

## **Tennis/Pickleball (New Court Construction)**

### PART ONE- GENERAL

#### 1.01 SUMMARY

- A. This work includes sub surface preparation, hot mix asphalt (HMA) paving, net post and fence installation, and the acrylic color system applications for new tennis courts, and pickleball courts.

#### 1.02 QUALITY ASSURANCE

- A. Installing firm: Installer must regularly engage in construction and color acrylic surfacing. Documented experience in athletic surface paving, and acrylic color system applications must be provided. Minimum of 10 projects similar in complexity in the last 3 years.
- B. Surfacing shall conform to the guidelines of the ASBA, (American Sports Builders Association), and USAPA (U.S. A. Pickleball Association) respectively.

#### 1.03 SUBMITTALS

- A. Provide manufacturer specifications for all products, asphalt mix design, color chart and installation instructions.
- B. Shop drawings indicating layout and placement of asphalt, color system, lines, net systems, fence and gates.

#### 1.04 MATERIAL HANDLING AND STORAGE

- A. Store materials in accordance with manufactures specifications and MSDS.
- B. All surfacing material shall be non-flammable.
- C. NO MATERIAL STORED ON SITE during the duration of the project unless fully secured with fencing.

#### 1.05 GUARANTEE

- A. Provide guarantee against defects in the materials and workmanship for a period of one (1) year from the date of substantial completion unless otherwise stated.

### PART TWO- PRODUCTS

#### 2.01 MANUFACTURERS

- A. Merchants Metals, Markham, IL 60428 / Fencing and gate material.
- B. Douglas Industries, Eldridge IA./ Athletic Equipment.
- C. U.S. Tennis Court Construction Company Lockport, IL 60441/ Elite Sport Coating System.
- D. Local Asphalt plant with qualified mix.
- E. Approved equal.

## 2.02 MATERIAL/PRODUCTS

- A. Round Steel Pipe Fence Framework-(Schedule 40 standard weight pipe)-Polymer coated galvanized pipe, fused and adhered.
  - a. Line Post: two and a half inch (2-1/2") Outside Diameter
  - b. Terminal Post: Three inch (3") Outside Diameter
  - c. Rails: Inch and five eighths (1-5/8") Outside Diameter
- B. Chain Link Fabric- Polymer coated Fused and adhered inch and three quarter (1-3/4") 9 gauge core. Knuckled at top and bottom.
- C. Tension Wire- 7 gauge core polymer coated fused and adhered.
- D. Fitting-Polymer coated fused and adhered
  - a. Tension and Brace bands-minimum thickness 12 gauge.
  - b. Terminal Post Caps, Line Post Loop Tops, Rail and Brace Ends, Boulevard Clamps, Rail Sleeves.
  - c. Truss Rod Assembly
  - d. Tension Bars.
  - e. Tie Wire and Hog Rings- 9 gauge core aluminum alloy.
- E. Gates- Polymer coated fused and adhered two and a half inch (2-1/2") O.D.
- F. Aggregate Base Course (CA-6)- graded and compacted base course.
- G. HMA Binder Course (N-50 Binder Course)- Lower course of pavement with maximum aggregate size no more than three-quarters of one inch (3/4").
- H. HMA Surface Course (N-30 Surface Course) -fine graded asphalt course with one half inch (1/2") maximum aggregate or smaller, free of reclaimed asphalt shingles (RAS) and with no more than 25% reclaimed asphalt pavement (RAP), applied over reinforcement grid.
- I. Patching Mix (Elite Patch Binder)-for use in patching cracks, holes, depressions, "birdbaths" and other surface imperfections.
- J. Acrylic Patch Crack Filler (Elite Acrylic Patch Crack Filler)-for use in filling cracks
- K. Acrylic Resurfacer (Elite Acrylic Resurfacer)- Mixed with approved silica sand and applied as a filler coat on new or existing asphalt surfaces and for pre-coating rough areas.
- L. Acrylic Color Playing Surface (Elite Color Concentrate) mix with approved silica sand and applied over acrylic resurfacer or textured acrylic color.
- M. Textured Line Paint (Elite Textured Line Paint)-for use as line or graphic marking on play surface.
- N. Net Post Sleeves (Douglas GS-24 #63424)-Installed in concrete footings 2 per court.
- O. Center anchor (Douglas center tie down anchor # 63428)- Installed in concrete. One (1) per court.
- P. Tennis Net Posts (Douglas DTP-37 #63007(green)or #63008(Black) -Installed in ground sleeve 2 per court.
- Q. Tennis Net (Douglas TN-40 #20040)- Install to tennis net posts.
- R. Center strap (Douglas Deluxe adjustable CS #20600)-Fastened to center anchor.
- S. Pickleball Posts (Douglas Premier Rd-36 #63070P)-installed in ground sleeves 2 per court.
- T. Pickleball net (Douglas Pickleball net #20105P)- Installed to pickleball posts.

