

## SECTION 02545 HARD COURT & RUNNING TRACK CONSTRUCTION

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### *SPECIFIER:*

*CSI MasterFormat 2004 number 31 18 23.*

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### PART 1 GENERAL

#### 1.1 SUMMARY

- A. Section Includes: Tennis courts, basketball/volleyball courts, and running tracks.
- B. Related Sections:
  - 1. 02200 - Earthwork.
  - 2. 02511 - Asphaltic Concrete Paving.
  - 3. 02529 - Concrete Sidewalks, Straight Curbs, Curbs, Gutters & Wheel Stops.
  - 4. 02865 - Running Track Surface.

#### 1.2 REFERENCE STANDARDS

- A. Miami-Dade County Public Works Manual (M-DCPW).
- B. American Association of State Highway Transportation Officials (AASHTO) Standard:
  - 1. T-180 Moisture-Density Relations of Soils Using a 10 lb. Rammer and an 18-inch drop.
  - 2. T-181 In-Place Density of Compacted Base Course Containing Large Sizes of Coarse Aggregates.
- C. Florida Department of Transportation (FDOT), latest edition, Standard Specifications for Road and Bridge Construction.
- D. National Federation of State High School Associations (NFSSA), latest edition.

#### 1.3 SUBMITTALS:

- A. Submit the following for review before starting work:
  - 1. Properly identified manufacturer's product data, material specifications, with names and catalog numbers of each product, surface preparation, mixing, and application directions.
  - 2. Manufacturer's standard color chips and net material for review and selection.

#### 1.4 QUALITY ASSURANCE

- A. Mixing plant shall comply with State of Florida DOT Standards.
- B. Obtain materials from the same source throughout.
- C. Tennis court and running track construction will be limited to firms regularly engaged in tennis court and running track court construction for a minimum of 5 years.

- D. Testing: The following tests shall be made by a testing laboratory contracted by M-DCPS.
  - 1. Limerock: Provide 1 test from each source of limerock, showing compliance with Section 51 of the M-DCPW Specifications.
  - 2. Limerock Base: Provide 1 laboratory maximum density and optimum moisture test for each source of material used according to AASHTO T-180. Provide 2 field density tests per 3,500 square feet or fraction thereof on each course for each day of final compaction operation. Test according to AASHTO T-181.
- E. If the A/E suspects deficiencies in materials or construction, core samples will be cut and tested by the approved laboratory. Evidence of non-compliance will result in rejection of the work, and the Contractor being back charged for any re-testing.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to site in manufacturer's original sealed containers with proper labels attached.
- B. Store materials according to manufacturer's instructions. Protect from extremes of weather, temperature, moisture, and other damage.

#### 1.6 WARRANTY

- A. Provide 2-year labor and material warranty against material defects and/or faulty installation, from date of substantial complete of the work.

### PART 2 PRODUCTS

#### 2.1 MANUFACTURERS

- A. Hardcourt Surface Coating System for Basketball/Volleyball and Tennis Hardcourts:
  - 1. Laykold System by Advanced Polymer Technology, Harmony, PA.
  - 2. Plexipave by California Products Company, Cambridge, MA.
  - 3. Mapei TNS Sport Surfaces System, Deerfield Beach, FL.
  - 4. TRU-FLEX by Insl-X (Division of Benjamin Moore), Montvale, NJ
- B. Acrylic Line Paint:
  - 1. In accordance with Hardcourt Surface Coating manufacturer's recommendations.
- C. Surfacing System for Running Track: See Section 02865 - Running Track Surface.

#### 2.2 MATERIALS

- A. Sub-grade: Stabilized sub-grade according to requirements of Earthwork - Section 02200. For work on Public Right-of-Way Sections 30 and 33 of M-DCPW specifications shall apply.
- B. Base Course: 6-inch thick limerock base course according to Section 51 of M-DCPW.

