

February 5, 2021

Subject: **23 Star Island**
Elevator Overhead Requirements

To Whom it May Concern:

We have been asked to explain the overhead requirements for the hydraulic elevator being installed at 23 Star Island. We recommend that the distance from the finished floor of the upper most landing served to the underside of the top of the elevator shaft be at least 13'-10".

According to ASME A17.1- 2013, Section 3.4.2, the overhead calculation for this elevator has to take into account the following: cab shell height, crosshead height, car run by and safety clearance.

Cab shell=8'-3"(to achieve 8'-0" clear interior height and 8'-0" tall doors)

Crosshead height= 1'-0"

Car Runby=1'-0"

Minimum safety clearance height= 3'-7"

Total Overhead=13'-10"

This calculation assumes that the hoist beam, used for construction, will be removed when the installation is complete. If the beam is not removed then 1'-0" should be added to the total overhead calculation.

Attached to this letter is a dimensioned drawing to help illustrate the clearance considerations.

Please feel free to contact us with any questions or concerns.

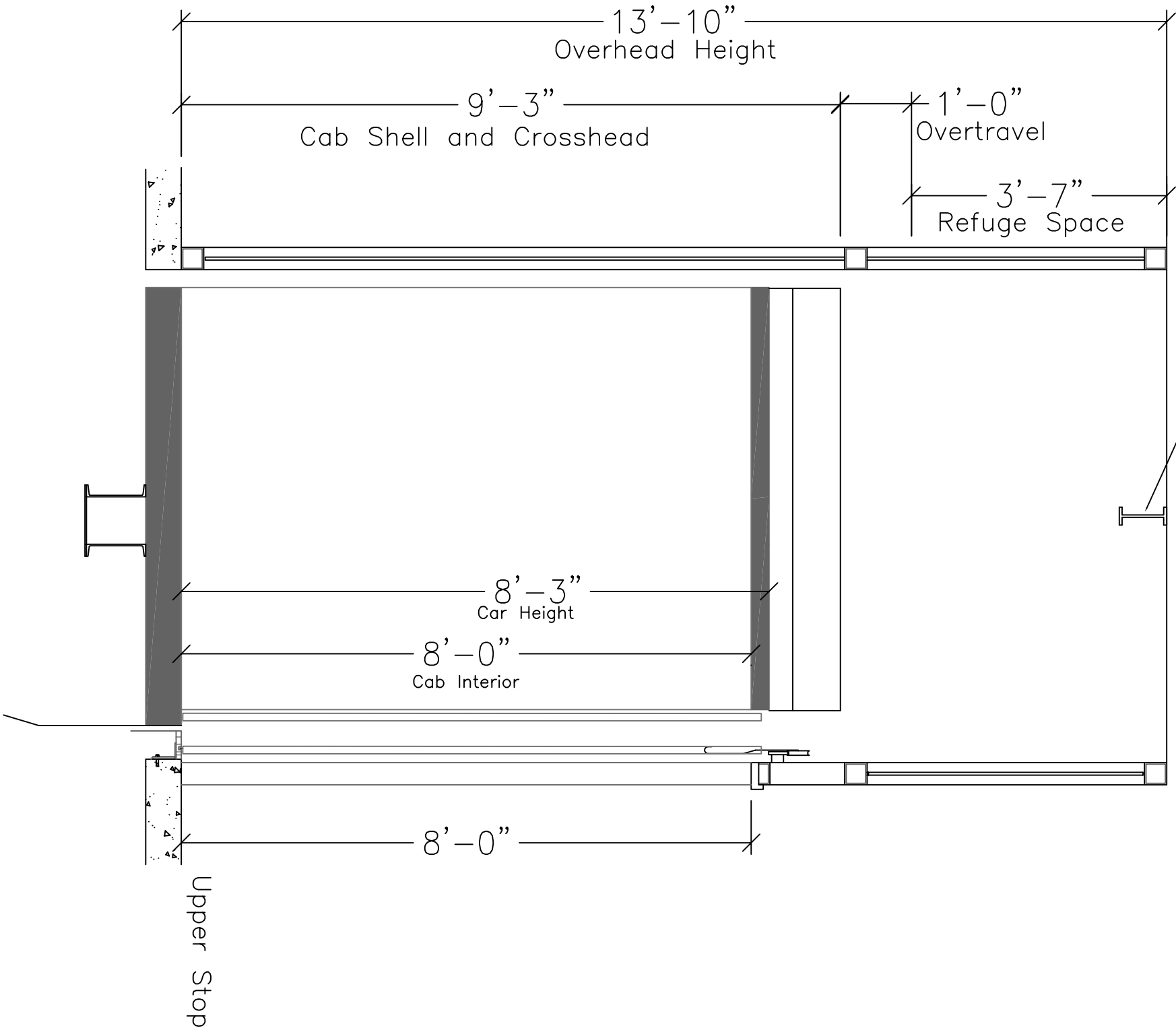
Sincerely,

A handwritten signature in blue ink, appearing to be 'Graham', with a stylized flourish extending to the right.

Graham Huntington
Vice President
Jenkins & Huntington, Inc



Hoist beam to be removed after elevator
installation to allow for adequate car top
safety clearance.



Direct Acting Hydraulic
Passenger Car
Capacity: 4000lbs, Speed: 150fpm
NOT FOR CONSTRUCTION
REFERENCE ONLY

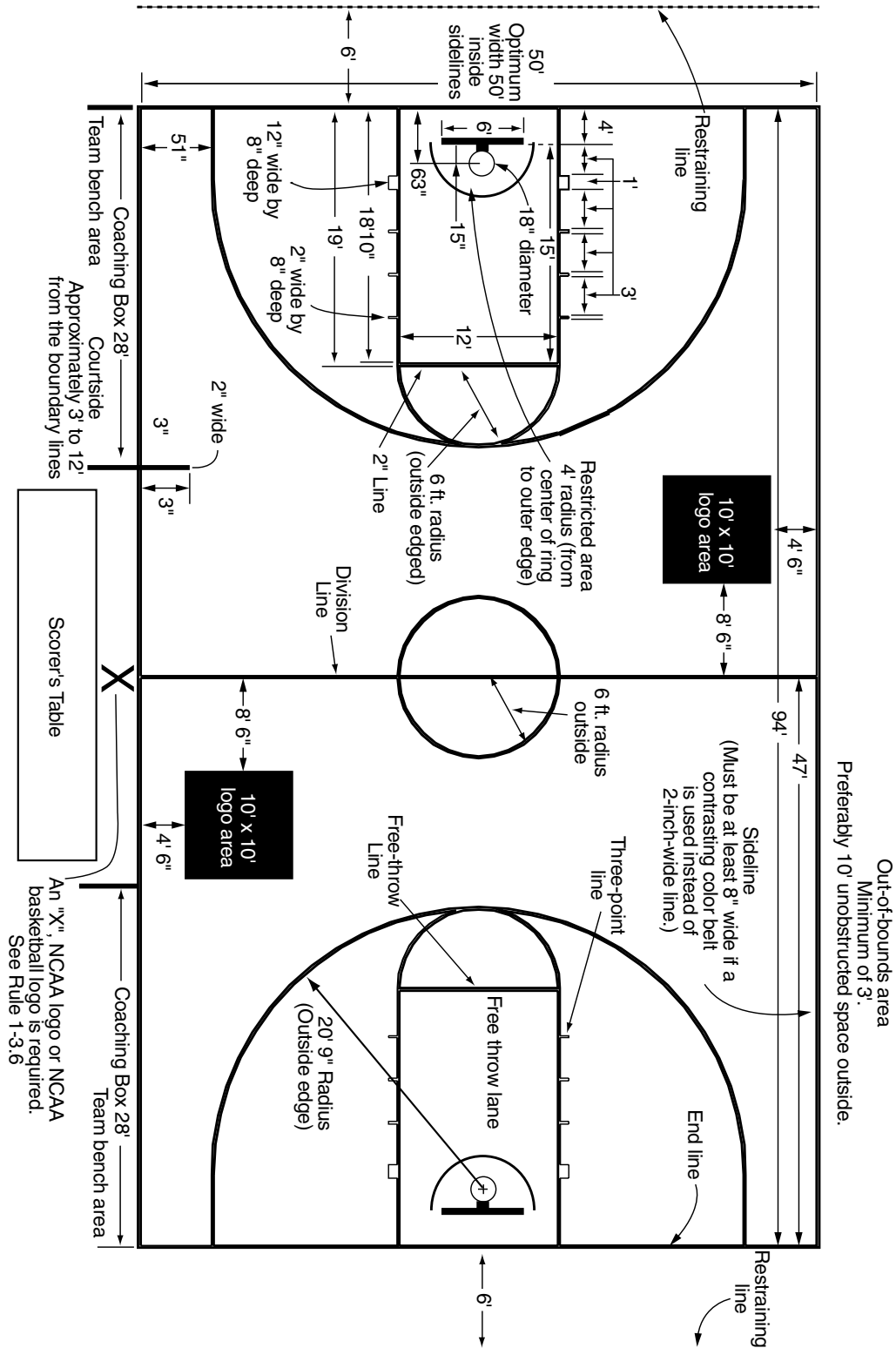
Project:	23 Star Island		
Location:	Miami, FL		
Description:	Elevator: PE1		
Drawing Name:	Overhead		
File No.:	1004052*7435.05		
Date:	05 Feb 2021	Scale:	nts

GYMNASIUM EQUIPMENT COURT DESIGN & RULES

COLLEGE BASKETBALL AND VOLLEYBALL



College (NCAA)—Men's Basketball Court Diagram



College (NCAA)—Men's Basketball Court Layout and Equipment Rules

Important Information for Manufacturers/New Equipment and Apparel

The NCAA Men's Basketball Rules Committee is responsible for formulating the official playing rules for the sport. The committee is not responsible for testing or approving playing equipment for use in intercollegiate women's basketball.

Equipment manufacturers have undertaken the responsibility for the development of playing equipment that meets the specifications established from time to time by the committee. The NCAA urges manufacturers to work with the various independent testing agencies to maximize the safety of products. Neither the NCAA nor the NCAA Women's Basketball Rules Committee certifies the safety of any basketball equipment. Only equipment that meets the dimensions specified in the NCAA Women's Basketball Rules shall be used in intercollegiate competition. Similarly, only uniforms that meet the rules specifications shall be used.

While the committee does not regulate the development of new equipment and does not set technical or scientific standards for testing equipment or the approval or disapproval of specific playing equipment, the committee may, from time to time, provide manufacturers with informal guidelines as to the equipment-performance levels it considers consistent with the integrity of the game. The committee reserves the right to intercede in order to protect and maintain that integrity.

In general, the rules addressing uniforms are intended to positively impact the following needs:

COACHING - Identification of an opponent's personnel when scouting on video and for in-game coaching strategy.

OFFICIATING - Proper foul reporting, identification of disqualified players or players involved in an altercation.

IMAGE - How players appear on television/fan appeal. The NCAA Women's Basketball Rules Committee suggests that manufacturers planning innovative changes in basketball equipment submit the equipment to the NCAA Women's Basketball Rules Committee for review before production.

Court and Equipment

1. **Playing Area.** When possible, building plans should provide for a playing court with ideal measurements as stated in Rule 1-2 and listed on the court diagram, ample out-of-bounds area and needed seating space for scorers, timers and fans. A long playing court permits use of two crosswise courts for practice and informal games. It is recommended that padding that meets current ASTM standards be used on walls and other facility features in or around the playing area that a student-athlete might contact during play. Padding should be installed no more than 4 inches from the floor up to 6 feet.
2. **Ceiling.** The ceiling and anything hanging from it (other than the basket) should be at least 25 feet above the playing court and higher if possible.
3. **Boundaries.** The committee recommends that a belt 8 inches or more in width be used to mark the boundaries on all courts that have at least 10 feet of open space between the boundary lines and the seating. This plan is urged for all new construction and for other similar courts when the boundaries are re-marked.
5. **Warning on misuse of portable backstops.** Manufacturers and administrators should be aware of an "extreme-caution" warning relative to the misuse of portable backstops. A high degree of injury potential and a severe liability problem exists when anyone is allowed to hang, sit or stand on the basket ring or backboard. Administrators must see that this practice is prohibited or that the portable units are lowered at the completion of the game because of the high risk of severe injury, even death. A recommended warning or inscription such as "Danger—please do not get on the rim/backboard" is desirable.
6. **Locking Backboard.** It is recommended that a locking device/safety arrester be used for ceiling and wall-mount backboard systems that are retracted by motor-pulley cable arrangements.
7. **Backboard Padding.** It is recommended that the required padding for the backboard be mounted on the backboard by adhesive or material such as Velcro or channel. The bottom and each side of the backboards shall be padded with a Poly High-Car vinyl-type material that meets the Bashor resilience test with a range of 20-30. A lavalier-type microphone properly positioned in the crease of the backboard padding or between padding and backboard is permitted since it is not located on the padding and does not interfere with a live ball or create a safety hazard.