U. Approved equal products.

## PART THREE- EXECUTION

### 3.01 WEATHER LIMITATIONS

- A. Do not install when raining or rain is imminent.
- B. Do not install if surface is wet or damp.
- C. Do not apply unless surface and air temperatures are 50°F and rising.
- D. Do not apply if surface temperature is more than 140°F.

### 3.02 SITE INSPECTION, PREPARATION

- A. Examine soil to establish its suitability as a foundation for court construction.
- B. Remove and dispose of all trees and vegetation including root systems.
- C. Locate utilities.

### 3.03 ENGINEERING

- A. Proper grade elevation shall be set on proposed court areas
- B. All excavating, filling, compacting, grading, and leveling required shall be performed so that the finish court surface has a slope of no less than 0.83% and 1% on a true plane from side to side or end to end. Net line crowning will not be acceptable.

### 3.04 BASE COURSE

- A. Aggregate base course shall be added as needed with a minimum thickness of eight inches (8") to obtain required elevations and compaction.
- B. Elevations to be set in base course with a 0.83%-1% pitch end to end or side to side.
- C. Proof roll with a fully loaded six-yard dump truck prior to asphalt paving.
- D. All soft areas shall be replaced with compacted aggregate base course

### 3.05 ASPHALT PAVING

#### A. BINDER COURSE

- a. Machine apply and compact HMA Surface course to a compacted thickness of no less than two inches (2") over prepared stone base.
- b. HMA shall be free of marks, segregation and be placed to required uniform elevation with a smooth texture not showing tearing, shoving, or gouging.
- c. Paving equipment shall be equipped with auger extensions, and be self-propelled.
- d. Hand work shall be minimized to ensure the best possible finished surface.
- e. Rolling shall start as soon as the HMA can be compacted without displacement. Rolling shall continue until the HMA is thoroughly compacted and all roller marks have disappeared. Compact the HMA to a minimum in-place density of 94.0% of the Theoretical Maximum Specific Gravity.
- f. Binder course longitudinal joints shall be smooth and true; no deviation from level and true.
- g. Smoothness shall meet the requirements of no greater than one eighth inch (1/4") in ten feet (10').

- h. Binder course asphalt must be placed in one day, special care shall be taken to avoid cold seams.

**B. SURFACE COURSE**

- a. Machine apply and compact HMA Surface course to a compacted thickness of no less than one and one half inches (1.5") over HMA binder course.
- b. HMA shall be free of marks, segregation and be placed to required uniform elevation with a smooth texture not showing tearing, shoving, or gouging.
- c. Paving equipment shall be equipped with auger extensions, and be self-propelled.
- d. Hand work shall be minimized to ensure the best possible finished surface.
- e. Rolling shall start as soon as the HMA can be compacted without displacement. Rolling shall continue until the HMA is thoroughly compacted and all roller marks have disappeared. Compact the HMA to a minimum in-place density of 94.0% of the Theoretical Maximum Specific Gravity.
- f. Surface course longitudinal joints shall be smooth and true; no deviation from level and true.
- g. Smoothness shall meet the requirements of no greater than one eighth inch (1/8") in ten feet (10').
- h. Surface course asphalt must be placed in one day, special care shall be taken to avoid cold seams.

**3.06 TENNIS/PICKLEBALL POSTS SLEEVES, POSTS, AND NETS**

- A. Tennis post foundations shall be situated to provide a clear distance between posts of fort-two feet (42') apart. Pickleball post sleeves shall be situated to provide a clear distance between posts of twenty-two feet (22') apart.
- B. Net post sleeves shall be installed with foundations of no less than twenty-four inches (24") in diameter at the top, no less than thirty inches (30") in diameter at the base, and no less than forty-eight inches (48") in depth
- C. Center strap anchor foundations shall be no less than twelve inches (12") in diameter at the top, no less than sixteen inches (16") at the base, and no less than twelve inches (12") in depth.
- D. Install tennis/pickleball posts in sleeves, follow manufactures installation guidelines.
- E. Install tennis nets, follow manufactures installation guidelines.
- F. Install center straps, follow manufactures installation guidelines.

