

SECTION 02861

TENNIS COURT EQUIPMENT

PART 1

1- GENERAL

1.1 WORK INCLUDED

- A. Provide all equipment and materials and do all work necessary to furnish and install tennis court equipment, complete as indicated on the drawings and as specified. Work shall include:
 - 1. Furnish and install tennis nets and posts in concrete foundations.
 - 2. Furnish and install center strap and anchor in concrete foundations.

1.2 SUBMITTALS

- A. Product Data
 - 1. Submit manufacturer's printed product data and specifications for each product used, including details of construction relative to materials, dimensions, gauges, profiles, method of mounting, specified options, and finishes.
- B. Samples
 - 1. Submit manufacturer's samples of tennis nets. Samples shall be a minimum of 12" x 12".

1.3 COORDINATION

- A. Tennis net post and center strap anchor footings for the court shall be installed prior to compacting the surface material.
- B. All tennis court nets and center straps shall be installed after the completion of the fast dry surfacing.

1.4 QUALITY ASSURANCE

- A. Unless otherwise indicated, all tennis court equipment and its installation shall conform to the Rules of Tennis of the United States Tennis Association (USTA) and the International Tennis Federation (ITF).

1.5 WARRANTY

- A. Provide manufacturer's standard written warranty for each accessory or equipment item.

PART 2

2- PRODUCTS

2.1 TENNIS NETS, POSTS, CENTER STRAP ANCHORS

A. Tennis Net Posts

1. Net posts shall be 3" round posts, as indicated on the drawings, fabricated from minimum 11 gauge (0.125 in.), steel with acrylic urethane or baked on polyester powder coat finish. Posts shall be equipped with welded net lacing rods, steel cable sheaves on top, automatic locking, fully internal winding system with removable handle and net anchoring hooks or eyes. The dead-end post shall be fitted with appropriate hardware to firmly anchor the end of the cable. Net post color shall be black. Net posts shall be supplied by one of the following manufacturers or approved equivalent:

- a. Premier Round XS (3")
Douglas Industries, Inc.
P.O. Box 393
Eldridge, IA 52748
(800) 553 - 8907
- b. Classic Round (3")
Edwards Brownell Sports Products
P.O. Box 362
Moodus, CT. 06469
(800) 243 - 2512
- c. Round Post with Internal Wind
Courtmaster Royale
Har-Tru Sports
2200 Old Ivy Road, Suite 100
Charlottesville, VA. 22903
(877) 442-7878
- d. PROP 3 Round (internal wind)
Putterman Athletics
4834 S. Oakley Avenue
Chicago, Illinois 60609
800-621-0146

B. Net Post Sleeves

1. Each post shall be provided with an aluminum, galvanized steel or PVC coated steel ground sleeve. The sleeves shall be of the dimensions necessary to provide a smooth fit between the post and sleeve. All sleeves are to be provided by the same manufacturer as that of the net posts, with no exceptions. A PVC ground sleeve cap shall be provided with each sleeve.

C. Center Strap Anchor

1. The center strap anchor shall be a minimum 9" length by 1.5" diameter galvanized steel or aluminum pipe type anchor equipped with a riveted or welded minimum $\frac{3}{16}$ " (0.1875) in.) center pin at one end and deformed or crimped edge at the other end to allow for secure anchoring within the concrete footing. Center strap anchors shall be supplied by one of the following manufacturers or approved equivalent:
 - a. Anchor
Douglas Industries, Inc.
P.O. Box 393
Eldridge, IA 52748
(800) 553 - 8907
 - b. Gas-30 Anchor Socket
Edwards Brownell Sports Products
P.O. Box 362
Moodus, CT. 06469
(800) 243 - 2512
 - c. Heavy Duty Pipe Anchor
Har-Tru Sports
2200 Old Ivy Road, Suite 100
Charlottesville, VA. 22903
(877) 442-7878PROGS01
Putterman Athletics
4834 S. Oakley Avenue
Chicago, Illinois 60609
800-621-0146