8. **Ring.** The design of the ring and its construction should be such as to maximize player safety. A movable basket ring shall have rebound characteristics identical to those of a nonmovable ring. The pressure-release mechanism should maximize these characteristics, as well as protect both the ring and backboard. Movable rings are required.
9. **Ring Testing.** It is recommended in all divisions that such testing be done three times during the season. It is recommended further in all divisions that basket ring loads be transferred to the support system by a single strut boom behind the backboard, or to the backboard frame. The pressure-release/elasticity mechanism on movable rings may be field adjustable. When released, the ring shall not rotate more than 30 degrees below the original horizontal position. After release and with the load no longer applied, the ring shall return automatically and instantaneously to its original position.

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4. **Lighting.** The court should be uniformly and adequately lighted. Lighting engineers should be placed in charge of this important factor when planning any new installations. For information on recommended specifications for lighting, contact the Illuminating Engineering Society of North America, 120 Wall Street, 17th Floor, New York, New York 10005; telephone 212/248-5000.
5. **Warning on misuse of portable backstops.** Manufacturers and administrators should be aware of an "extreme-caution" warning relative to the misuse of portable backstops. A high degree of injury potential and a severe liability problem exists when anyone is allowed to hang, sit or stand on the basket ring or backboard. Administrators must see that this practice is prohibited or that the portable units are lowered at the completion of the game because of the high risk of severe injury, even death. A recommended warning or inscription such as "Danger—please do not get on the rim/backboard" is desirable.
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9. **Ring Testing.** It is required for Division I and recommended for Divisions II and III that all competitive rings for men be tested for rebound/elasticity once before the season and once before the postseason. It is recommended further in all divisions that basket ring loads be transferred to the support system by a single strut boom behind the backboard, or to the backboard frame. The pressure-release/elasticity mechanism on movable rings may be field adjustable. When released, the ring shall not rotate more than 30 degrees below the original horizontal position. After release and with the load no longer applied, the ring shall return automatically and instantaneously to its original position.

10. **Marking the Court.** When marking a court, manufacturers should start at the center of the court rather than at either end.
11. **Timing Equipment.** Divisions I, II, and III schools shall have a game clock that shows a 10th-of-a-second display when less than 60 seconds remains in a period. Division I, II, and III schools shall have either a red light placed behind each backboard that is visible through the 24-inch-by-18-inch rectangle or LED lights around the backboard. The purpose of either is to indicate when player activity is terminated. If LED lights are used, they shall be positioned no more than 6 inches from the upper and lower edges of the backboard and no more than 5 inches from the side of each backboard. When both lights are present, the LED lights shall take precedence and the red light shall be disconnected. It is recommended that the game clock, red light or LED lights be updated in their synchronization. It is recommended that all men's Division I arenas provide a timing mechanism that enables the officials to start and stop the game clock automatically. A pole attached to the shot clock that is used to mount a camera or a camera attached to the shot clock is permissible when the shot clock is recessed behind the backboard and does not interfere with a live ball nor does it affect the visibility of the shot clock.

Rule 1

Court and Equipment

Section 2. The Playing Court—Dimension

Art. 1. The playing court is the area on the floor that lies within the geometrical lines formed by the inside edge of the boundary lines.

Art. 2. The playing court shall be a rectangular surface free from obstructions with sidelines of 94 feet in length and end lines of 50 feet in length, measured from the inside edges.

Art. 3. The court dimensions shall be marked as shown on the court diagram.

Section 3. Boundary Lines, Restraining Lines and Other Markings

Art. 1. The court shall be marked with boundary lines (sidelines and end lines) restraining lines and other lines and markings as shown on the court diagram. All lines must be clearly discernible and distinguishable.

Art. 2. Instead of the 2-inch boundaries listed on the diagram, it is legal to use contrasting-colored floor areas by painting the out-of-bounds area, the center circle, and the free-throw lanes and lines so that the mathematical line between the two colors is the boundary. Such a contrasting-colored out-of-bounds belt should be at least 8 inches wide.

Art. 3. The restraining line shall be a solid, interrupted or mathematical line formed between two colors. The line may be a color that is either the same or different from that of the end lines. When space is not available for a 6 foot restraining line, the line should be marked using the maximum available distance. Non-playing personnel shall not be permitted in this area.

Art. 4. A shadow line is a line that designates the required 2-inch width by use of border or outline lines at least 1/4-inch wide, which shall lie within the 2-inch width. All shadow lines must be clearly discernible and distinguishable.

Art. 5. When the floor has a logo on the playing court, that logo should not distract from the players' and the officials' visibility of the division line or center-circle line.

Art. 6. One of the following shall be placed on the floor at the division line in front of the official scorers' table:

- a. An "X" composed of 12-inch line segments that are 2 inches in width.
- b. An NCAA logo that is a minimum of approximately 8 inches in diameter.
- c. An NCAA Basketball logo that is located in a rectangle that is approximately 1½ feet by 2½ feet.

Section 4. Center Circle

Art. 1. When a logo is placed on the playing court which partially or completely obscures the 2-inch center-circle line as shown on the court diagram, the following shall be permissible:

- a. Solid 2-inch-wide interrupted line: 4 inches long, 2-inch break, 4 inches long, 2-inch break, etc.
- b. Shadow-bordered 2-inch-wide line (1/4-inch borders).
- c. Two-inch wide interrupted shadow line: 4 inches, 2-inch break, 4 inches, 2-inch break, etc.
- d. One-quarter-inch, single-bordered line (radius of 6 feet to the outside edge).
- e. Mathematical line formed by contrasting-colored floor areas.

Art. 2. The unmarked spaces for the non-jumpers around the center circle shall be 36 inches deep.

Section 5. Division Line

Art. 1. The division line shall divide the playing court into two equal parts and shall be formed by extending the center-circle diameter in both directions until it intersects the sidelines.

Art. 2. Instead of the solid 2-inch line as shown on the court diagram, the following shall be permissible:

- A solid 2-inch-wide interrupted line: 4 inches, 2-inch break, 4 inches, 2-inch break, etc.
- Shadow-bordered 2-inch-wide line (1/4-inch borders).
- Interrupted 2-inch-wide shadow line: 4 inches, 2-inch break, 4 inches, 2-inch break, etc.

Section 6. Free-Throw Lane

Art. 1. All lines designating the free-throw lane, except lane-space marks and blocks, are part of the lane.

Art. 2. The color of the lane-space marks and blocks may contrast or be of the same color as the color of the lane boundary lines.

Art. 3. It is highly recommended that the area of the free-throw lane inside the boundary lines be one color. It is permissible for this area to be more than one color as long as all required lines in and around the lane are clearly discernible and distinguishable.

Art. 4. The lane-space marks and blocks shall identify the lane space areas that extend 36 inches from the outer edge of the lane lines toward the sidelines.

Section 7. Three-Point Field-Goal Line

Art. 1. The three-point field goal line shall be a distance of 20 feet, 9 inches, from the center of the basket to the outside edge of the three-point field-goal line.

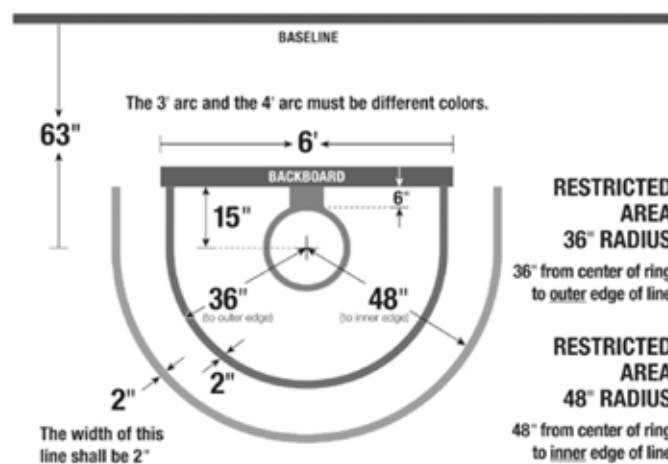
Art. 2. The three-point field-goal line shall be a single-colored solid 2-inch line. The lines may be the same color as or a different color from the free throw lane boundary lines and the semicircles. When a 20-foot-9-inch line and a 19-foot-9-inch line both exist, the two lines shall contrast in color and there shall be no form of embellishment or belt between the lines.

Section 8. Restricted-Area Arc

The restricted-area arc is a solid single-colored 2-inch line formed by a semicircle measured from the center of the basket to the inside edge with a radius of 4 feet and extending in a straight line to the front face of the backboard. This arc must be clearly discernible and distinguishable. When there is both a 3-foot and 4-foot arc on the playing court, the arcs shall contrast in color.

Note: See illustration on next page for details regarding 3-foot and 4-foot arcs.

Note: The 4-foot arc is effective for Division I for the 2015-16 season but not until the 2016-17 season for Division II and Division III.



Section 9. Coaching Box

Art. 1. The coaching boxes shall extend from the sideline to the back of the team benches and shall be bounded by the end line and no farther than the 28-foot line as noted in the diagram.

Art. 2. A 3-foot line shall be extended in both directions from the sideline, so that the coaching-box restriction is evident.

Section 10. Backboards—Dimensions, Materials

Art. 1. Each backboard shall be marked as depicted on the backboard diagram.

Art. 2. The size of the backboards may be either of two dimensions:

- a. 6 feet horizontal and 3½ feet vertical; or
- b. 6 feet horizontal and 4 feet vertical.

Note: The dimensions of 6 feet horizontal and 3½ feet vertical are recommended for replacement backboards or new installations.

Art. 3. The backboards shall be similar in size at both ends of the playing court.

Art. 4. A transparent, unaltered, rigid, rectangular backboard with a flat surface shall be used.

Art. 5. Backboards shall not be tinted.

Section 11. Backboards—Padding

Art. 1. Padding is required on all backboards as outlined in this rule. The padding shall be a single solid color and shall be the same color on both backboards.

- a. When it becomes necessary to use a substitute backboard, the padding shall be of the same color as that of the backboard being replaced.

Art. 2. The padding shall be 1-inch thick from the front and back surfaces of the backboards.

Art. 3. The padding shall extend 2 inches from the bottom edge of each backboard.

Art. 4. The padding shall cover the bottom surface of each backboard and the side surface to a distance of 15 inches up from the bottom. The front and back surface must be covered to a minimum distance of ¾ inch from the bottom of each backboard.

Section 12. Backboards—Support Systems

Art. 1. Padding—Any backboard support behind a backboard and at a height of less than 9 feet above the floor shall be padded on the bottom surface to a distance of 2 feet from the face of the backboard. All portable backstops shall have the bases padded to a height of 7 feet on the courtside surface.

Art. 2. Protrusions and Clearances

- a. Protrusions below backboards shall not be allowed.
- b. Any backboard support, all of which is not directly behind the backboard, shall be at least 6 inches behind the backboard when the support extends above the top and at least 2 feet behind the backboard when the support extends beyond the side.
- c. Any support system below or behind a backboard shall be at least 8 feet behind the plane of the backboard face (and at least 4 feet from the end line) and a height of 7 feet or more above the floor.
- d. Any overhead backboard support structure that must be forward-braced because of space limitations, architectural or structural restraints, shall meet the following requirements: A front diagonal brace support system must be located above a line extending upward and into the playing court at a maximum 45-degree angle from a point on a vertical line located a minimum of 6 inches behind the front surface of the backboard at a minimum height of 4 feet 6 inches above the basket ring.

