

SECTION 02870

SITE FURNISHINGS AND ACCESSORIES

PART 1 - GENERAL

1.01 SUMMARY

- A. The General Conditions and all other Contract Documents for this project are complementary and applicable to this Section of the Specifications.
- B. Work Included: Furnish all labor, materials, equipment and services necessary to provide and construct, repair, or install the site elements, complete in place, as shown and specified, including, but not limited to:
 - 1. 3" x 8" Ceramic Tile
 - 2. 8" x 8" Custom Tile
 - 3. Standard 5-12 Play Safety Sign
 - 4. Play Equipment and Accessories
 - a. Lunar Burst
 - b. Omni Spinner
 - c. Single Blender
 - d. Play Structure PS5-28274
 - 4. Play Surfacing
- C. Related Work:
 - 1. Section 03340: Site Concrete Work

1.02 SUBMITTALS

- A. Submit shop drawings where noted to the District's Representative for approval before installing any manufactured items. Plans shall include dimensions, color, finish, structural design (custom items), and connection details.
- B. Submit catalog cuts, color samples and manufacturers literature of all manufactured items in this section to the District for approval before installation.

PART 2 - PRODUCTS

2.01 MANUFACTURED ITEMS

- A. 3" x 8" x 5/16" Thickness Exterior rated Ceramic Tile
MFR: Dalite
Model/Color: Pool Trim Series, DH49 Blue
Finish: Glossy
Install per manufacturer's recommendations
- B. 8" x 8" Custom Tiles
Provided by District
Contractor to coordinate and pick up Custom Tiles from District and install per manufacturer's recommendations. Contact District for pick up location.

C. Standard 5-12 Play Safety Sign

District will provide Safety Sign. Contractor to coordinate with District's Representative for pick up of sign from District's Operation Yard. Contractor is responsible for pick up and for installing sign per manufacturer's specifications.

MFR: Landscape Structures

Model: 100106A

Base Color: Tan

Lettering Color: Blue

Post Color: Blue

Available from/Ph: Ross Recreation, Jon Bawden/530-345-5075

Install per manufacturer's specifications.

E. Play Equipment and Accessories:

District will provide play structures. Contractor to coordinate with District's Representative for pick up of play items from District's Operation Yard. Contractor is responsible for pick up and installing play items per manufacturer's specifications.

Lunar Burst

MFR: Landscape Structures

Model: 17375-4A

Finish/Color: Powdercoated Blue

Available from/Ph: Ross Recreation, Jon Bawden/530-345-5075

Install per manufacturer's specifications.

Omni Spinner

MFR: Landscape Structures

Model: 173591A

Color: Granite

Available from/Ph: Ross Recreation, Jon Bawden/530-345-5075

Install per manufacturer's specifications.

Single Blender

MFR: Landscape Structures

Model: 172867

Finish/Color: Powdercoated Yellow

Available from/Ph: Ross Recreation, Jon Bawden/530-345-5075

Install per manufacturer's specifications.

Play Structure

MFR: Playland

Model: PS5-28274

Finish/Color: see detail sheet, L4.3

Available from/Ph: Creative Recreational Systems, Inc, Austen Stanfel/916-638-5375

Install per manufacturer's specifications.