D. Tennis Net

1. A standard sized (doubles) net 41.75' long by 3.25' wide at the ends and 3.0 feet wide at the center shall be provided. The netting portion of the net shall be fabricated with a minimum 0.118" (3.0 mm) diameter black braided polyethylene cord with a minimum breaking strength of 300 lbs. The netting shall be woven with a 1.75" square mesh with the top five rows (minimum) woven with double cord. The net head band shall be fabricated from a double layered white polyester duck fabric sewn at the bottom with a minimum of four rows of polyester lock stitching. The side pockets and bottom band of the net shall be fabricated from black abrasion resistant 18 oz. vinyl, sewn with a minimum of two rows of lock stitching. Net grommets shall be spur type nickel plated brass. The net shall be supplied with two polished fiberglass net dowels. The net shall also be supplied with a minimum $\frac{7}{32}$ " diameter PVC coated braided galvanized

steel cable with a minimum breaking strength of 2,800 lbs. Net cables shall be fitted with a mechanically spliced loop on either end for secure attachment to net posts. Tennis nets shall be supplied by the following manufacturers or equivalent as approved by the Owner.

- a. Model: TN - 45
Douglas Industries,
Inc.
P.O. Box 395

Eldridge, IA 52748
(800) 553 - 8907
- b. Model: 40DS-Supernet
Edwards Brownell Sports Products
P.O. Box 362
Moodus, CT. 06469
(800) 243 - 2512
- c. Courtmaster Deluxe
Har-Tru Sports
2200 Old Ivy Road, Suite 100
Charlottesville, VA. 22903
(877) 442-7878
- d. PRO1352 tapered net
Putterman Athletics
4834 S. Oakley Avenue
Chicago, Illinois 60609
800-621-0146

E. Center Strap

- 1. Center strap hold-downs shall be fabricated from 2" wide, white polyester webbing with quick adjustable hardware. The center strap shall be fitted with a minimum 2" long rust-resistant swivel snap hook for attachment to the center strap anchor.

2.2 CONCRETE

- A. Concrete for net post and center strap anchor foundations shall be air-entrained type Portland cement concrete with the minimum 28-day compressive strength of 3,500 PSI.

PART 3

3- EXECUTION

3.1 NET POST FOUNDATION

- A. Net post foundation shall be installed prior to the fast dry court compacting surface installation.

- B. Verify and mark locations of the center of the net post according to USTA and/or ITF regulations: 42'-0" center to center for net posts. All net post locations shall be in accordance with the project drawings.
- C. Set net post sleeves in concrete foundation of the minimum dimensions and specific shapes indicated in the drawings. If local soil conditions dictate, the dimensions of the concrete shall be increased to insure an adequate and stable net post foundation. The net post foundation shall be constructed so as to not cause cracking or other damage to the pavement or court surface. Sleeves shall be set plumb and true. Concrete shall be poured to undisturbed earth.
- D. The top of the concrete foundation shall be set just below the top of the aggregate base for the asphalt courts. The top of the manufacturers net post sleeve shall be set flush with the elevation of the finished court playing surface.

3.2 CENTER STRAP ANCHOR AND ANCHOR FOUNDATION

- A. Center strap anchor foundation shall be installed prior to the fast dry court compacting surface installation.
- B. Carefully excavate through the court subgrade and subsoil the same size as the center strap anchor footing base dimension. Exercise care so as to create a clean-cut vertical excavation or slightly belled at the bottom.
- C. Set center strap anchor in concrete foundation of the minimum dimension and shape indicated on the drawings. The center pin of the anchor shall be installed parallel to the net. The center strap anchor foundation shall be constructed so as to not cause cracking or other damage to the pavement or court surfacing.

3.3 TENNIS NET

- A. Install tennis nets only after concrete net post foundations have achieved their full 28-day compressive strength and after the completion and thorough curing of the tennis court surface system. The tennis net shall be installed in accordance with the USTA and the ITF regulations. The net shall be securely attached to the net posts with net lacing. The tennis net shall be fully stretched between net posts so that the net is butted to the face of the lacing rods. Nets shall be installed with sidepocket dowels in place. Install center strap and tighten strap to the regulation net height shown on the drawings.

END OF SECTION

SECTION 02871

TENNIS COURT CHAIN LINK FENCE AND GATES

PART 1

1 - GENERAL

1.1 WORK INCLUDED

- A. Provide all equipment and materials, and do all work necessary to construct the all vinyl coated chain link fence system, as indicated on the Drawings and as specified.

1.2 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:

- 1. Section 3218 05 –Tennis Court Surface

1.3 REFERENCES

- A. Comply with applicable requirements of the following standards. Where these standards conflict with other specified requirements, the most restrictive shall govern.