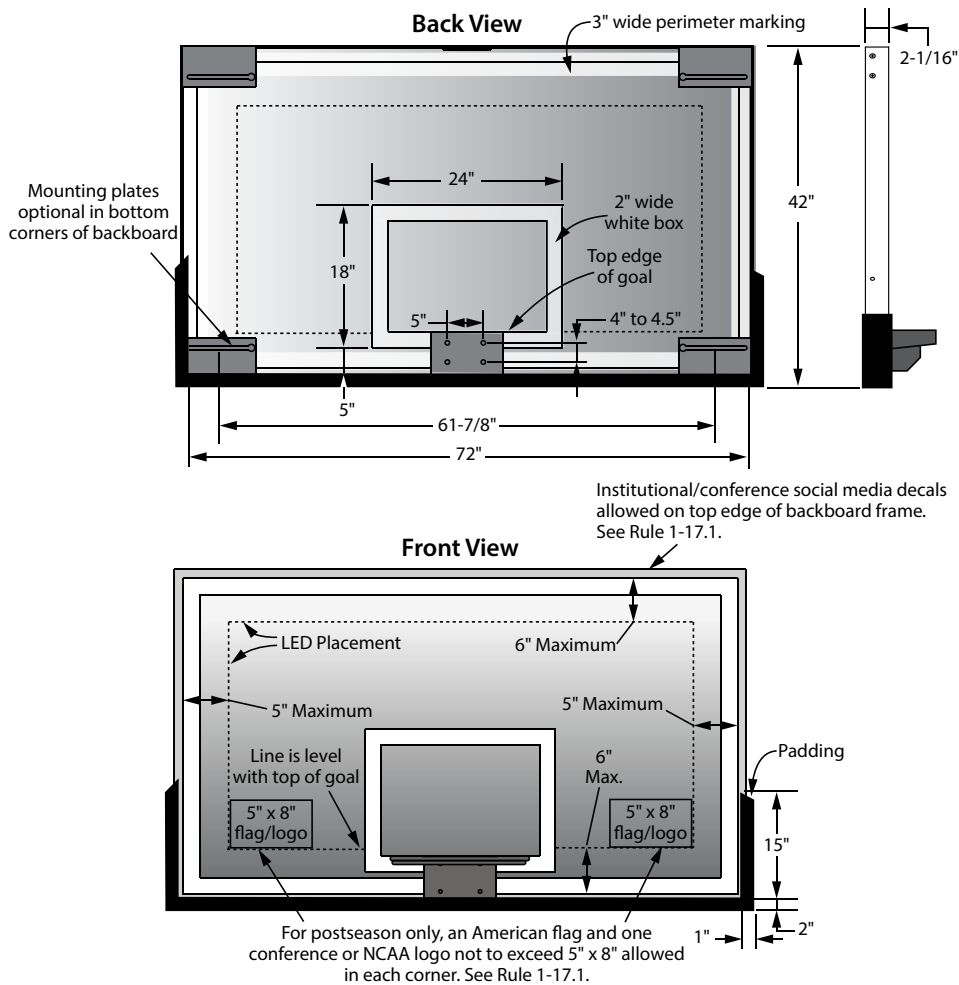
Section 13. Backboards—Positions

Art. 1. Each backboard shall be positioned midway between each sideline, with the plane of its front face perpendicular to the floor, parallel to and 4 feet from each end line.

Art. 2. The upper edge of each backboard shall be 13 feet above the floor.

Art. 3. Each backboard shall be protected from spectators to a distance of at least 3 feet from the end of each backboard.

Art. 4. Portable backboards shall be secured to the floor to prevent movement. Where arena configurations permit, it is recommended that a 3-foot wide escape lane on both sides of the basket stanchion be provided. Each escape



lane shall extend at least to the restraining lane or the back edge of the basket stanchion, whichever is farthest from the end line.

Art. 5. Neon, electric, LED or artificially lit signage shall be permitted on the horizontal stanchion booms; however, it shall not be permitted on the vertical backboard stanchion arms. The permitted signage must conform to the following:

- Signage must be static when the ball is live.
- Maximum Physical Area (H x W x D) 14" x 52" x 2".
- Maximum Active Display Area (H x W) 12" x 46".
- No hard metal or material on the underside or sides of the unit can be exposed. The signage unit must be padded with rounded edges, including across the bottom of the unit. A minimum of 3/4-inch-thick padding must be provided. All padding must be the same color(s) as the stanchion arm;
- The front of the sign must be located a minimum of 6 feet behind the end line, and the bottom cannot extend lower than 6 inches from the top of the horizontal stanchion boom arm;
- The sign must be installed with a Safety Plex covering in all cases.
- A maximum of two panels are permitted per arm (one per side) and must face to the side or behind the playing court.
- The signage must feature dimming functionality that must be set to 50 percent of the maximum brightness with the recommended level of brightness being 20-25 percent. The signage must be able to be deactivated at the request of officials or game management.
- The signage system must be independently operated and cannot be connected to the main scoreboard game clocks and shot clocks in any way.
- LED stanchion arm signage may only be changed during timeouts and between periods. When the signage is improperly positioned or located, the referee shall instruct home contest management to deactivate such signage.

Art. 6. During game conditions, all movement (vibration, etc.) of the backboard (because of any type of dunk or similar play) must regain a static position within four seconds.

Section 14. Baskets—Size, Material

Art. 1. Each basket shall consist of a single metal ring, 18 inches inside diameter, its flange and braces, and a white-cord, 12-mesh net, 15 to 18 inches in length, suspended from beneath the ring.

Art. 2. Each ring shall measure not more than 5/8 inch in diameter, with the possible addition of small-gauge loops on the under-edge or a smaller ring located directly under the required ring for attaching a 12-mesh net. Each ring and its attaching flange and braces shall be bright orange in color.

Art. 3. The cord of each net shall be not less than 120-thread nor more than 144-thread twine, or plastic material of comparable dimensions, and constructed so as to check the ball momentarily as it passes through.

Section 15. Baskets—Ring

Art. 1. Each basket ring shall be securely attached to each backboard/support system with a ring-restraining device. Such a device will ensure that the basket stays attached, even when a glass backboard breaks.

Art. 2. The upper edge of each basket ring shall be 10 feet above and parallel to the floor and shall be equidistant from the vertical edges of that backboard. The nearest point of the inside edge of each ring shall lie 6 inches from the plane of the face of that backboard.

Art. 3. Movable rings are required. Movable rings may flex downward both from the front and the sides.

Art. 4. All competitive rings shall be tested for rebound elasticity once before the season (July 15-Oct. 15) and once before the postseason. The rebound elasticity requirement shall be 35 percent to 50 percent energy absorption and be within a 5 percent differential between baskets on the same court.

Note: For Division II and Division III, ring testing is recommended (see Item No. 9 of the Court and Equipment section of the Important Information for Manufacturers document).

Section 17. Logos/Names/Equipment

Art. 1. Logos, names or equipment of any kind (including school and conference logos or names, cameras and microphones) shall not be permitted on the backboards, rings, flanges, padding around the backboards, or on the shot clocks. Institutional/conference social media decals are permitted on the top edge of the backboard frame. For post-season play only, an American flag and one conference or NCAA logo not to exceed 5 by 8 inches is permitted in the lower corners on the front of the backboard. Cameras and microphones are permitted on the shot clocks when they are recessed such that they do not extend beyond the plane of the back edge of the backboard. A lavalier type microphone properly positioned in the crease of the backboard padding or between the padding and the backboard is permitted when it does not interfere with a live ball or create a safety hazard.

Art. 2. The manufacturer's name and logo shall be permitted to appear on the ball a maximum of two times.

Art. 3. An institution's name or logo shall be permitted on the ball.

Art. 4. There are no restrictions on NCAA, team or conference logos, names or abbreviations on the playing court, provided they do not obscure any of the required lines.

Art. 5. No more than two commercial logos shall be permitted on the playing court when they conform to the following standards:

- a. The logo(s) shall fit into a box that is 10 feet by 10 feet square;
- b. This box shall be located 8½ feet from the division line and 4½ feet from the sideline;
- c. Logo(s) shall be within the two 10-foot-by-10-foot squares, with no more than one square in each half of the playing court.

Note: See Rules 1-22.7.c and 1-25 for logos and labels on players' uniforms/equipment.

Art. 6. The playing court must be completely finished in a manner that is similar throughout, including the 3-foot area outside each sideline and 6-foot area outside each end line. It is the responsibility of the host game management to ensure the court is of a consistent finish, including any logos or decals that are legally allowed on the floor.

Section 19. Shot-Clock Displays

Art. 1. A shot clock is one of the two official visible timepieces that display the amount of time the team in control has to release a try for a field goal so that it hits the ring or the flange.

Art. 2. Two visible shot clocks are required, and shall be recessed and mounted on the backboard supports behind each backboard.

Art. 3. An alternate timing device shall be available when a visible shot clock malfunctions.

Art. 4. LED lights located around the shot clock may be used, but the lights shall only be activated for a shot-clock violation.

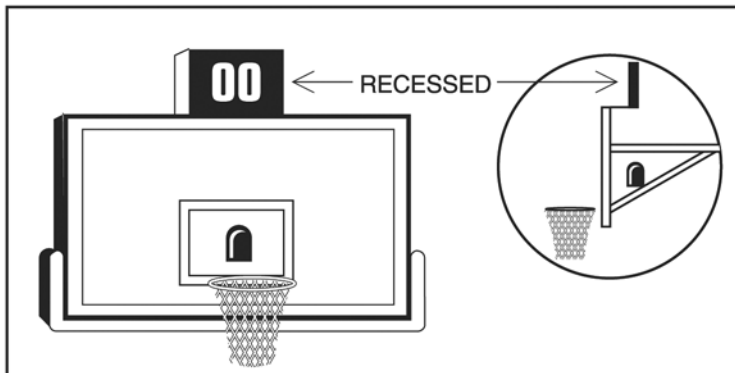
Section 21. Team Benches—Scorers' and Timers' Table

Art. 1. The home team's game administration shall designate each team's bench.

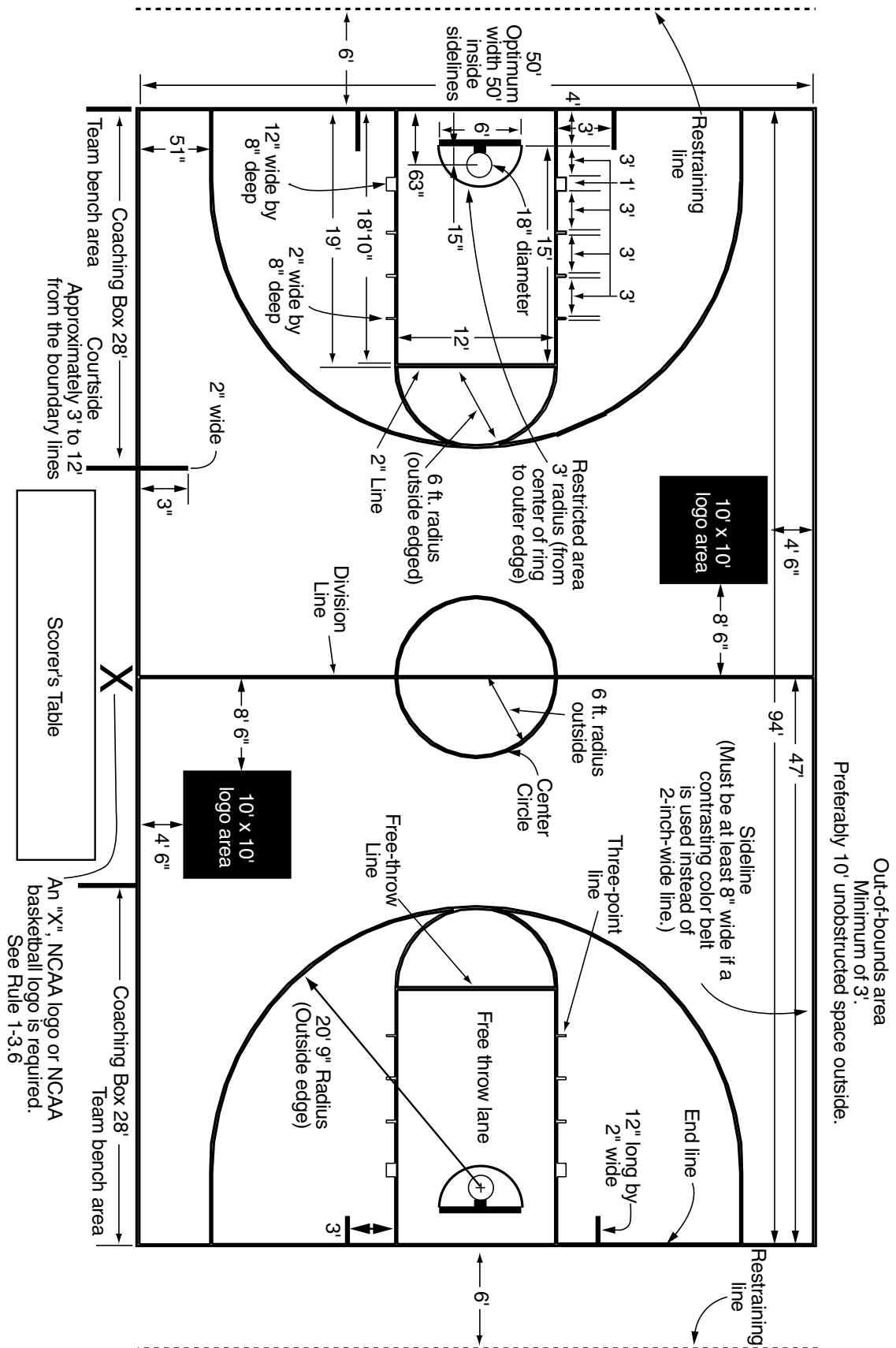
Art. 2. The team benches shall be located equidistant from the division line extended at each side of the scorers' and timers' table on the sidelines.

