

SECTION 32 18 16
PLAYGROUNDS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Playgrounds and associated work.

1.2 REFERENCES

- A. ADA/ABA Accessibility Guidelines
- B. ANSI Z535.1 –Safety Colors
- C. ANSI Z535.2 –Environmental and Facility Safety Signs
- D. ANSI Z535.4 – Product Safety Signs and Labels
- E. ASTM F1292-17 – Standards for Impact Attenuation for PG Surfacing
- F. ASTM F1487-21 – Standard Consumer Safety Performance Specification for Playground Equipment for Public Use
- G. ASTM F2049-11 – Standard Safety Performance Specification for Fences/Barriers for Public, Commercial, and Multi-Family Residential Use Outdoor Play Areas
- H. ASTM F2223-15 – Standards on Playground Surfacing
- I. ASTM F3351-19 – Standard Test Method for Playground Surface Impact Testing in Laboratory at Specified Test Height
- J. CPSC (Consumer Product Safety Council) – Public Playground Safety Handbook
- K. CSA Z614:20 – Children’s playground equipment and surfacing
- L. IPEMA (International Playground Equipment Manufacturers Association)

1.3 SUBMITTALS FOR REVIEW

- A. Section 01 33 00 - Submittals Procedures
- B. District certified playground safety inspector (CPSI) from Risk Management must approve and sign off on product for compliance with national standards prior to product/manufacture acceptance.
- C. Shop Drawings:
 - 1. 3-Dimensional drawing
 - a. With a 180-degree view showing the type and color of surfacing.
 - b. State the grade level on the drawing, under the school’s name.
 - c. Show the fall/use zone measurements, height of equipment and ADA access route.
 - d. List the number and name of the playground components meeting ADA requirements for lower and upper level components.
 - 2. 2-Dimensional drawing
 - a. Shall be on 11”x17” paper with No font being less than 1/8”.
 - b. List the number and name of the playground components meeting ADA requirements for lower and upper level components.
 - c. Identify “North” on the drawing.
 - d. Include a scale on the drawing.
 - e. State the grade level on the drawing, under the school’s name.
 - f. An identifying symbol shall be added to indicate that a curb will surround the playgrounds (4” for poured in place).
 - 3. (M)SDS forms and IPEMA (The International Playground Equipment Manufacturers Association) certification for the surfacing.
 - 4. A letter of compliance from the manufacturer describing their compliance with 16 CFR Part 1303 and Section 3 Federal Hazardous Substances Act with regard to lead, and Section 8 of the Consumer Product Safety Act with regard to phthalates.

1.4 SUBMITTALS FOR INFORMATION

- A. Section 01 33 00 - Submittals Procedures
- B. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- C. Warranty
 - 1. A minimum of 5 years warranty shall be in effect for all equipment, installations, ADA surfacing, concrete curbing and sidewalks.
 - 2. Artificial Turf shall have a minimum of 7 years warranty.
 - 3. Recapping poured in place surfacing shall be warranted for a minimum of 3 years.
 - 4. Sealer over poured in place surfacing shall be warranted for a minimum of 1 year
 - 5. Damage due to vandalism is exempt from warranty.

1.5 DESIGN REQUIREMENTS

- A. General
 - 1. Design shall comply with the FBC, ADA, ASTM, CPSC, and IPEMA.
 - 2. An effort shall be made to include at least one ASD friendly activity on each playground equipment project.
 - 3. Equipment for Pre-K shall not exceed four feet in height.
 - 4. Equipment for primary students shall not exceed six feet.
 - 5. Equipment for intermediate students shall not exceed eight feet in height unless designed for uses other than climbing.
 - 6. Outdoor fitness equipment shall be age appropriate.
 - 7. Equipment shall be free of points, sharp edges and protrusions that may cut or puncture.
 - 8. Equipment shall be free of protrusions and other elements that may snag clothing or body parts.
 - 9. Equipment shall be free of angles or openings that may entrap body parts.
 - 10. Equipment shall be free of pinch or crush points.
 - 11. Equipment shall be free of splinters and not be subject to future splintering.
 - 12. Equipment shall have slip resistant walking and climbing surfaces.
 - 13. Equipment shall have components that drain freely and do not collect water.
 - 14. Equipment shall have steps and hand holds of proper size, spacing and incline where necessary to assist climbing.
 - 15. Closed risers shall be placed at all steps.
 - 16. Equipment shall have all moving parts constructed of materials that minimize the potential for impact injuries.
 - 17. Equipment shall have handrails, raised edges and other barriers where necessary to minimize the potential for falls.
 - 18. Equipment shall have vandal-proof connectors that cannot be loosened or unfastened without special tools.
 - 19. Equipment shall permit easy access by adults for maintenance and emergencies.
 - 20. Equipment shall provide more than one means of access and exit.
 - 21. Equipment shall be designed to support the maximum possible load able to be imposed on the apparatus.
 - 22. Equipment shall be designed to be permanently anchored in place.
 - 23. Equipment shall be constructed of non-rusting and nontoxic materials and paints.
 - 24. Equipment shall be constructed of materials that will remain durable in an outdoor environment.
 - 25. All main (in-ground) support posts shall be powder coated aluminum. Steel will be allowed for posts supporting structural loads such as shade structures or activities that require steel for added strength.
 - 26. Equipment shall not be constructed of wood or contain wooden components.