- 1. American Society for Testing and Materials (ASTM):

A123 Zinc (hot galvanized) coatings on products fabricated from rolled, pressed and forged steel shapes, plates, bars and strip.

A153 Zinc coatings (hot-dip) on iron and steel hardware.

A385 High quality zinc coatings (hot-dip).

A569 Vinyl coated and hot dipped zinc coated (galvanized) cold rolled welded steel pipe.

B6 Zinc (slab zinc).

D412 Tests for rubber properties in tension.

D792 Specific gravity and density of plastics by displacement.

D2240 Rubber property - durometer hardness.

D552 Terms for chain link fence.

D626 Chain link fence fittings.

F668 Polyvinyl chloride (PVC) coated steel chain link fence fabric.

F900 Industrial and commercial swing gates.

F934 Standard colors for PVC coated chain link fence material.

F969 Standard practice for installations of tennis court fencing.

- 2. Federal Specifications:

RR-F-191/ID 1990 vinyl coated chain link fence fabric, Type II with galvanized steel core.

RR-F-191/2D 1990 vinyl coated chain link fence posts.

RR-F-191/3D 1990 vinyl coated chain link fence posts Grade B.
RR-F-191/4D 1990 vinyl coated fence fittings and accessories.

3. Chain Link Fence Manufacturers Institute (CLFMI):
 - a. Manual
 - b. Product manual

1.4 QUALITY ASSURANCE

- A. Chain link fencing shall be manufactured in accordance with the requirements of the CLFMI Manual. Fence manufacturer shall be a CLFMI member.
- B. Fence manufacturer shall have at least ten years of experience in the manufacture of vinyl-coated steel chain link fencing.
- C. The fence fabric, posts, gates, and all hardware shall be manufactured and supplied by a single manufacturer, to insure compatibility of all the fence elements and to define a single source responsibility.

1.5 SUBMITTALS

- A. Shop Drawings: Show fence layout, post locations, gates, details illustrating fence height, gate width, size of posts, rails, braces, fittings, and hardware.
- B. Samples: Submit 12" sq. fabric sample of each mesh size and gauge. Also submit 12" length of each size of post and rail.
- C. Product Data: Submit catalog cuts and manufacturer's detail specifications.
- D. Material List: All fence materials shall be supplied from a single manufacturer. When materials arrive at the project site, contractor shall furnish a copy of the material packing list to the Owner's Representative.
- E. Warranty: Black vinyl coated chain link fence systems shall be supplied with minimum 15-year factory warranty.

1.6 COORDINATION

- A. Tennis court fencing shall be installed after the construction of the Fast Dry Tennis court surface.

PART 2

2 - PRODUCTS

2.1 PVC COATED FENCE FABRIC

- A. Fabric shall be PVC coated thermally fused and bonded to a primer which is thermally cured onto galvanized steel core wire conforming to ASTM F 668,

Class 2. Minimum coating thickness shall be 0.006 in.

- B. Fabric shall be woven into 1 3/4" mesh of 9 gauge galvanized wire with a minimum breaking strength of 850 lbs. in accordance with ASTM F 668, Class 2. Coated wire size shall be 8 gauge.
- C. Zinc for galvanized coating shall conform to ASTM b 6, galvanized by hot dipped method AISI Type 1, before vinyl coating; coating shall be smooth. Minimum weight of zinc coating shall be 1.2 oz. per sq.ft.
- D. Polyvinyl chloride coating shall meet the following requirements:
 - 1. Specific gravity shall be 1.30 maximum, tested in accordance with ASTM D 792.
 - 2. Hardness shall be a minimum Durometer reading of A 95 in accordance with ASTM D 2240. Ultimate elongation shall be 275% in accordance with ASTM D 412.
 - 3. Tensile strength shall have a test minimum of 3,300 psi in accordance with ASTM D 412.
 - 4. Vinyl shall be a dense and impervious covering free of voids, having a smooth, lustrous surface without pinholes, bubbles, voids, or rough or blistered surface.
 - 5. Fabric shall be furnished with salvages knuckled on both the top and bottom edges.
 - 6. Furnish one-piece fabric widths as indicated on the drawings.
- E. Fence fabric color shall be black.