Art. 3. The scorers' and timers' table shall be located courtside and at midcourt.

Art. 4. Teams shall warm up at the end of the playing court farthest from their own bench for the first half.



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7. Backboard Padding. It is recommended that the required padding for the backboard be mounted on the backboard by adhesive or material such as Velcro or channel. The bottom and each side of the backboards shall be padded with a Poly High-Car vinyl-type material that meets the Bashor resilience test with a range of 20-30. A lavalier-type microphone properly positioned in the crease of the backboard padding or between padding and backboard is permitted since it is not located on the padding and does not interfere with a live ball or create a safety hazard.
8. Ring. The design of the ring and its construction should be such as to maximize player safety. A movable basket ring shall have rebound characteristics identical to those of a nonmovable ring. The pressure-release mechanism should maximize these characteristics, as well as protect both the ring and backboard. Movable rings are required.
9. Ring Testing. It is recommended in all divisions that such testing be done three times during the season. It is recommended further in all divisions that basket ring loads be transferred to the support system by a single strut boom behind the backboard, or to the backboard frame. The pressure-release/elasticity mechanism on movable rings may be field adjustable. When released, the ring shall not rotate more than 30 degrees below the original horizontal position. After release and with the load no longer applied, the ring shall return automatically and instantaneously to its original position.
10. Marking the Court. When marking a court, manufacturers should start at the center of the court rather than at either end.
11. Timing Equipment. Divisions I, II, and III schools shall have a game clock that shows a tenth-of-a-second display when less than one minute remains in a period. Division I, II, and III schools shall have either a red light placed behind each backboard that is visible through the 24-inch-by-18-inch rectangle or LED lights around the backboard. The purpose of either is to indicate when player activity is terminated. If LED lights are used, they shall be positioned no more than 6 inches from the upper and lower edges of the backboard and no more than 5 inches from the side of each backboard. When both lights are present, the LED lights shall take precedence and the red light shall be disconnected. It is recommended that the game clock, red light or LED lights be updated in their synchronization. A pole attached to the shot clock that is used to mount a camera or a camera attached to the shot clock is permissible when the shot clock is recessed behind the backboard and the pole does not interfere with a live ball nor does it affect the visibility of the shot clock.

RULE 1

Court and Equipment

Section 1. The Game

Art. 1. Basketball is played by two teams of five players each. The objective is for each team to throw or tap the ball into its own basket and to prevent the other team from scoring.

Art. 2. A team's own basket is the one into which its players try to throw or tap the ball. Each team shall warm up and shoot during the first half at the basket farthest from its bench.

Art. 3. The teams shall change baskets for the second half.

Art. 4. The ball may be thrown, batted, rolled or dribbled in any direction, subject to the restrictions in these rules.

Section 2. The Playing Court—Dimensions

Art. 1. The playing court is the area on the floor that lies within the geometrical lines formed by the inside edge of the boundary lines.

Art. 2. The playing court shall be a rectangular surface free from obstructions with sidelines of 94 feet in length and end lines of 50 feet in length, measured from the inside edges.

Art. 3. The court dimensions shall be marked as shown on the court diagram.

Section 3. Boundary Lines, Restraining Lines and Other Markings

Art. 1. The court shall be marked with boundary lines (sidelines and end lines), restraining lines and other lines and markings as shown on the court diagram. All lines must be clearly discernable and distinguishable.

Art. 2. Instead of the 2-inch boundaries listed on the diagram, it is legal to use contrasting-colored floor areas by painting the out-of-bounds area, the center circle, and the free-throw lanes and lines so that the mathematical line between the two colors is the boundary. Such a contrasting-colored out-of-bounds belt should be at least 8 inches wide.

Art. 3. The restraining line shall be a solid, interrupted or mathematical line formed between two colors. The line may be a color that is either the same or different from that of the end lines. When space is not available for a 6-foot restraining line, the line should be marked using the maximum available distance. Nonplaying personnel shall not be permitted in this area.

Art. 4. A shadow line is a line that designates the required 2-inch width by use of border or outline lines at least $\frac{1}{4}$ inch wide, which shall lie within the 2-inch width. All shadow lines must be clearly discernable and distinguishable.

Art. 5. When the floor has a logo on the playing court, that logo should not distract from the players' and the officials' visibility of the division line or center-circle line.

Art. 6. One of the following shall be placed on the floor at the division line in front of the official scorers' table:

- a. An "X" composed of 12-inch line segments that are 2 inches in width.
- b. An NCAA logo that is a minimum of approximately 8 inches in diameter.
- c. An NCAA Basketball logo that is located in a rectangle that is approximately $1\frac{1}{2}$ feet by $2\frac{1}{2}$ feet.

Art. 7. To designate the lower defensive box (Rule 4-36), two tick marks shall be placed on each side of the lane. Each tick mark shall be a solid 2-inch wide line that is 12 inches long. Each tick mark shall be measured 3 feet from the outside edge of the lane line to the inside edge of the tick mark line. The tick mark will begin on the end line and run parallel to the lane line.

Section 4. Center Circle

Art. 1. When a logo is placed on the playing court which partially or completely obscures the 2-inch center-circle line as shown on the court diagram, the following shall be permissible:

- a. Solid 2-inch-wide interrupted line: 4 inches long, 2-inch break; 4 inches long, 2-inch break, etc.
- b. Shadow-bordered 2-inch-wide line ($\frac{1}{4}$ inch borders).
- c. Two-inch-wide interrupted shadow line: 4 inches, 2-inch break, 4 inches, 2-inch break, etc.
- d. One-quarter-inch, single-bordered line (radius of 6 feet to the outside edge).
- e. Mathematical line formed by contrasting-colored floor areas.

Art. 2. The unmarked spaces for the nonjumpers around the center circle shall be 36 inches deep.

Section 5. Division Line

Art. 1. The division line shall divide the playing court into two equal parts and shall be formed by extending the center-circle diameter in both directions until it intersects the sidelines.

Art. 2. Instead of the solid 2-inch line as shown on the court diagram, the following shall be permissible:

- a. A solid 2-inch-wide interrupted line: 4 inches, 2-inch break, 4 inches, 2-inch break, etc.
- b. Shadow-bordered 2-inch-wide line ($\frac{1}{4}$ inch borders).
- c. Interrupted 2-inch-wide shadow line: 4 inches, 2-inch break, 4 inches, 2-inch break, etc.

Section 6. Free-Throw Lane

Art. 1. All lines designating the free-throw lane, except lane-space marks and blocks, are part of the lane.

Art. 2. The color of the lane-space marks and blocks may contrast or be of the same color as the color of the lane boundary lines.

Art. 3. It is highly recommended that the area of the free-throw lane inside the boundary lines be one color. It is permissible for this area to be more than one color as long as all required lines in and around the lane are clearly discernable and distinguishable.

Art. 4. The lane-space marks and blocks shall identify the lane space areas that extend 36 inches from the outer edge of the lane lines toward the sidelines.

Section 7. Three-Point Field-Goal Line

Art. 1. The three-point field goal line shall be a distance of 20 feet, 9 inches, from the center of the basket to the outside edge of the three-point field-goal line.

Art. 2. The three-point field-goal line shall be a single-colored solid 2-inch line. The lines may be the same color as or a different color from the free throw lane boundary lines and the semicircles. When a 20-foot-9-inch line and a 19-foot-9-inch line both exist, the two lines shall contrast in color and there shall be no form of embellishment or belt between the lines.

Section 8. Restricted-Area Arc

The restricted-area arc is a solid single-colored 2-inch line formed by a semicircle measured from the center of the basket to the outside edge with a radius of 3 feet and extending in a straight line to the front face of the backboard. This arc must be clearly discernable and distinguishable. When there is both a 3-foot and 4-foot arc on the playing court, the arcs shall contrast in color.

Section 9. Coaching Box

Art. 1. The coaching boxes shall extend from the sideline to the back of the team benches and shall be bounded by the end line and no farther than the 28-foot line as noted in the diagram.

Art. 2. A 3-foot line shall be extended in both directions from the sideline, so that the coaching-box restriction is evident.

Section 10. Backboards—Dimensions, Materials

Art. 1. Each backboard shall be marked as depicted on the backboard diagram.

Art. 2. The size of the backboards may be either of two dimensions:

- a. 6 feet horizontal and $3\frac{1}{2}$ feet vertical; or
- b. 6 feet horizontal and 4 feet vertical.

Note: *The dimensions of 6 feet horizontal and $3\frac{1}{2}$ feet vertical are recommended for replacement backboards or new installations.*

Art. 3. The backboards shall be similar in size at both ends of the playing court.

Art. 4. A transparent, unaltered, rigid, rectangular backboard with a flat surface shall be used.

Art. 5. Backboards shall not be tinted.

Section 11. Backboards—Padding

Art. 1. Padding is required on all backboards as outlined in this rule. The padding shall be a single solid color and shall be the same color on both backboards.

- a. When it becomes necessary to use a substitute backboard, the padding shall be of the same color as that of the backboard being replaced.

Art. 2. The padding shall be 1 inch thick from the front and back surfaces of the backboards.

Art. 3. The padding shall extend 2 inches from the bottom edge of each backboard.