D. Play Surfacing, including all drainage items:

- A. General: Synthetic surfacing shall be a poured-in-place system, consisting of an impact attenuating substrate and a wear surface bonded to produce a uniform material. Surfacing shall be by Vitroturf, Contact: Kit Stevens/Miracle Play Systems, 510-261-4868 or approved equal.
1. Safety: Safety surfacing within playground equipment use zones shall meet or exceed the performance requirements of CPSC and ASTM F 1292 that a surface yield both a peak deceleration of no more than 200g, and a Head Injury Criteria (HIC) value of no more than 1,000 g, for a head-first fall from the highest accessible portion of play equipment being installed. The highest accessible portion of playground equipment identified by the manufacturer as the critical fall height (CFH). The contractor is responsible for obtaining a determination from the safety surfacing manufacturer of the product depth required to meet performance requirements for all play equipment.
 2. The impact attenuation performance of the synthetic safety proposed for installation shall be documented by certificates of compliance.
 3. Accessibility: Safety surfaces intended to serve as accessible paths of travel for persons with disabilities shall be firm, stable and slip resistant and shall meet the requirements of FEDSTD 795, 28 CFR Part 36 ASTM F 1487, 1292, 1951.
- B. Impact Attenuating Substrate (Basemat): Substrate shall consist of shredded styrene butadiene rubber (SBR) adhered with a 100% solids polyurethane binder to form a resilient, porous material. Strands of SBR may vary from 0.5 mm to 2 mm in thickness, by 3 mm to 20 mm in length. Foam rubber shall not be permitted in substrate. Binder shall be not less than 12%, or more than 16%, of the total weight of rubber, and shall provide 100% coating of the particles. The substrate shall be compatible with the wear surface, shall be mixed and poured-in-place, and shall meet requirements herein for impact attenuation.
- C. Wear Surface: Wear surface shall be a durable, weather-resistant, ultraviolet stable, water permeable material, which shall be the topcoat of a poured-in-place system. The wear surface shall meet ASTM D 2047 for minimum 0.8 coefficient of friction. Wear surface shall consist of ethylene propylene diene monomer (EPDM) particles adhered with a polyurethane binder formulated to produce an even, uniform surface. EPDM particles shall meet requirements of ASTM D 412 for tensile strength and elongation, ASTM D 2240 (Shore A) hardness of 50-70, not less than 25% rubber hydrocarbons. EPDM shall be peroxide or sulfur cured. Size of rubber particles shall be not less than 1 mm nor greater than 3 mm across. Binder shall be not less than 16% nor greater than 20% of total weight of rubber used in the wear surface, and shall provide 100% coating of the particles. Thickness of wear surface shall be a minimum 13 mm (1/2"). The wear surface shall be porous.

D. Binder: Binder for synthetic surfacing shall be nontoxic in a stabilized installation, weather-resistant, ultraviolet stable, nonhardening, retaining impact-attenuating qualities, and shall be 100% solids polyurethane, methylene diphenyl isocyanate (MDI), or as recommended by the manufacturer. No more than 2% of toluene diphenyl isocyanate (TDI) shall be used. Weight of polyurethane shall be no less than 1.02 kg/l (8.5 lb/gal), or more than 1.14 kg/l (9.5 lb/gal). Binder shall be aliphatic type only. Coloring pigments, if used, shall be inorganic oxides.

E. Color: There shall be three color mixes:

1. Blue
2. Teal
3. Yellow

Pattern and color as per layout plan and surfacing detail. Submit color selections for approval.

2.04 MISCELLANEOUS MATERIALS

A. All other materials for site elements shall be as specified on the plans and these specifications.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Examination: Verify that conditions are satisfactory for installation of each item of site elements. If unsatisfactory conditions exist, do not begin installation until such conditions have been corrected.

B. Play Apparatus Installation: Install products in conformance with the manufacturer's recommendations and approved shop drawings, and as indicated.

1. Install products square, plumb, level, accurately aligned, and securely anchored.
2. Repair abraded areas of shop-applied coating, and areas of welds where shop-applied coating has been damaged, using a primer or galvanized repair compound compatible with the shop coating. Repair paint surface per manufacturer's specifications to match undamaged finish.
3. Completion: Completed installation shall be securely anchored, and free from defects and damage in material and finish.
4. After installation, contractor shall have play apparatus inspected by an independent certified play ground inspector (NPSI Certified) who shall inspect apparatus and provide in writing affirmation that playground was

installed correctly and meets California Play Safety Regulations and ADA standards and requirements.