- C. Prime and Tack Coats for Base Courses: RC-1, MC-0 or MC-1 according to requirements of Section 100, "Prime and Tack Coat for Base Courses", M-DCPW.
- D. Asphaltic Concrete and Leveling Course: 1-1/2" thick Type 9.5 asphaltic concrete design mix according to Section 133 of M-DCPW.
- E. Hardcourt Surface Coating System: Shall include surface primers, fillers, asphalt resurfacer, and a minimum of 2 layers of color topcoat. System shall be installed per manufacturer's recommendation. Provide two contrasting colors to distinguish hardcourt play areas from adjacent side-lines areas. Colors shall be selected by A/E and M-DCPS.
- F. Concrete Curbs at Track:
  - 1. 6 inches wide x 12 inches deep.
  - 2. Inner Track Edge: Top of curb to equal top of asphalt.
  - 3. Outer Track Edge: Top of curb to equal top of safety surface.
  - 4. Comply with Section 02529 and NFSSA.
  - 5. Provide drainage from asphalt surfaces.
- G. Accessories:
  - 1. Tennis Courts:
    - a. Posts: 3-inch square steel with 3/16" wall thickness, green vinyl coated, internal cable winding mechanism with geared winding devices and removable brass handle.
    - b. Nets: Tapered braided nylon or polyethylene (48 thread) 42 feet long with nylon impregnated top binding attached with 2 double rows of stitching and maple dowels.
  - 2. Volleyball Courts:
    - a. Posts: 1-7/8" galvanized steel with end caps. Exposed height of 9 feet AFF, and one 1" eyehook at 8'-6" AFF for installation of volleyball nets.
    - b. Ground sleeves: 2-1/8" schedule 40 galvanized steel pipe sleeves, with hinged covers.
    - c. Nets: 32 feet x 3 feet (6 pounds) made of No.24 thread rubber-coated, black nylon, 4-inch square mesh. Headband shall be 2-inch white vinyl-coated nylon, same as ropes and tapes. Steel top cable.
  - 3. Basketball Courts:
    - a. Wind loading design shall comply with FBC and American Society of Civil Engineers (ASCE) 7- latest edition.
      - 1) Provide calculations and connection details, signed and sealed by a Florida registered professional engineer, complying with wind velocity pressure values for the specific project, in accordance with FBC and ASCE 7.
    - b. Type of Standards: As indicated on the plans:
      - 1) Precast Concrete basketball standards, constructed with epoxy coated reinforcing steel, complete with fan-shaped aluminum backboards and

outdoor net, as manufactured by Wausau Tile, Inc., Form Products Division, Wausau, WI.

- 2) Gooseneck-shape steel basketball standards, Scheduled 40 galvanized steel pipe, minimum 5-9/16-inch diameter, with 6 foot offset measured from the face of the backboard to the centerline of the formed upright support, complete with fan-shaped aluminum backboard, super-duty rim with outdoor net, and fabricated with slotted mounted plate to permit field leveling of backboard and goal:
  - a) Model 176FL-SD350 by Porter Athletics.
  - b) Model No. 656-FABT-UB by Jaypro Sports.
  - c) other product of equal quality and performance as approved by A/E and M-DCPS.

c. Pole Safety Padding:

- 1) Weather resistant reinforced vinyl padding, 6-foot length with velcro fasteners for 4 to 6-inch diameter poles:
  - a) Model 6P-605 by AK Athletic Equipment, Inc., Columbus, Ohio.
  - b) Model 187-000 by Porter Athletic Equipment Co., Broadview, Illinois.

4. Infield Track:

- a. Jump boards at runways according to NFSSA.
- b. Two pole vault pits.

## PART 3 EXECUTION

### 3.1 INSPECTION

- A. Do not proceed with the work of this section until conditions detrimental to the proper and timely completion of the work have been corrected in an acceptable manner.

### 3.2 ENVIRONMENTAL CONDITIONS

- A. Temperature: A minimum of 50 degrees F. and rising.
- B. Weather: Clear with no precipitation during application.

### 3.3 INSTALLATION

- A. Perform work under provisions of State of Florida Department of Transportation - Standard Specifications for Road and Bridge Construction.
- B. Subgrade: 12-inch stabilized sub-grade according to Section 02220 of M-DCPW with slopes as specified.
- C. Base Course: 6-inch thick limerock base course shall not vary more than 1/4" in 10 feet when measured in any direction as indicated on Construction Documents.
- D. Prime Coat:

1. After base course has completely cured and is dry, remove loose material, dust, dirt, and foreign material capable of preventing bonding of prime coat.
2. Prime Coat: Apply prime coat at rate of not less than 0.10 gallons per square yard.