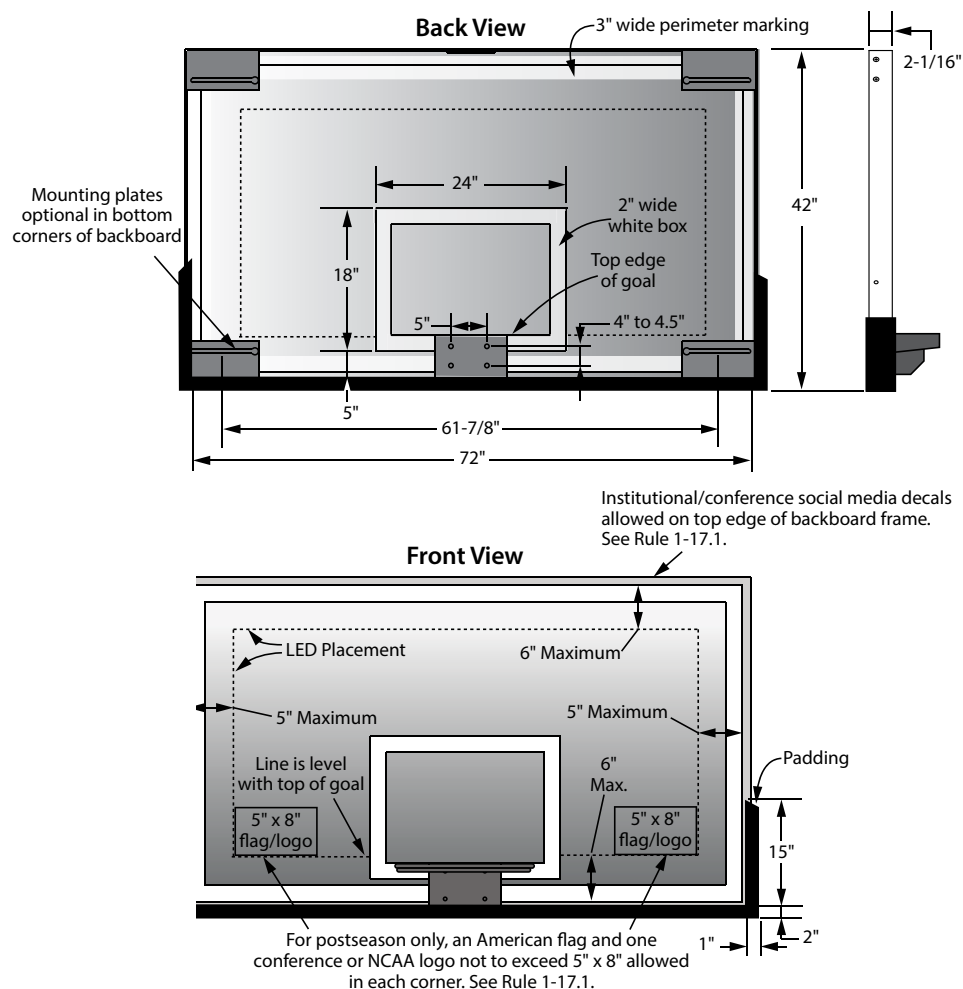
Art. 4. The padding shall cover the bottom surface of each backboard and the side surface to a distance of 15 inches up from the bottom. The front and back surface must be covered to a minimum distance of $\frac{3}{4}$ inch from the bottom of each backboard.

Section 12. Backboards—Support Systems

Art. 1. Padding—Any backboard support behind a backboard and at a height of less than 9 feet above the floor shall be padded on the bottom surface to a distance of 2 feet from the face of the backboard. All portable backstops shall have the bases padded to a height of 7 feet on the courtside surface.

Art. 2. Protrusions and clearances.

- a. Protrusions below backboards shall not be allowed.
- b. Any backboard support, all of which is not directly behind the backboard, shall be at least 6 inches behind the backboard when the support extends above the top and at least 2 feet behind the backboard when the support extends beyond the side.
- c. Any support system below or behind a backboard shall be at least 8 feet behind the plane of the backboard face (and at least 4 feet from the end line) and a height of 7 feet or more above the floor.
- d. Any overhead backboard support structure that must be forward braced because of space limitations, architectural or structural restraints, shall meet the following requirements: A front diagonal brace support system must be located above a line extending upward and into the playing court at a maximum 45-degree angle from a point on a vertical line located a minimum of 6 inches behind the front surface of the backboard at a minimum height of 4 feet, 6 inches above the basket ring.



Section 13. Backboards—Positions

Art. 1. Each backboard shall be positioned midway between each sideline, with the plane of its front face perpendicular to the floor, parallel to and 4 feet from each end line.

Art. 2. The upper edge of each backboard shall be 13 feet above the floor.

Art. 3. Each backboard shall be protected from spectators to a distance of at least 3 feet from the end of each backboard.

Art. 4. Portable backboards shall be secured to the floor to prevent movement. Where arena configurations permit, it is recommended that a 3-foot escape lane on both sides of the basket stanchion be provided. Each escape lane shall extend at least to the restraining line or the back edge of the basket stanchion, whichever is farthest from the end line.

Art. 5. Neon, electric, LED or artificially lit signage shall be permitted on the horizontal stanchion booms; however, it shall not be permitted on the vertical backboard stanchion arms. The permitted signage must conform to the following:

- a. Signage must be static when the ball is live.
- b. Maximum Physical Area (H x W x D) 14" x 52" x 2".
- c. Maximum Active Display Area (H x W) 12" x 46".
- d. No hard metal or material on the underside or sides of the unit can be exposed. The signage unit must be padded with rounded edges, including across the bottom of the unit. A minimum of ¾-inch-thick padding must be provided. All padding must be the same color(s) as the stanchion arm.
- e. The front of the sign must be located a minimum of 6 feet behind the end line, and the bottom cannot extend lower than 6 inches from the top of the horizontal stanchion boom arm.
- f. The sign must be installed with a Safety Plex covering in all cases.
- g. A maximum of two panels are permitted per arm (one per side) and must face to the side or behind the playing court.
- h. The signage must feature dimming functionality that must be set to 50 percent of the maximum brightness with the recommended level of brightness being 20-25 percent. The signage must be able to be deactivated at the request of officials or game management.
- i. The signage system must be independently operated and cannot be connected to the main scoreboard game clocks and shot clocks in any way.
- j. LED stanchion arm signage may only be changed during timeouts and between periods. When the signage is improperly positioned or located, the referee shall instruct home contest management to deactivate such signage.

Art. 6. During game conditions, all movement (vibration, etc.) of the backboard (because of any type of dunk or similar play) must regain a static position within four seconds.

Section 14. Baskets—Size, Material

Art. 1. Each basket shall consist of a single metal ring, 18 inches inside diameter, its flange and braces, and a white-cord, 12-mesh net, 15 to 18 inches in length, suspended from beneath the ring.

Art. 2. Each ring shall measure not more than 5/8 inch in diameter, with the possible addition of small-gauge loops on the under-edge or a smaller ring located directly under the required ring for attaching a 12-mesh net. Each ring and its attaching flange and braces shall be bright orange in color.

Art. 3. The cord of each net shall be not less than 120-thread nor more than 144-thread twine, or plastic material of comparable dimensions, and constructed so as to check the ball momentarily as it passes through.

Section 15. Baskets—Ring

Art. 1. Each basket ring shall be securely attached to each backboard/support system with a ring-restraining device. Such a device will ensure that the basket stays attached, even when a glass backboard breaks.

Art. 2. The upper edge of each basket ring shall be 10 feet above and parallel to the floor and shall be equidistant from the vertical edges of that backboard. The nearest point of the inside edge of each ring shall lie 6 inches from the plane of the face of that backboard.

Art. 3. Movable rings are required. Movable rings may flex downward both from the front and the sides.

Section 17. Logos/Names/Equipment

Art. 1. Logos, names or equipment of any kind (including school and conference logos or names, cameras and microphones) shall not be permitted on the backboards, rings, flanges, padding around the backboards, or on the shot clocks. Institutional/conference social media decals are permitted on the top edge of the backboard frame. For post-season play only, an American flag and one conference or NCAA logo not to exceed 5 by 8 inches is permitted in the lower corners on the front of the backboard. Cameras and microphones are permitted on the shot clocks when they are recessed such that they do not extend beyond the plane of the back edge of the backboard. A lavalier type microphone properly positioned in the crease of the backboard padding or between the padding and the backboard is permitted when it does not interfere with a live ball or create a safety hazard.

Art. 2. The manufacturer's name and logo shall be permitted to appear on the ball a maximum of two times.

Art. 3. An institution's name or logo shall be permitted on the ball.

Art. 4. There are no restrictions on NCAA, team or conference logos, names or abbreviations on the playing court, provided they do not obscure any of the required lines. (See Rule 10-2.1)

Art. 5. No more than two commercial logos shall be permitted on the playing court when they conform to the following standards:

- a. The logo(s) shall fit into a box that is 10 feet by 10 feet square;
- b. This box shall be located 8½ feet from the division line and 4½ feet from the sideline;
- c. Logo(s) shall be within the two 10-foot-by-10-foot squares, with no more than one square in each half of the playing court.

Note: See Rules 1-22.7.c and 1-25 for logos and labels on players' uniforms/equipment.

Art. 6. The playing court must be completely finished in a manner that is similar throughout, including the 3-foot area outside each sideline and 6-foot area outside each end line. It is the responsibility of the host game management to ensure the court is of a consistent finish, including any logos or decals that are legally allowed on the floor.

Section 19. Shot-Clock Displays

Art. 1. A shot clock is one of the two official visible timepieces that display the amount of time the team in control has to release a try for a field goal so that it hits the ring or the flange.

Art. 2. Two visible shot clocks are required, and shall be recessed and mounted on the backboard supports behind each backboard.

Art. 3. An alternate timing device shall be available when a visible shot clock malfunctions.

Art. 4. LED lights located around the shot clock may be used, but the lights shall only be activated for a shot-clock violation.

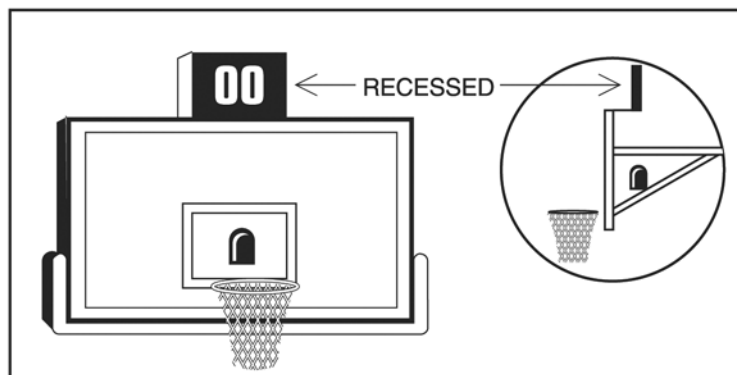
Section 21. Team Benches—Scorers' and Timers' Table

Art. 1. The home team's game administration shall designate each team's bench.

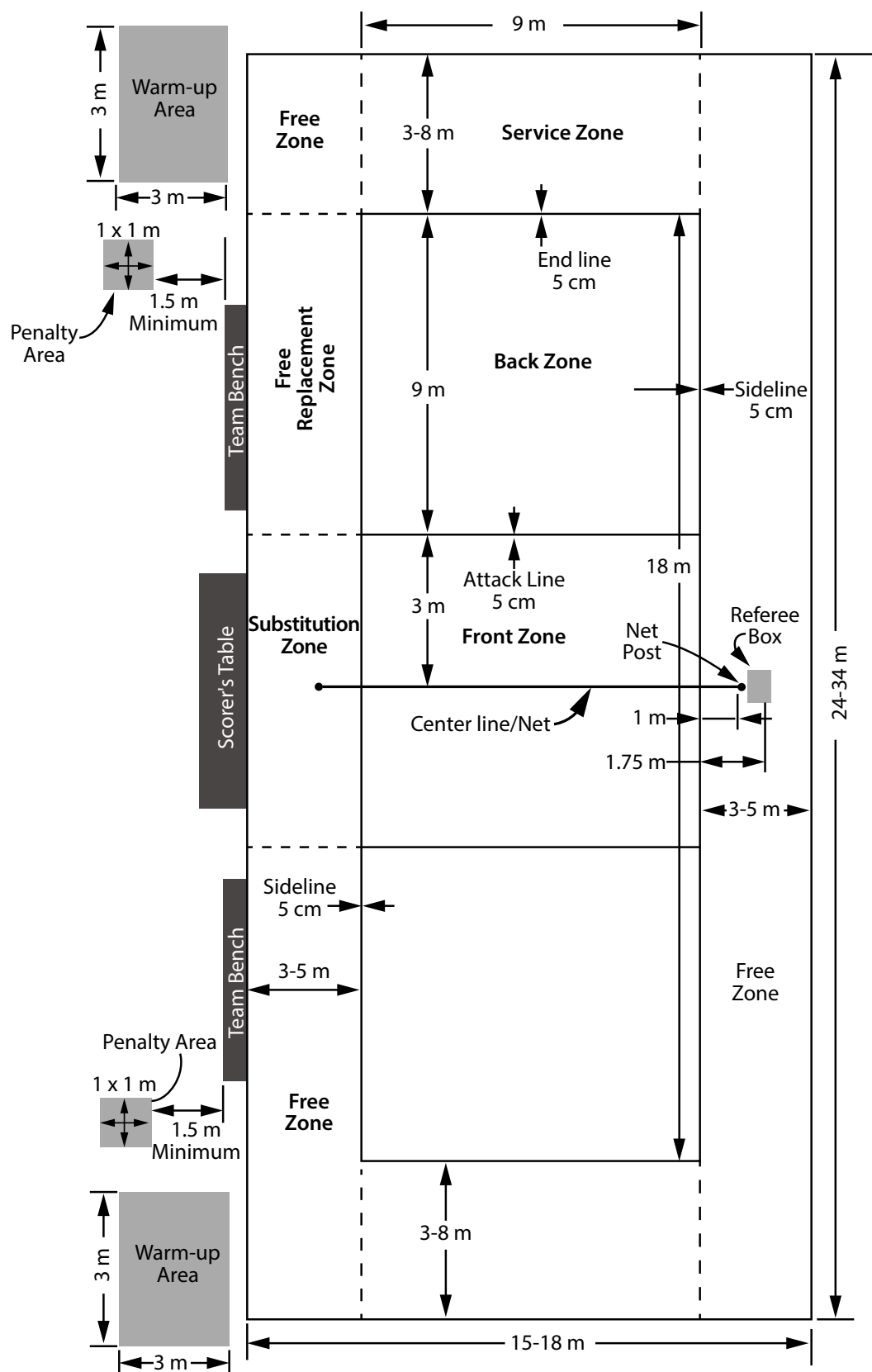
Art. 2. The team benches shall be located equidistant from the division line extended at each side of the scorers' and timers' table on the sidelines.