2.2 FENCE POSTS, HARDWARE, AND FITTINGS - GENERAL

- A. Fittings shall be of best quality malleable iron casting, wrought iron forgings, or pressed steel and provided with pin connections. Equipment shall be designed to carry 100% overload. All fittings and accessories shall be vinyl coated with color to match fence fabric.
 - 1. Malleable iron castings shall be hot-dipped galvanized in accordance with ASTM A 153.
 - 2. Wrought iron forgings or pressed steel fitting and appurtenances shall be hot-dipped galvanized in accordance with ASTM A 123.
 - 3. Fence hardware coatings shall match fence fabric coating.
- B. Piping shall be steel conforming to ASTM A 569 (SS40).
- C. Galvanized items shall be galvanized in accordance with ASTM A 123, A 153, or A 385, as applicable.
- D. Bolts which are installed 6 ft. or less above grade shall not protrude more than 1/4 in. beyond the nut after tightening. Rough edges shall be filed smooth. All fittings and accessories shall be vinyl coated with color to match fence fabric.

2.3 POSTS

- A. Line posts shall be nominal 2.5 in O.D., SS40 pipe weighing 3.22 lb/ft.
- B. End and corner posts shall be nominal 3.0 in O.D., SS40 pipe weighing 4.64 lb/ft.
- C. Gate posts shall be nominal 3.0 in O.D., SS40 pipe weighing 4.64 lb/ft.

2.4 RAILS

- A. Top and bottom rail, shall be 1.625 in O.D., SS40 pipe weighing 1.836 lb/ft.

2.5 GATES AND GATE FRAMES

- A. Fabrication: Assemble gate frames by welding connections. Use same fabric as for fence, unless otherwise indicated. Install fabric with stretcher bars at edges, (and tie wire at top and bottom edges, if stretcher is not used). Attach tension bars to gate frame at not more than 15" o.c. Attach hardware with rivets or by other means which will provide security against removal or breakage.
 - 1. Over 8' high and 10' wide provide additional horizontal and vertical members to ensure proper gate operation and for attachment of fabric, hardware and accessories.
 - 2. Bracing: Provide diagonal cross-bracing consisting of $\frac{3}{8}$ " diameter adjustable length truss rods on gates where four-sided tension rods are not used. Provide frame rigidity without sag or twist.
- B. Swing Gates: Fabricate perimeter frames with a minimum 2.0 in. O.D., SS40 pipe weighing 2.28 lb./ft.
- C. Gate Hardware: Galvanized per ASTM A 153 (each gate)
 - 1. Hinges: Pressed steel or malleable iron to suit gate size, non-lift-off type, offset to permit 180° gate opening. Provide 1 pair of hinges for each leaf. (Up to 12' ht.) See drawings for details.
 - 2. Latch: As detailed on drawings: Provide padlock eye as integral part of latch.

2.6 TENSION BARS

- A. Tension bars shall not be less than $\frac{3}{16}$ " x $\frac{3}{4}$ " and be full height of the fabric with which they are being used.
 - 1. Provide tension bars for gates as required only.
- B. Tension bar bands and clips shall be heavy pressed steel, or malleable iron.

2.7 CAPS

- A. Posts shall have dome caps which shall be designed to exclude water from post. Line posts shall be equipped with loop caps suitable for the through passage of the top rail, with a round opening only slightly larger than the OD of the top rail.

2.8 TIE WIRE

- A. Tie wire shall be 13-gauge O.D., vinyl-clad galvanized steel wire (coated wire shall be 12 gauge).

2.9 VINYL REPAIR PAINT

- A. Vinyl repair paint shall be furnished by the manufacturer of the vinyl coated fence system. Vinyl paint shall match the color of the fence system.

2.10 VINYL COATING

- A. Galvanized posts, rails, braces, gates, and other frame components and fittings shall be vinyl coated to match the color of the vinyl coated fence fabric.

2.11 MANUFACTURER

- A. Vinyl coated chain link fabric, framework, fittings and accessories shall be manufactured by one of the following manufacturers or an approved equal:
 - 1. Master Halco Division 6500
Eastern Avenue Baltimore,
Maryland 21224 (410) 633
– 6500
 - 2. Approved equivalent.

2.12 CONCRETE

- A. Concrete shall be air-entrained type, as follows:
 - 1. Minimum 28 day compressive strength shall be 3500 psi.
 - 2. Maximum size of aggregate shall be $\frac{3}{4}$ ".