E. Tack Coat:

1. If the primed base has become dirty and cannot be cleaned, or in areas where prime coat has cured and lost bonding ability, or if required by A/E, Contractor shall apply a tack coat at rate of 0.05 to 0.15 gallons per square yard, at no additional cost to M-DCPS.
2. When weather conditions delay installation of wearing surface, seal the surface with emulsified asphalt at the rate of two (2) gallons per 10 square yards.

F. Asphaltic Concrete Coarse:

1. Install according to final required slope, pitch and grade as indicated on the Contract Documents, with no variations greater than 1/8" in 10 feet when checked with a straight edge in any direction. Roll surface free of any roller marks, ridges, and repair voids.
2. After final rolling, protect newly placed material from traffic by barricades or other suitable methods until it has hardened and in no case less than 6 hours.
3. Allow 30 day curing period for new asphalt before applying any surface coatings.

G. Running Tracks:

1. Install asphaltic concrete pavement composed of 12 inches of stabilized sub-grade, 6 inches of limerock base course, and 1-1/2 inch of asphaltic concrete surface course in accordance with requirements specified in this document.
2. Asphalt coarse shall have 1 percent slope down to inside curb, and in the running direction slope shall not exceed 1/10 of 1 percent.
3. Provide concrete curbs on inside and outside edge of track, as specified.
4. Running track dimensions shall comply with NFSSA standards and the Contract Documents.
5. Verify accuracy of the following items, using laser leveling or other system accepted by M-DCPS:
  - a. Limerock base before asphalt is applied.
  - b. Asphalt base.
  - c. Concrete curbs (on inside and outside edge of the track).
6. Surface inspection:
  - a. Asphalt base shall be inspected for conformity to slopes as indicated on construction drawings.
  - b. The surface shall not deviate more than 1/4" in 10 feet when checked with a straight edge in all directions.
7. Running Track Surface: Shall be in accordance with M-DCPS Master Specifications Section 02865.

H. Basketball/Volleyball and Tennis Hardcourts:

1. Install asphaltic concrete pavement composed of 12 inches of stabilized sub-grade, 6 inches of limerock base course, and 1-1/2 inch of asphaltic concrete surface course in accordance with the requirements specified in this document. Slope asphalt concrete surface according to Contract Documents.
2. New asphalt surfaces must cure 14 to 28 days prior to application of the hardcourt surface coating system.
3. Flood courts with water and allow to drain. Mark "bird bath" areas holding water with chalk. Broom water from these areas and allow to dry before patching. Patch with Asphalt Resurfacer by Laykold, or other accepted equivalent, according to the requirements of the surface coating system manufacturers selected for the project.
4. After patching is completed, apply 1 coat of Asphalt Resurfacer or other accepted equivalent according to manufacturer's requirement, over the entire surface in order to eliminate surface cracks, roughness and porosity, and provide a smooth, dense underlayment for application of surface coating system.

I. Hardcourt Surface Coating System and Line Striping:

1. Basketball/Volleyball:

- a. Apply Colorcoat Concentrate coating system by Laykold, or other M-DCPS or A/E accepted equivalent over entire hardcourt surface. Coating system shall be installed in accordance with manufacturer's written instructions to achieve a uniform appearance free of ridges and tool marks. Coating System shall include surface primers, fillers, asphalt resurfacer, and a minimum of 2 layers of color topcoat.
- b. After topcoat of the surface coating has cured, lay out 2" wide yellow basketball lines over 2" wide white volleyball lines as indicated on Construction Documents, and apply 2 coats of specified paint, in accordance with manufacturer's recommendation, using templates or masking tape, without splatters or irregularities.

2. Tennis Courts:

- a. Apply Colorcoat Concentrate coating system by Laykold or other M-DCPS or A/E accepted equivalent over entire hardcourt surface. Coating system shall be installed in accordance with manufacturer's written instructions to achieve a uniform appearance free of ridges and tool marks. Coating System shall include surface primers, fillers, asphalt resurfacer, and a minimum of 2 layers of color topcoat.
- b. After the topcoat of the surface coating has cured, lay out 2-inch wide white lines complying with U.S. Tennis Association specifications, and apply 2 coats of specified paint, using templates or masking tape, without splatters or irregularities.

3. Allow curing for a minimum of 72 hours, after line painting, before use.

3.4 CLEANING

- A. Upon completion of the work remove all containers, surplus materials, and debris and dispose off site.
- B. Clean spills and overruns.

C. Leave site in a clean and orderly condition acceptable to M-DCPS.

END OF SECTION