Art. 3. The scorers' and timers' table shall be located courtside and at midcourt.

Art. 4. Teams shall warm up at the end of the playing court farthest from their own bench for the first half.



College (NCAA)—Women's Volleyball Court Diagram



College (NCAA)—Women's Volleyball Court Layout and Equipment Rules

RULE 1

Facilities and Equipment

1.1 Playing Area

The playing area includes the playing court and the free zone. The entire playing area must be visible to all team members and officials.

1.1.1 Playing Surface

The court and a free zone area at least 2 meters (6 feet, 6 inches) adjacent to and surrounding the court must be flat, smooth and free of obstructions, other than net supports. The free zone may include playing area that is even with or no more than approximately 1.25 centimeters ($\frac{1}{2}$ inch) lower than the primary surface. For facilities constructed after 2016, a free zone of 3 meters (9 feet, 9 inches) is required.

1.1.1.1 The recommended free zone area is 3.05 meters (10 feet) outside the sidelines and 4.58 meters (15 feet) beyond the end lines.

1.1.1.2 Media equipment and personnel are restricted from the areas in front of the team benches, scorer's table and warm-up area and from the playing surface between the attack lines extended on the bench side of the court. In other areas, media equipment and personnel on the playing surface must be at least 2 meters (6 feet, 6 inches) away from the court, and within 1 meter (3 feet, 3 inches) of the boundary defining the playing area. During timeouts and between sets, media personnel will be permitted on the court unless prohibited by the host institution or tournament director, but must not delay the resumption of play.

1.1.2 Overhead Clearance

1.1.2.1 The playing space includes the playing area and the space above it. The recommended clearance over the playing area is 12.4 meters (41 feet), measured from the playing surface. For facilities constructed after 2006, the space above the playing area must be free of obstruction to a minimum height of 7.62 meters (25 feet) measured from the playing surface.

1.1.3 Nonplaying Areas

Nonplaying areas are defined as:

1.1.3.1 Walls, bleachers or other spectator seating areas;

1.1.3.2 Team benches and any area behind them;

1.1.3.3 Area between the scorer's table and team benches; and

1.1.3.4 Any other area outlined in the pre-match conference that is deemed by the first referee to be unsuitable or hazardous. (See Rule 1.4.2.)

1.2 The Court

1.2.1 Dimensions

The playing court is 18 meters (59 feet) long by 9 meters (29 feet, 6 inches) wide.

1.2.2 Court Markings

All lines are 5 centimeters (2 inches) wide and must be a contrasting color from the floor and any other lines (Exception: Rule 1.2.2.2.) No additional temporary markings other than those described below can be applied to the floor.

1.2.2.1 Court Boundary Lines—Two solid (uninterrupted) sidelines (long lines) and two solid (uninterrupted) end lines (short lines) mark the playing court. These boundary lines are drawn inside the dimensions of the playing court.

1.2.2.2 Center Line—The axis of the center line divides the playing court into two equal team courts measuring 9 meters by 9 meters (29 feet, 6 inches by 29 feet, 6 inches) each; however, the entire width of the line is considered to belong to both courts equally. The center line extends beneath the net from sideline to sideline. The center line may have any or all of the following characteristics:

1.2.2.2.1 A solid (uninterrupted) line.

1.2.2.2.2 A solid interrupted line: 10-centimeter line, 5-centimeter break, 10-centimeter line, 5-centimeter break, etc. (4-inch line, 2-inch break, 4-inch line, 2-inch break, etc.)

1.2.2.2.3 A shadow-bordered line with .64-centimeter ($\frac{1}{4}$ -inch) borders.

1.2.2.3 Attack Line—A solid (uninterrupted) line is drawn in each team court between the sidelines, parallel to the center line. The edge of the attack line farthest from the center line measures 3 meters (9 feet, 10 inches)

from the axis of the center line. The extension of the attack lines is marked with a solid interrupted line outside the court: 20-centimeter break, 15-centimeter line (8-inch break, 6-inch line) repeated five times to a total length of 1.75 meters (70 inches).

1.3 Zones and Areas Within the Playing Area

1.3.1 Service Zone

The service zone is a 9-meter (29 foot, 6 inch) wide area behind and excluding the end line. At a point 20 centimeters (8 inches) behind and perpendicular to each end line, two lines, each 15 centimeters (6 inches) in length and 5 centimeters (2 inches) in width, are drawn to mark the service zone for each team. Those lines are extensions of the sidelines and are included in the width of the zone. The service zone has a minimum depth of 2 meters (6 feet, 6 inches), but extends to the limit of the free zone.

1.3.2 Substitution Zone

The substitution zone is the area defined by the imaginary extension of both attack lines, the sideline and the scorer's table.

1.3.3 Front Zone

On each team court, the front zone is defined by the axis of the center line and the attack line. The front zone, center line and attack lines are considered to extend indefinitely beyond the sidelines.

1.3.4 Warm-Up Area

The warm-up area begins at the end of the team bench or at the end line (whichever is nearer the scorer's table), and is located at least 1.75 meters (70 inches) from the court and service zone. (See Rule 5.2.2.1.)

1.3.5 Team Area

The team area includes the team court, the free zone surrounding it, the team bench and the warm-up area. Team benches or chairs are to be placed outside the free zone on the right and left of the scorer's table not nearer the center line than the attack line.

1.4 Safety

1.4.1 Surface

The playing surface must not present danger of injury to the players. Play shall not be conducted on any surface that is wet, slippery or constructed of abrasive material. The playing surface may be wood or a synthetic material that is smooth and free of any abrasive surface.

1.4.2 First Referee Discretion

The playing area, in all cases, must be under the control of the first referee before and during a match. The first referee is responsible for deciding whether the playing area is suitable for play.

1.4.3 Divider Nets

It is recommended that partitions or divider nets be used to define the playing space when adjacent courts are in use.

1.4.4 Special Ground Rules

Any special ground rules for a match must be specified in the pre-match conference by the first referee.

Note: The event administration and officials should take all reasonable precautions to ensure the safety of the participants.

1.4.5 Lighting

1.4.5.1 The court should be uniformly and adequately lighted. For information on recommended specifications for lighting, as published by the Illuminating Engineering Society of North America, contact the NCAA Volleyball Rules liaison.

1.4.5.2 Strobe lights are allowed. Courtside flash photography is prohibited within 2 meters (6 feet, 6 inches) of the court. Flash photography outside the 2-meter area is allowed unless it presents a safety hazard.

1.5 Other Equipment

1.5.1 Scoreboard

A visible scoreboard must be provided. It should be divided into two parts with large numbers to provide a running score for each team. A device displaying running time and a visual display of timeouts and substitutes is recom-

mended. Information shown on the scoreboard is not official and may not be used as a basis for protest.

1.5.2 Officials Seating

Seating should be available at or near the scorer's table for match officials' use.

1.5.3 Measuring Device

Each court should have a measuring device to check the height of the net. The measuring device should be marked at a height of 2.24 meters (7 feet, 4-1/8 inches).

1.5.4 Referee Stand

A referee's stand is required. (See Rule 18.2.1.) The referee stand and platform must be distributed evenly behind the net post. The ladder must be distributed evenly at the back of the referee platform. The platform of the referee stand must be well-supported and should be adjustable; the first referee's eye position should be approximately 50 centimeters (19 inches) above the top of the net. It should be constructed so that it presents the least potential hazard for players. The front and sides of the stand and supports must be padded. (See Rule 2.3.2.2.)

RULE 2

The Net and Related Equipment

2.1 Net Measurements

2.1.1 Size and Construction

The net is 1 meter (39 inches) in width throughout the full length when stretched and at least 9.5 meters (31 feet, 2 inches) in length, and is placed vertically over the axis of the center line.

2.1.1.1 A double thickness of white canvas or vinyl 5 to 8 centimeters (2 to 3-1/8 inches) wide must be sewn along the full length of the top of the net. A white net "sleeve" with a maximum width of 8.6 centimeters (3-3/8 inches) may be installed along the top of the net provided it is secured in a way that it does not affect net height or inhibit play.

2.1.1.2 A bottom tape, if used, will be white and no more than 5 centimeters (2 inches) wide. A net sleeve is not allowed at the bottom of the net.

2.1.1.3 The net must be constructed of 10-centimeter (4-inch) square dark mesh only.

2.1.1.4 The top and bottom of the net must be fastened to the posts so that the net remains taut throughout and maintains its specified dimensions.

2.1.1.5 Metal clamps and any exposed steel cable at the bottom of the net must be covered.

Note: At the prerogative of the host institution, advertising (print or decal) may be placed on the top tape, top net sleeve, bottom tape and/or tape outside the antenna.

2.1.2 Net Height

The height of the net measured from the center of the court is 2.24 meters (7 feet, 4-1/8 inches). The two ends of the net must be at the same height from the playing surface and cannot exceed the regulation height by more than 2 centimeters (3/4 inch).

2.2 Related Equipment

2.2.1 Net Antennas

The net antennas are flexible rods, 1.8 meters (6 feet) in length and 1 centimeter (3/8 inch) in diameter, made of fiberglass or similar material. The upper half of each antenna is marked with alternating white and red or orange bands not less than 10 centimeters (4 inches) and not more than 15 centimeters (6 inches) in width. Antennas are considered part of the net and laterally define the crossing space.

2.2.1.1 Perpendicular to the outer edge of each sideline, an antenna is fastened to the net at a distance of 9 meters (29 feet, 6 inches) from the other antenna.

2.2.1.2 The antennas are affixed to the net with fasteners that provide for quick and easy adjustment of the antenna. The fasteners must be smooth surfaced and free of any sharp edges that are hazardous to players.

2.2.2 Vertical Tape Markers

Vertical tape markers are optional. If used, bands of white material 5 centimeters (2 inches) wide and 1 meter (39 inches) in length are fastened to the net at each end, over and perpendicular to each sideline and the center line.

Vertical tape side markers are part of the net. If vertical tape markers are used, logos, markings and advertising are permitted.

2.3 Net Supports

2.3.1 Location

The posts, uprights or stands (including their bases and padding) that support the net are recommended to be at least 1 meter (3 feet, 3 inches) from the nearest point of the sidelines and should not interfere with the officials in the performance of their duties. For facilities constructed after 2008, the net supports and referee stand (including padding) shall be at least 1 meter (3 feet, 3 inches) from the nearest point of the sidelines. Net supports should present the least possible hazard for players.