2.13 FENCE POST GROUT

- A. Grout shall be non-shrinking type grout as manufactured by the following manufacturers or approved equal:
 - 1. Por-Rok
Hallemite Manufacturing Company
Cleveland, Ohio
 - 2. GaroniteGaron Products, Inc.
P.O. Box 1924

3. Wall, N.J. 07719
(800) 631-5380
Qwick - Patch
Revere Corporation
P.O. Box 35311
Cleveland, Ohio 44135
(800) 321-1976

PART 3

3 - EXECUTION

3.1 GENERAL

- A. Coordinate tennis court fence installation with all other work.
- B. Install the perimeter curb, as shown in the drawings to contain the new base stone and paving.
- C. Do not begin fence fabric installation until fast dry court surface is at an acceptable level of completion.

3.2 INSTALLATION

- A. Chain link fence installation shall conform to ASTM F 567, except as modified below.
- B. Line posts shall be placed at not more than 8 ft on center, or as indicated on Drawings.
- C. Fence shall be of height and dimension as shown on Drawings, from finish grade to top rail.
- D. Install fabric on court side of posts. Wire fabric shall be attached to frame, and tightly stretched such that it is flat, in uniform tension with no bulges or warping of fence or gate after pulling force is released. Ties shall be spaced at 15" on horizontal rails, and 12" on posts. Ends of wire shall be wound in a telegraph twist two and one-half turns. Top of fence shall approximately follow grade and shall have no abrupt changes in slope. Height of fence shall be constant from elevation of the court surface. The bottom of the fence fabric shall be installed $\frac{3}{4}$ " plus to 1" above the finished court surface.

1. Fasteners: Install nuts for tension band and hardware bolts on side of fence opposite fabric side.
 2. Bolts: Used in the construction of fence shall extend no more than $\frac{1}{4}$ " beyond the nut and shall be ground smooth to prevent injury to person or clothing.
- E. Tension bars: Use tension bars only as needed on fence and gates.

3.3 GATES

- A. Install gates plumb, level, and secure for full opening without interference.
- B. Gate dimension is the center to center spacing of gate posts.
- C. Gates shall work freely and shall have adequate clearance between the bottom and the court surface. Adjust for smooth operation.

3.4 FENCE POST FOUNDATIONS

- A. Excavated post hole foundations shall not be smaller than 12" diameter and depth as shown in drawings.
- B. Concrete shall be crowned at top to shed water.
- C. Fence post footings shall be allowed to cure 72 hours prior to any additional work.

3.5 POSTS

- A. Layout:
 1. End, corner and pull post: Provide at each termination and change in horizontal direction of 30° or more unless otherwise indicated on the Drawings.
 2. Line Posts: Space uniformly at approximately 8' on center or as indicated on the Drawings.
- B. Concrete Set Posts: (Corner, End and Pull posts) Drill holes (after final grading) in firm, undisturbed or compacted soil. Holes shall have a diameter equal to four times the diameter of the post, and depths approximately 6" deeper than post bottom. Excavate deeper as required for adequate support in soft and loose soils, and for posts with heavy lateral loads.
 1. Set post not less than 48" below surface when in firm, undisturbed soil.
 2. Place concrete around posts in a continuous pour, tamp for consolidation. Trowel finish tops of footings, and slope to direct water away from posts.
 3. Gate posts and hardware: Set keepers, stops, sleeves and other accessories into concrete.

- C. Check each post for vertical and top alignment, and hold in position during placement and finishing operations.
- D. Tie Wire: Install shall be spaced 15" apart on rails and 12" apart on posts. Ends shall be wound in a telegraph twist two and a half turns. Cut ends shall point towards outside of court and shall not protrude past the face of the fabric or be a possible cause of injury to a player or spectator.

3.6 FRAMING

- A. Top/Bottom Rails:
 - 1. Random length, averaging not less than 18'.
 - 2. Pressed steel sleeve joints, for rigid connections and expansion/contraction.

3.7 TOUCH UP

- A. Following installation, scratches and marred spots in galvanized surfaces shall be power wire brushed and painted with a cold-applied galvanized paint at a rate of 2 oz. zinc per sq. ft. of surface.
- B. Following installation scratches and marred spots in vinyl coated surfaces shall be field coated with a vinyl coating supplied by the fence manufacturer.