27. There shall be no tether balls or benches (or other seating) placed inside either the playground area or outdoor fitness equipment area.
 28. There shall be no walls, grates, drains, valves or any other possible obstruction within a 6 foot perimeter of any playground unless protected by a six foot high (black vinyl) 9 Ga. Fence, or one that matches existing chain link 6 foot high fences.
 29. All playgrounds shall be ADA compliant including having code compliant sidewalks to the ADA surfacing.
 30. Equipment repairs, revisions or replacements by the vendor shall require prior approval from Risk Management.
- B. Surfacing
1. Install per manufacturer's specifications to ensure proper drainage.
 2. Surfacing for all playgrounds shall be poured in place rubber or other IPEMA Certified and ADA compliant fall protection system, with the exception of some Pre-K playgrounds where the District may approve artificial turf.
 3. A copy of the IPEMA certification shall be provided.
 4. Loose fill type surfacing is not allowed for playgrounds.
 5. Provide and install clean fill as needed, compacted to 2,500 psf, to ensure positive drainage away from playground. Submit compaction test results.
 6. The EDPM layer will be 5/8" .
 7. Artificial Turf seams will be secured with Velcro and adhesive. The turf will be secured firmly so that it cannot be lifted in any manner.
- C. Curbs for Playgrounds
1. For PIP or other IPEMA Certified and ADA Compliant fall protection surfacing: Installer shall provide and install 4 inch wide by 12 inch deep new concrete curb at playground perimeter, with curb cuts for drainage. Installer shall submit a proposed curb detail for approval for monolithic slab installation.
 2. For Artificial turf – Installer shall provide and install 6 inch wide x 12 inch deep new concrete curb at playground perimeter, saw cut every 10 feet. Installer shall submit a proposed curb detail for approval for monolithic slab installation.
- D. Fencing
1. All Pre-K, kindergarten and ESE (ADA) playgrounds will be surrounded with a 6 foot high, 9 Ga black vinyl double knuckle chain link fence, or one that matches existing chain link 6 foot high fences.
 2. When the playground is located inside a school's existing 6 foot high perimeter fence, a 4 foot high fence may be allowed, at the District's discretion.
 3. Fences surrounding K-2 playgrounds are required to have on gate equipped with panic hardware if under 2500 square feet and if over 2500 square feet two gates equipped with panic hardware are required.
 4. Fencing shall comply with Section 32 31 13 – Chain Link Fencing and Gates.
- E. Signs
1. Signage for all playgrounds shall be provided and installed in compliance with ASTM standards.
 2. The District may also purchase signs for existing playgrounds.
 3. Signs shall state the student's age level of equipment, student grade level of equipment as determined by the District, the words, "Adult Supervision Required" and ASTM warnings for removal of drawstrings, Hot Surfaces, hard surface hazards and Supervision of helmets. These warnings must conform to ANSI Z535.1 and either ANSI Z535.2 or ANSI Z535.4.

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- F. Replacement parts
 - 1. Replacement parts, whether under warranty or not, must be available in the United States or the vendor must give the District an option of delivery by Priority shipping or overnight delivery, payable by the District.
 - 2. Replacement parts shall be new.

1.6 QUALITY ASSURANCE

- A. Submit copy of IPEMA certification.
- B. Submit clean fill subgrade compaction testing meeting 2,500 psf.
- C. Pre and Post drop test will be performed by the District's Risk Management Certified Playground Safety Inspector (CPSI) when surfacing repairs encompass the entire area to ensure it conforms with ASTM F-1292 requirements.
- D. Any playground equipment or surfacing installed on Palm Beach County Schools' property not complying with safety regulations and all requirements in this bid shall be removed or replaced (at sole discretion of the District) at no cost to the District.

PART 2 PRODUCTS

2.1 SAMPLES

- A. Product specifications, (M) SDS and samples, must be provided within 24 hours of request.
- B. A sampling of the surface material that is installed may be tested to be certain its quality and consistency matches submitted product specifications.
- C. A random sample will be collected by District staff and tested at an independent lab to verify that the proper amount of binder is used.
 - 1. If it fails, the Contractor agrees to provide a seal coating in 2 years or increase the length of the warranty and will reimburse the District for testing.

PART 3 EXECUTION

3.1 PLACEMENT

- A. Locate utilities prior to installation. Notify District of potential conflicts.
- B. Repairs to utilities as a result of construction damages is the responsibility of the Contractor.
- C. Erect and maintain a barrier around the entire playground until it has passed inspection by the District's Risk Management CPSI and released for use.

3.2 FIELD QUALITY CONTROL

- A. District certified playground safety inspector (CPSI) from Risk Management must inspect the product for compliance with national standards prior to final approval and acceptance.
- B. A "Certificate of Completion" from the Building Department or permitted work is required prior to Risk Management issuance of a final approval letter.

END OF SECTION