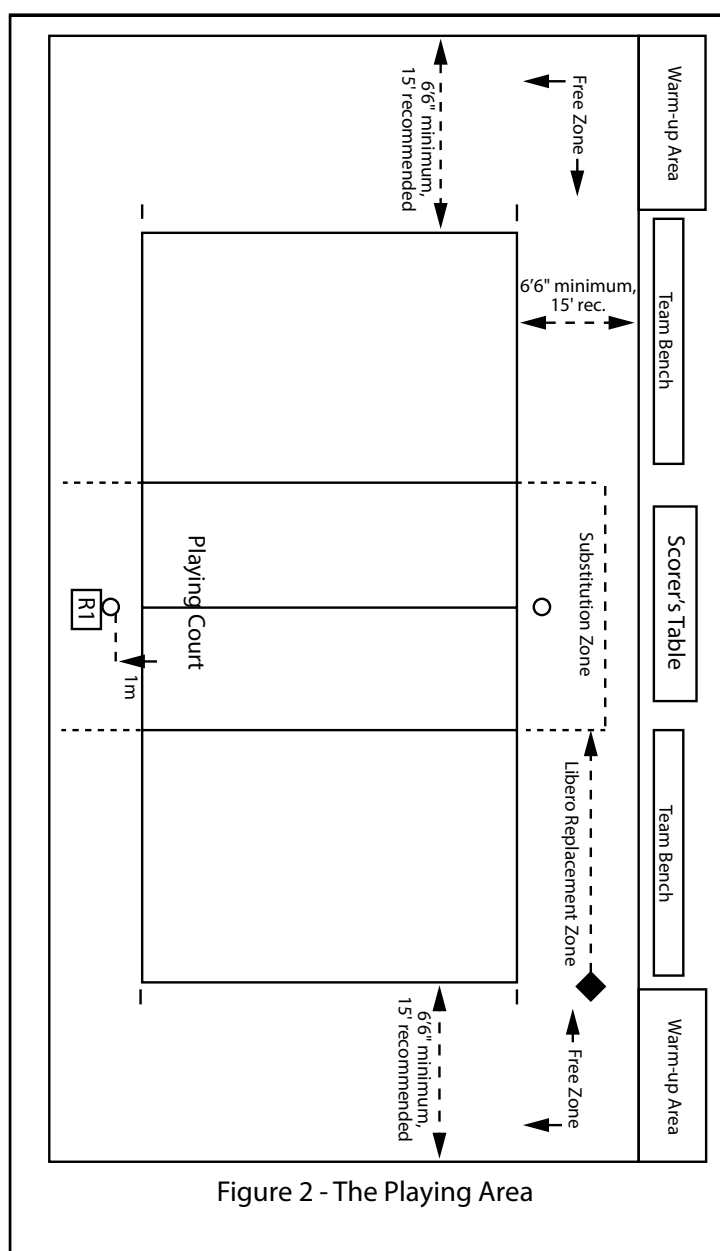
2.3.2 Padding

2.3.2.1 Net standards must be padded to a minimum height of 1.7 meters (5 feet, 6 inches) with at least 1.25-centimeter ($\frac{1}{2}$ inch) thick, resilient, shock-absorbing material (such as polyethylene foam) to encase the uprights and all tensioning devices.

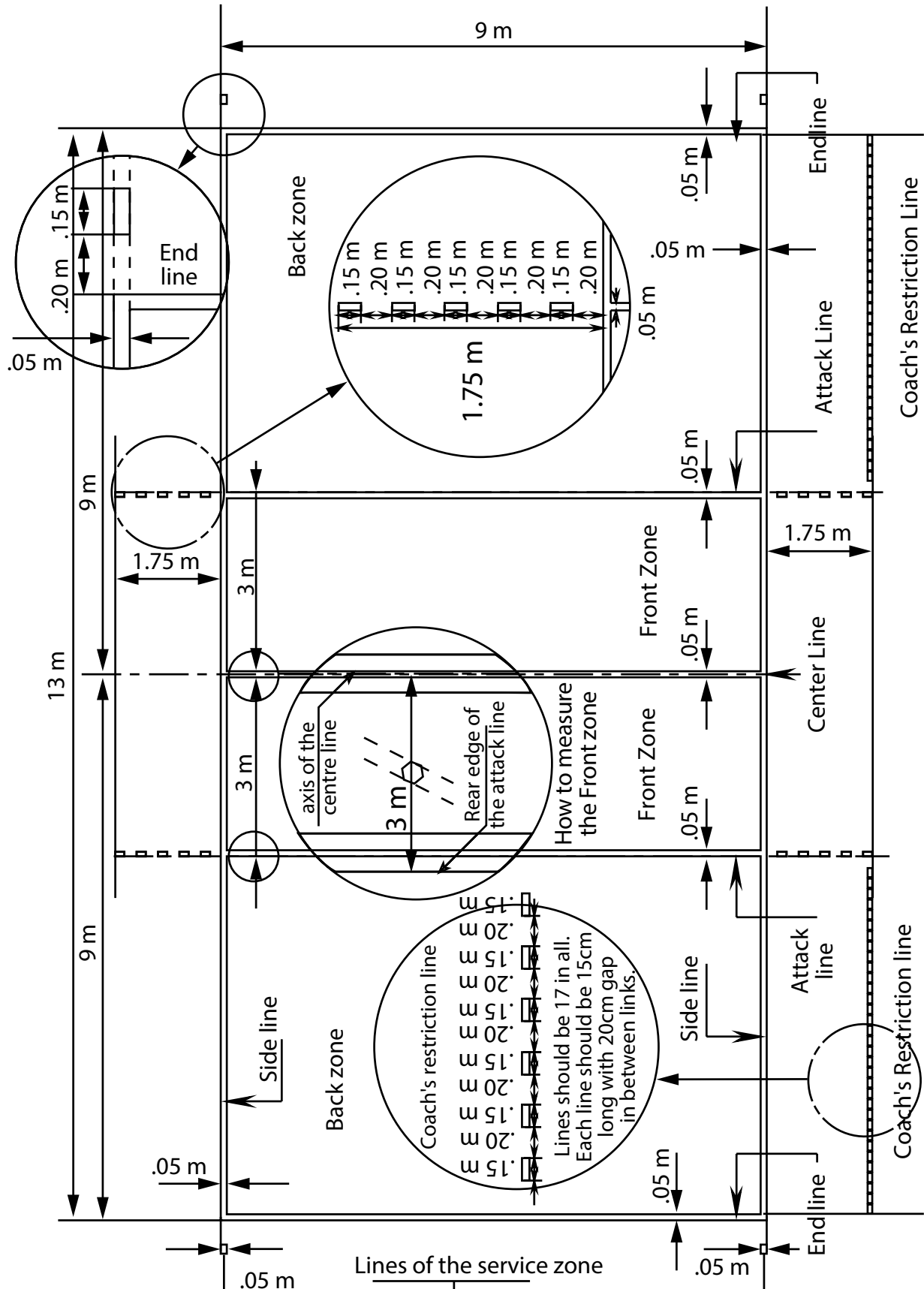
2.3.2.2 The front and sides of the referee's stand and its support system must be padded using the same specifications as the net standards.

2.3.2.3 Any guide cables, rigid braces or wire supports must be padded using the same specifications as the net standards and marked for visibility for the players.

Note: When net supports and the referee's stand are not padded as specified, the match will not be played at that site.



College (NCAA)—Men's Volleyball Court Diagram



USA Volleyball—Volleyball Court Layout and Equipment Rules (Also used for NCAA Men's Volleyball)

SECTION I - THE GAME CHAPTER 1 FACILITIES AND EQUIPMENT

1 PLAYING AREA

The playing area includes the playing court and the free zone. It shall be rectangular and symmetrical.

1.1 DIMENSIONS

The playing court is a rectangle measuring 18 x 9 m (59' x 29'6") surrounded by a free zone which is a minimum of 3 m (9'10") wide on all sides.

The free playing space is the space above the playing area which is free from any obstructions. The free playing space shall measure a minimum of 7 m (23') in height from the playing surface.

USAV 1.1a: The free zone may be a minimum of 2 m (6'6 3/4"). It is not required that the free zone be symmetrical.

USAV 1.1b: For nationally sanctioned competition and recommended for all other competitions, 7 m (23') is the minimum free playing space (ceiling height).

For FIVB, World and Official Competitions, the free zone shall measure a minimum of 5 m (16'5") from the side lines and 6.5 m (21'4") from the end lines. The free playing space shall measure a minimum of 12.5 m (41') in height from the playing surface.

1.2 PLAYING SURFACE

1.2.1 The surface must be flat, horizontal and uniform. It must not present any danger of injury to the players. It is forbidden to play on rough or slippery surfaces.

USAV 1.2.1: Players may mop the floor provided the 1st referee does not judge the action to be a delay. For FIVB, World and Official Competitions, only a wooden or synthetic surface is allowed. Any surface must be previously approved by the FIVB.

USAV 1.2.1: For nationally sanctioned competition, USA Volleyball must approve the surface.

1.2.2 On indoor courts the surface of the playing court must be of a light color.

USAV 1.2.2: It is recommended the surface of the playing court be a light color or that other contrasting colors be used for the playing court and free zone. For FIVB, World and Official Competitions, white colors are required for the lines. Other colors, different from each other, are required for the playing court and the free zone.

1.2.3 On outdoor courts a slope of 5 mm per meter is allowed for drainage. Court lines made of solid materials are forbidden.

1.3 LINES ON THE COURT

1.3.1 All lines are 5 cm (2") wide. They must be of a light color which is different from the color of the floor and from any other lines.

USAV 1.3.1: Lines are not required to be of a light color as long as they contrast with the color of the floor.

1.3.2 Boundary lines

Two side lines and two end lines mark the playing court. Both side lines and end lines are drawn inside the dimensions of the playing court.

1.3.3 Center line

The axis of the center line divides the playing court into two equal courts measuring 9 x 9 m (29'6" x 29'6") each; however, the entire width of the line is considered to belong to both courts equally. This line extends beneath the net from side line to side line.

1.3.4 Attack line

On each court, an attack line, whose rear edge is drawn 3 m (9'10") back from the axis of the center line, marks the front zone. For FIVB, World and Official Competitions, the attack line is extended by the addition of broken lines from the side lines, with five 15 cm (6") short lines 5 cm (2") wide, drawn 20 cm (8") from each other to a total length

of 1.75 m (70"). The "coach's restriction line" (a broken line which extends from the attack line to the end line of the court, parallel to the side line and 1.75 meters [70"] from it) is composed of 15 cm (6") short lines drawn 20 cm (8") apart to mark the limit of the coach's area of operation.

USAV 1.3.4: For nationally sanctioned competitions, the extensions of the attack lines outside the court are required as described above. These extensions are optional for all other events. The coach's restriction line is optional for all events.

1.4 ZONES AND AREAS

1.4.1 Front zone

On each court the front zone is limited by the axis of the center line and the rear edge of the attack line. The front zone is considered to extend beyond the side lines to the end of the free zone.

1.4.2 Service zone

The service zone is a 9 m (29'6") wide area behind each end line. It is laterally limited by two short lines, each 15 cm (6") long, drawn 20 cm (8") behind the end line as an extension of the side lines. Both short lines are included in the width of the service zone. In depth, the service zone extends to the end of the free zone.

USAV 1.4.2: The service zone shall have a minimum depth of 2 m (6'6 3/4"). If this zone is fewer than 2 m (6'6 3/4") [Rule 1.4.2], a line shall be marked on the court to provide the minimum depth. After the service, the line is ignored and becomes part of the court.

1.4.3 Substitution zone

The substitution zone is limited by the extension of both attack lines up to the scorer's table.

1.4.4 Libero Replacement Zone

The Libero Replacement Zone is part of the free zone on the side of the team benches, limited by the extension of the attack line up to the end line.

1.4.5 Warm-up area

For FIVB, World and Official Competitions, the warm-up areas, sized approximately 3 x 3 m (9'10" x 9'10"), are located in both of the bench-side corners, outside the free zone.

USAV 1.4.5: The warm-up area is at the end of the bench or bench area, and no nearer to the court than the front of the team bench. Substitutes must not interfere with play or the officials' duties.

1.4.6 Penalty Area

A penalty area, sized approximately 1 x 1 m (39" x 39") and equipped with two chairs, is located in the control area, outside the prolongation of each end line. They may be limited by a 5 cm (2") wide red line.

USAV 1.4.6: Inclusion of a penalty area is recommended.

2 NET AND POSTS

2.1 HEIGHT OF THE NET

2.1.1 Placed vertically over the center line there is a net whose top is set at the height of 2.43 m (7'11 5/8") for men and 2.24 m (7'4 1/8") for women.

USAV 2.1: The height of the net may vary for specific age groups as follows:

2.1.2 Its height is measured from the center of the playing court. The net height (over the two side lines) must be exactly the same and must not exceed the official height by more than 2 cm (3/4").