END OF SECTION

SECTION 321805 TENNIS COURT SURFACING

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Tennis Court Surfaces.
 - 2. Tennis Court Perimeter curb
 - 3. Tennis Court Irrigation system
- B. Related Sections:
 - 1. Section 02861: Tennis Court Equipment
 - 2. Section 02871: Tennis Court Chain Link Fence and Gates

1.2 QUALITY ASSURANCE

- A. Utilize equipment of proper size and good working condition to prosecute the work to full completion in a satisfactory manner.
- B. Utilize experienced personnel familiar with the equipment, methods and procedures for the job.
- C. Testing specified herein.

1.3 REFERENCE STANDARDS

- A. Minnesota Department of Transportation Standard Specifications for Construction: Mn/DOT. Latest Edition.
- B. American Society for Testing and Materials: ASTM

PART 2 MATERIALS

2.1 TENNIS COURTS

- A. **Subgrade:** The sub-base should be constructed of a suitable, clean, and compactable material. The material should be compacted to a rate of 95% of maximum compaction. The subgrade can either be LEVEL, sloped from SIDE to SIDE, or END to END on a true plane of 0.28% (1" in 30'). When applicable a thin stone screening layer should be laid between the sub-base and the HydroCourt liner material.

Conversion from "HARD" surfaced court to HydroCourt subgrade can be accomplished by the additional placement of fill material. Fill material should be clean, compactable to a rate of 95%, and sloped 0.28%. Fill areas must be able to support a curbing system. Additional reinforcement may be needed to stabilize such a system.
- B. **Curb:** Curb around entire court area will be a minimum height of 6" above sub-grade in END to END and SIDE to SIDE configuration. In both cases the curb parallels the 1" in 30' slope sub-grade. This assumes that the 1" thick HydroBlend Layer will be placed so that 1/2" is above the top of the curb to aid in proper run-off of storm water
- C. **Cell Configuration:** Cells (20'x60') may be arranged perpendicular to the slope of the court with three cells on each half court. Channel for access pipes will be provided during placement of liners and stone screenings.
- D. **Access Pipes and Water Controls:** Water feed pipes must be level or planar to a degree of not more than a 0.28% slope to allow free flow of water and prevent airlocks in pipes. Water control boxes will be set below subgrade at the low end of the court on stable surface (concrete, stone, bricks), and connected to an acceptable drainage system. If cells are at different levels the pipes may enter the control boxes at different levels.

- A. Control Boxes should be set so that the bottom of the box is 6" below the top of the center panel pipe in the connected cell. Control Boxes may be "stair-stepped" to better accommodate changes in elevation. These boxes may be placed together and ease of both use and installation.

Water feed pipes must be attached to both the control box and its corresponding liner using bulkhead fittings with gasketing material on both sides of the connection. This assures a water-tight fit.

2.2 MATERIALS

- A. Liner:
 - 1. Liners to be 20 MIL or greater polyethylene or equivalent.
- B. Stone:
 - 1. Stone screenings: Shall have approximate top size of 1/4" and no more than 4% dust content passing #200 mesh. Screening samples should be approved by manufacturer prior to installation. Stone screening should be placed to a minimum depth of 5 1/2" after compaction. Stone to be non-soluble (be cautious of some limestone).
When selecting the proper stone screening material, terms such as "concrete or asphalt sand", "manufactured sand", and "washed screenings" are often used to describe proper material needed. Please check with Har-Tru Sports to assure that the screening material is suitable.
- C. Distribution of Water: Water is distributed through a series of 3 panel pipes within the cell. These pipes are placed asymmetrically directly on top of the cell liner to account of the uneven effects of gravity as it acts upon the water table, and are connected to the water feed pipe by the way of 1" sch. 40 PVC pipe and fittings
- D. Panel Pipe: The panel pipe is approximately 1-1/2" thick and 12" wide. It is constructed of HDPE and contains lateral pillars to maintain strength and rigidity, and should withstand forces of 4000 lbs/sq.in. The panel pipe used should be *factory* wrapped in a filtering geotextile and should be capped and coupled as necessary with factory made fittings.
- E. Surface Material:
 - 1. HAR-TRU HYDROBLEND surface material to be installed at a depth of 1-1/4" which compacts to approximately 1". This material should be placed so that 1/2" of the surface is above the top of the curb and 1/2" is below.

