboard and other surfaces of adhesive and other materials. Replace damaged or defective Work to the specified condition.

**3.07 CLEAN UP**

A. Remove rubbish, debris, and waste materials and legally dispose of off Project site.

**3.08 PROTECTION**

A. Protect the Work of this section until Substantial Completion.

**END OF SECTION**