**3.07 FENCING**

**A. FRAMEWORK INSTALLATION**

- a. Posts: Posts shall be set plumb in concrete footings. Minimum depth of forty-eight inches (48"). Minimum footing diameter four times the largest cross section of the post up to four inches (4") dimension and three times the largest cross section of post greater than four inches (4") dimension. Top of concrete footing to be at grade crowned to shed water away from the post. Line posts installed at intervals not exceeding ten feet (10') on center.
- b. Top rail: Install twenty-one foot (21') lengths of rail continuous thru the line post or barb arm loop top. Splice rail using top rail sleeves minimum six inches (6") long. Rail shall be secured to the terminal post by a brace band and rail end. Bottom rail or intermediate rail shall be field cut and secured to the line posts using boulevard clamps or brace band with rail end.

- c. Terminal posts: End, corner, pull and gate posts shall be braced and trussed. The horizontal brace rail and diagonal truss rod shall be installed in accordance with ASTM F567.

#### B. CHAIN LINK FABRIC INSTALLATION

- a. Chain Link Fabric: Install fabric to inside of the framework maintaining a ground clearance of no more than two inches (2"). Attach fabric to the terminal post by threading the tension bar through the fabric; secure the tension bar to the terminal post with tension bands and 5/16 in. carriage bolts spaced no greater than twelve inches (12") on center. Chain link fabric to be stretched taut free of sag. Fabric to be secured to the line post with tie wires spaced no greater than twelve inches (12") on center and to horizontal rail spaced no greater than eighteen inches (18") on center. Wrap the tie around the post or rail and attached to a fabric wire picket on each side of the post or rail by twisting the tie wire around the fabric wire picket two full turns, cut off excess wire and bend over to prevent injury. Secure the fabric to the tension wire by crimping hogs rings around a fabric wire picket and tension wire.

#### C. GATE INSTALLATION

- a. Swing Gates: Installation of swing gates and gateposts. Gates shall be plumb in the closed position having a bottom clearance two inches (2"). Hinge and latch offset opening space shall be no greater than three inches (3") in the closed position.

#### D. NUTS AND BOLTS

- a. Bolts: Carriage bolts used for fittings shall be installed with the head on the secure side of the fence. All bolts shall be peened over to prevent removal of the nut.

### 3.08 COURT DEPRESSIONS "BIRDBATHS"

- A. Testing: Surface shall be flooded with water by rain or manually with clean water. Surface shall be allowed to drain for 45-60 minutes in sunlight at 70°F. Remaining depressions holding enough water to cover a five cent piece (American Nickel) shall be marked.
- B. Apply acrylic patch binder mix to depressions and strike off with a straight edge. Before the product begins to dry, feather edges using a trowel, putty knife, or similar method.
- C. Repeat testing and acrylic patch binder applications as needed to eliminate or reduce depressions to within tolerance.
- D. Sand and pre-coat as needed to assure repairs are not visible following acrylic surface applications.
- E. Strictly follow manufactures mixture guidelines and weather limitations.

### 3.09 ACRYLIC FILLER COAT(S) (RESURFACER)

- A. Two (2) coats of properly textured acrylic resurfacer shall be applied to entire surface. Special care shall be taken to keep a wet edge and remain consistent.
- B. When surface is completely dry, surface shall be inspected for, ridges, bumps, and debris. Any inconsistencies shall be corrected prior to color coat applications.
- C. Strictly follow manufactures mixture guidelines and weather limitations.

### 3.10 ACRYLIC COLOR PLAYING SURFACE

- A. Complete a thorough inspection, remove any bumps or ridges in resurfacer coats, and clean surface of all loose dirt, leaves, or other debris.
- B. If the surface is to receive multiple colors, apply chalk lines to distinguish the court area from the perimeter area. Follow USTA & USAPA guidelines for court dimensions.
- C. Colors and their placement shall be determined by the owner. Colors and the placement of the colors shall be verified by the owner prior color applications.
- D. Textured acrylic color surface shall be applied in two (2) applications with a 50 durometer rubber squeegee. No application should be made until the previous application is thoroughly dry.
- E. Strictly follow manufactures guidelines and weather limitations.

### 3.11 LINE PAINTING

- A. Lines shall be carefully laid out in accordance with the ASBA or USAPA guidelines.
- B. Masking tape shall be applied and rolled to result in a two inch (2") wide width unless otherwise stated.
- C. Masked lines shall be primed with acrylic line primer to seal the void between the textured surface and masking tape edge.
- D. One (1) coat of textured white line paint shall be applied by brush or roller. NO SPRAY APPLICATIONS PERMITTED.

### 3.12 PROTECTION

- A. Erect temporary barriers to protect coatings during drying and curing.
- B. Lock gates to prevent use until acceptance by the owner.

### 3.13 CLEAN UP

- A. Site shall be cleared of all construction debris, all waste shall be disposed of offsite in accordance with local, state and federal regulations.
- B. Remove all barriers and locks.