PART 3 EXECUTION

3.1 EXAMINATION OF CONDITIONS

- A. Conditions Existing: Review all conditions, levels, elevations and drainage of areas before starting work.
- B. Conformance: If sub-base conditions are unsatisfactory, have corrections made by General Contractor before proceeding.

3.2 SURFACE PREPARATION

- A. Prior to any surface application, wet posts and tie-downs shall be installed, installation shall be as detailed.

3.3 INSTALLATION OF PLAY LINES

- A. Playing Lines: Please be sure to take all the time necessary to properly measure and mark the court for the line tapes. After you have measured out a line, use a nail to mark the spot.

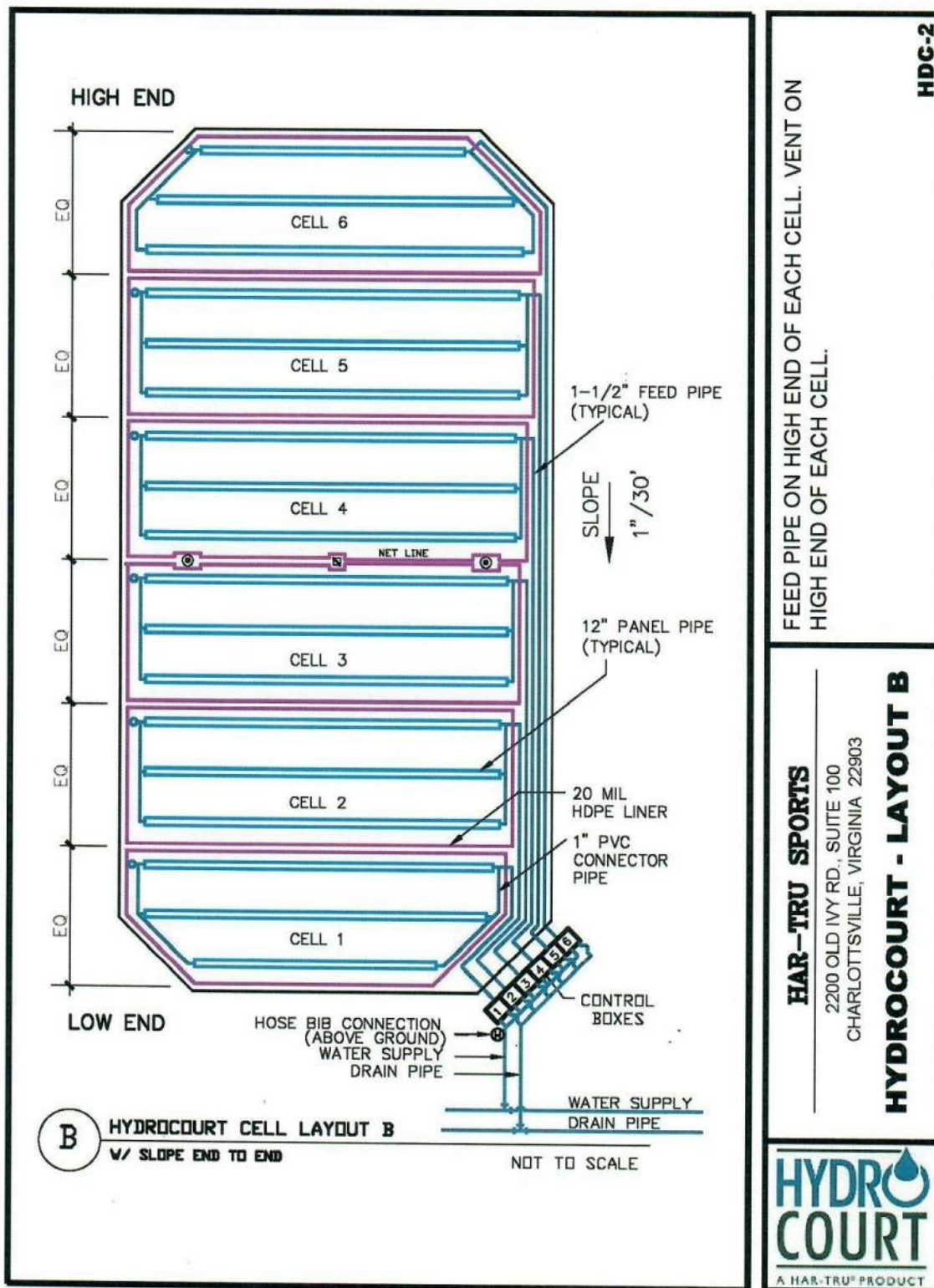
Snap chalk lines on the surface to ensure your line tapes will be laid in a straight line from point to point. Roll out the line tapes, securing the corners with nails as you go. Fill in the remaining pre-punched holes with nails (use every hole available). With the exception of the corners (or places where lines overlap), only hammer in the nails until $\frac{1}{4}$ " remains above the surface. Take a roller and roll down the lines. All of the nails will now be fully – and evenly – set into the ground. Trim the excess ends of the line tapes so that every line and corner is crisp and straight.