- C. Resilient Rubber Play Surfacing: Synthetic safety surfacing shall be installed on dry sub-surfaces, compacted and tested per contract documents. Temperatures and weather conditions shall be as recommended by the manufacturer, with no prospect of rain within the initial drying period.
1. Sequencing and Scheduling: Safety surfacing shall be installed after the playground equipment is installed. The installation shall be coordinated with playground equipment and site element installation.
 2. Preparation
 - a. Subsurface: The appropriate subgrade elevation shall be as established for the particular safety surfacing to be installed. The subsurface shall be installed in a true, even plane, and sloped to drain. Subsurface irregularities shall be corrected. Subsurface: Tolerance shall be within 1/8 inch (3.0 mm) in 10 feet (3050 mm).
 - b. Testing of Compacted Subgrade: Prior to installation of synthetic surfacing, verify that subsurfaces have fully compacted to 95% RC after all equipment installation and trenching has been completed (or as recommended by manufacturer) and that all debris, compounds and other deleterious substances that might adversely affect adhesion have been removed. Surface shall be clean and dry.
 - c. Drainage: The Contractor shall verify that subsurface drainage, including piped drainage systems, if required, has been installed to provide positive drainage.
 3. Coordination: Coordinate with work of other sections to insure appropriate sequencing of events.
 4. Synthetic Poured-In-Place Surfacing Installation
 - a. Preparation and installation shall be in accordance with manufacturer's specifications and directions.
 - b. Poured-in-Place System: Components of the poured-in-place safety surface system shall be mixed mechanically on site in accordance with manufacturer's recommendations to ensure a uniform distribution of binder. Hand-mixing shall not be allowed. Installation of poured-in-place surfacing shall be seamless and completely bonded to subsurface. Material shall cover all foundations and fill around all elements penetrating the surface. Manufacturer's Services: For safety surfacing, service of the manufacturer's representative who is experienced in installation of playground safety surface shall be provided. The representative shall supervise the installation to ensure that the safety surfacing

meets the impact attenuation requirements as specified herein.

- c. **Poured-in-Place Substrate:** Whenever practical, the substrate layer of poured-in-place surfacing material shall be installed in one continuous pour on the same day. When a second pour is required, the edge of the previous work shall be fully coated with polyurethane binder to ensure 100% bond with new work. Adhesive shall be applied in small quantities so that new substrate can be placed before the adhesive dries.
- d. **Poured-in-Place Wear Surface:** Wearing surface shall be bonded to substrate. Apply adhesive to substrate in small quantities so that wearing surface can be applied before adhesive dries. Surface shall be hand troweled to a smooth, even finish. Except where wearing surface is composed of different color patterns, pour shall be continuous and seamless. Where seams are required due to color change, adjacent color shall be placed as soon as possible, before initial pour has cured. The edge of initial pour shall be coated with adhesive and wearing surface mixture immediately applied.
- e. **Thickness:** Construction methods, such as use of measured screeds 1 mm (1/16") thicker than the required surfacing depth, shall be employed to ensure full depth of specified surfacing material is installed. Surfacing system thickness throughout the playground equipment use zone shall be as required to meet the impact attenuation requirements for a head-first fall from the highest accessible portion of installed play equipment.
 - a. **Critical Fall Height of Play Area** based on highest accessible part of the equipment. See website by Vitroturf for Poured-in-Place thickness and critical fall heights: <http://www.vitroturf.com>

<u>Critical Fall Height</u>	<u>Thickness of Surfacing</u>
6'-3" (75")	Contractor to verify with manufacturer, min. 2 ½"

- 5. **UV Protective Sealer:** Apply per manufacturer's recommendations.
- 6. **Clean-up:** Do not allow adhesives on adjacent surfaces. Immediately clean up spills or excess adhesive.
- 7. **Protection:** The synthetic safety surfacing shall be allowed to fully cure in accordance with manufacturer's instructions. The surface shall be protected from all traffic during the curing period for forty-eight (48) hours or as instructed by the manufacturer. Protect from damage at all times, until final acceptance of the Work. If damage occurs to any safety surfacing prior to final acceptance, Contractor shall, at his own expense, make repair or replacement to satisfaction of the District.

3.02 GUARANTEE

- A. At completion of project, Contractor shall provide District with written guarantee from each manufacturer identifying the nature of warranty for each product component.
- B. Contractor shall provide District with two (2) bound maintenance manuals identifying each piece of equipment on manufacturer's recommended maintenance program including, but not limited to, daily, weekly, and monthly check lists.
- C. Contractor to provide District with minimum of two (1) gallon each type and color of paint used on apparatus with recommended surface preparation and application guidelines.

END OF SECTION 02800