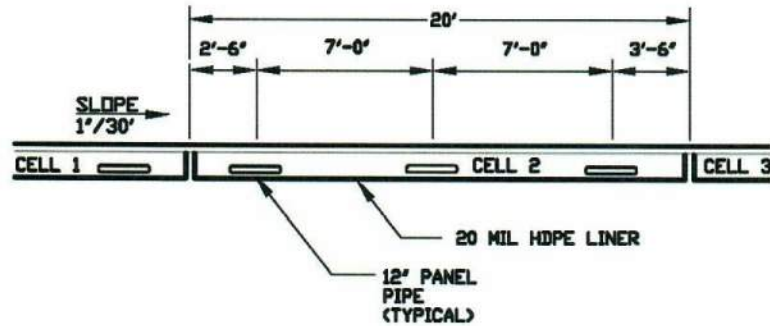
3.4 STAKING AND WORKMANSHIP

- A. The Contractor must retain a Registered Surveyor to accurately establish horizontal and vertical control and provide additional restaking as necessary to maintain control. Line marking shall be laid out according to the United States Tennis Association Specification.
- B. Exercise all necessary precautions to insure that the surface of the courts is not damaged during construction. No depressions shall be allowed in the final court surface.
- C. Remove all debris and surplus materials from the site to provide a neat and well maintained areas.

END OF SECTION

APPENDIX

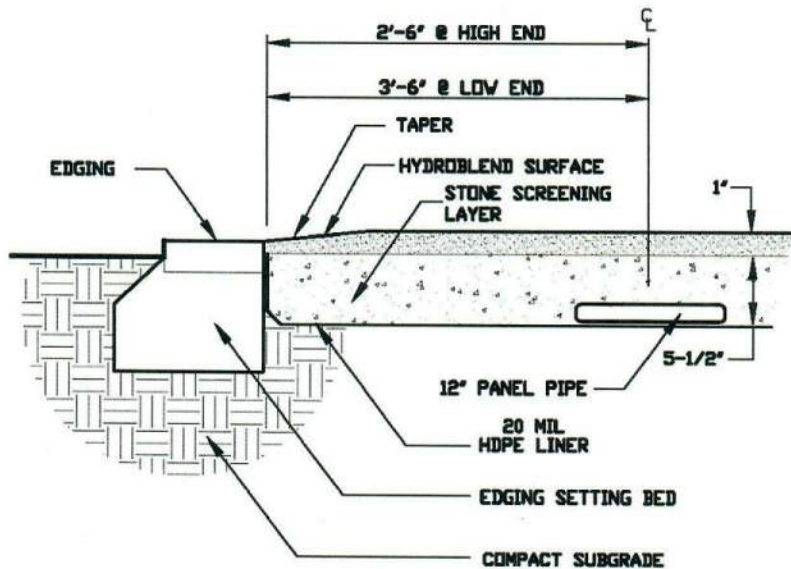




1

SECTION - TYPICAL CELL

NOT TO SCALE



2

DETAIL - CELL @ EDGE

NOT TO SCALE

HAR-TRU SPORTS2200 OLD IVY RD. SUITE 100
CHARLOTTESVILLE, VIRGINIA 22903**HYDROCOURT - DETAILS****HYDRO
COURT**

A HAR-TRU® PRODUCT

Guideline for Modified HydroCourt Screenings

Sieve Size	% Passing
3/8"	100
#4	96
#8	82
#16	65
#30	45
#50	25
#100	10
#200	4

**The above is a guideline for screenings to be used on the Modified HydroCourt System.
A representative sample of the screenings should be sent to Har-Tru Sports for approval prior to use.**