2.2 STRUCTURE

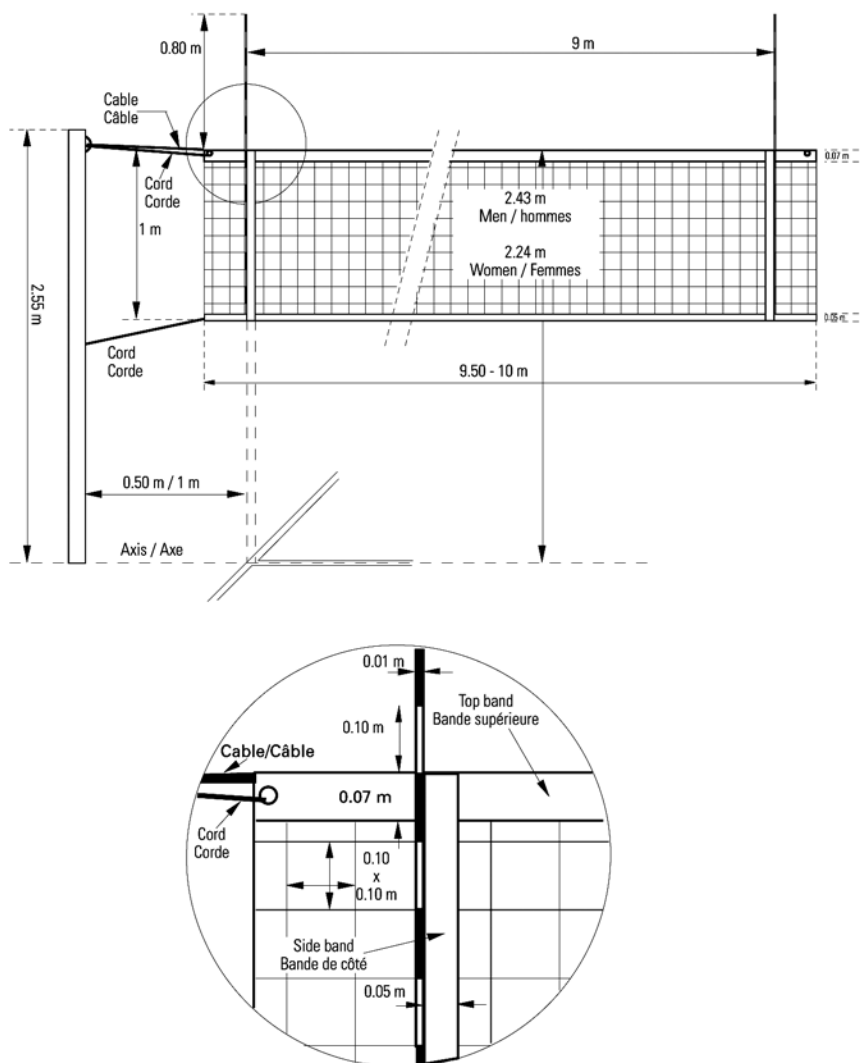
The net is 1 m (39") wide and 9.50 to 10 meters (31'6"-33') long (with 25 to 50 cm [10"-19 1/2"] on each side of the side bands), made of 10 cm (4") square black mesh. For FIVB, World and Official Competitions, in conjunction with specific competition regulations the mesh may be modified to facilitate advertising according to marketing agreements. At its top a horizontal band, 7 cm (2 3/4") wide, made of twofold white canvas, is sewn along its full length. Each extreme end of the band has a hole, through which passes a cord, fastening the band to the posts for keeping its top taut.

USAV 2.2: At its top, a horizontal band 5 to 7 cm (2 to 2 3/4") wide, made of two-fold white canvas, is sewn along its full length. Within the band, a flexible cable fastens the net to the posts and keeps its top taut. At the bottom of the net there is another horizontal band, 5 cm (2") wide, similar to the top band, through which is threaded a rope. This rope fastens the net to the posts and keeps its lower part taut.

2.3 SIDE BANDS

Two white bands are fastened vertically to the net and placed directly above each side line. They are 5 cm (2") wide and 1 m (39") long and are considered as part of the net.

USAV 2.3: The side bands are optional.



2.4 ANTENNAE

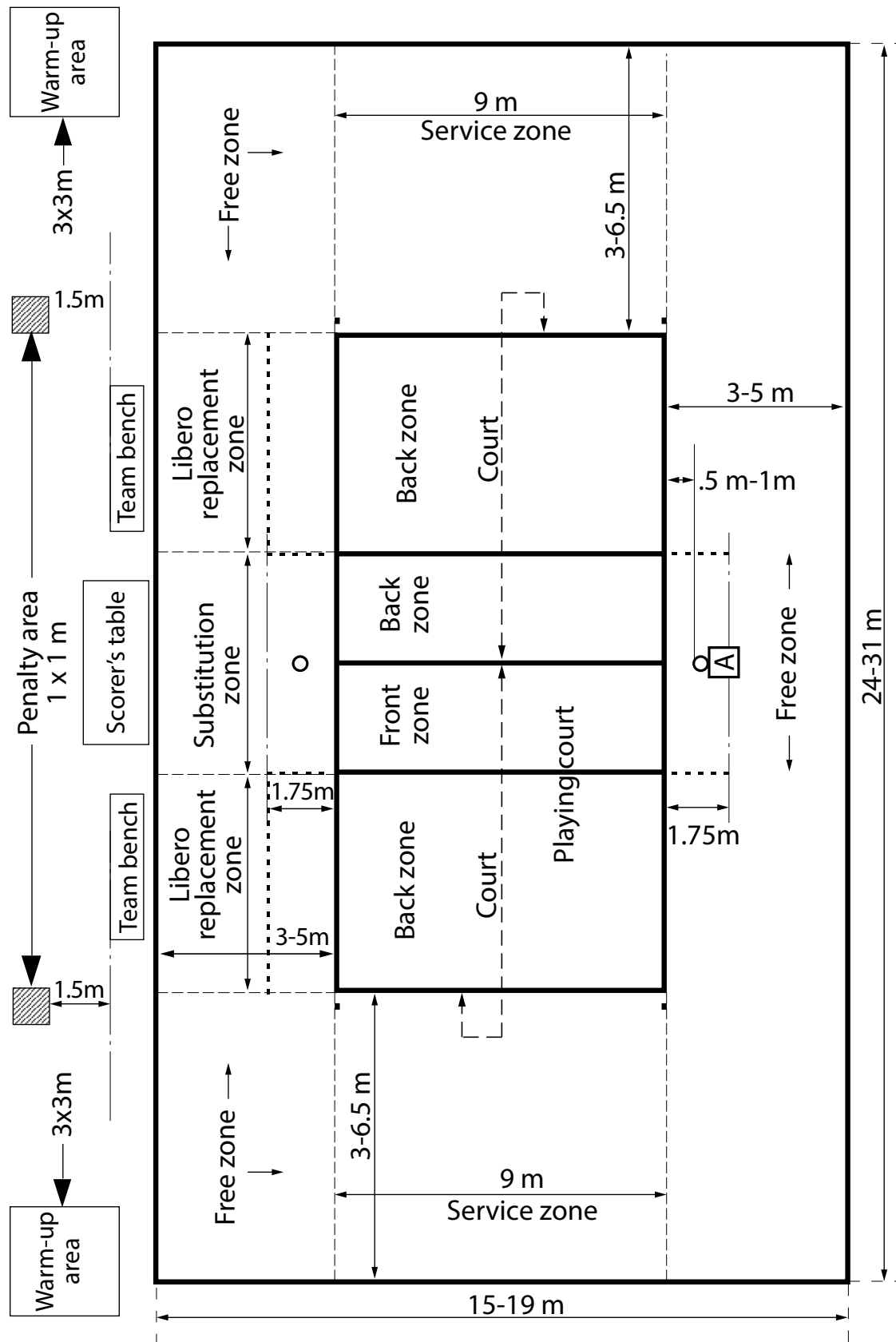
An antenna is a flexible rod, 1.80 m (5'11") long and 10 mm (3/8") in diameter, made of fiberglass or similar material. An antenna is fastened at the outer edge of each side band. The antennae are placed on opposite sides of the net. The top 80 cm (32") of each antenna extends above the net and is marked with 10 cm (4") stripes of contrasting color, preferably red and white. The antennae are considered as part of the net and laterally delimit the crossing space.

2.5 POSTS

2.5.1 The posts supporting the net are placed at a distance of 0.50-1.00 m (20"-39") outside the side lines. They are 2.55 m (8'4") high and preferably adjustable. For all FIVB, World and Official Competitions, the posts supporting the net are placed at a distance of 1 m (39") outside the side lines.

2.5.2 The posts are rounded and smooth, fixed to the ground without wires. There shall be no dangerous or obstructing devices.

USAV 2.5.2: Ceiling mounted net systems are allowed.



2.6 ADDITIONAL EQUIPMENT

All additional equipment is determined by FIVB regulations.

USAV 2.6:

- a. If the posts are secured by barrels or other supporting apparatus, there must be some means of clearly identifying the barrels or supporting apparatus. All other dangerous or obstructing devices must be eliminated. Metal cables, tensioning devices and other exposed wires may need to be covered if the referees determine these items may cause injury to players.
- b. All wires that support posts from the floor will be eliminated, or if that is not possible, then all exposed wires must be padded with at least 1.25 cm (1/2") thick, resilient, shock absorbing material throughout the entire length. The padding must be clearly recognizable.
- c. Posts shall be padded to a minimum height of 1.7 m (5'6") with at least 1.25 cm (1/2") thick, resilient, shock absorbing material.
- d. Basic equipment includes a referee stand, which should be adjustable to allow the referee's eye position to be approximately 50 cm (19") above the top of the net. It should be constructed so that it presents the least potential hazard for participants. Step ladders, jump boxes and other devices not specifically designed as referee stands shall not be used. If an appropriate referee stand cannot be provided, the 1st referee performs his/her functions from the floor.
- e. The front and sides of the referee's stand must be padded in the same manner as the posts to a height of 1.7 m (5'6").
- f. The scoreboard must be divided into two parts with numbers that provide the score for each team. The score displayed on the scoreboard is not official and may not be used as a basis of protest.

Sources

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2015-2016 and 2016-2017 NCAA Illustrated Men's Basketball Rules, Dan Calandro, Director of Playing Rules and Officiating, Ed. 2015, National Collegiate Athletic Association, Indianapolis, Indiana. www.ncaa.org.

NCAA Women's Volleyball:

2014 and 2015 NCAA Women's Volleyball Rules and Interpretations, Rachel Seewald, Associate Director, Championships and Alliances, Ed. 2014, National Collegiate Athletic Association, Indianapolis, Indiana. www.ncaa.org.

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November 13th, 2020

RE: 23 Star Island Drive Ficus - 1/24

To the Urban Forestry Division:

In September 2020, a large Strangler Fig (*Ficus aurea*) was relocated to its new location on-site at 23 Star Island Drive. Successful relocation occurred after months of coordinated preparation work. The tree is approximately 55ft tall by 80ft in spread with an 18ft diameter. I will be inspecting the tree monthly for two years - this is the first monthly report.

Currently the tree remains in good condition. Since last month, there is an additional 6 inches of new growth from the pruning cuts in the canopy. There is now compensatory shoot growth along the main trunks as well. The tree has dropped some old leaves and is about 10% thinner on the street side, and about 15% thinner on the bay side compared to directly after tree relocation. Chainlink tree protection fencing with signs forms a Tree Protection Zone around the tree. There is a chainlink fence across the propertyline and crushed limerock has been added to designate vehicle and equipment access into the site which is as far from the tree as possible. There is standing water near the tree after weeks of heavy rain (See attached photos on following page).

Please feel free to contact me should any questions arise. Thank-you for the opportunity to assist in this manner.

Kind Regards,

A handwritten signature in blue ink that reads "Alexis Alvey".



Tree overall



Interior shoot growth



Tree Protection Fencing



Loss of old leaves



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December 22nd, 2020

RE: 23 Star Island Drive Ficus - Report #2/24

To the Urban Forestry Division:

In September 2020, a large Strangler Fig (*Ficus aurea*) was relocated to its new location on-site at 23 Star Island Drive. Successful relocation occurred after months of coordinated preparation work. The tree is approximately 55ft tall by 80ft in spread with an 18ft diameter. I will be inspecting the tree monthly for two years - this is the second monthly report.

Currently the tree remains in good condition. Since last month, the tree has dropped additional old leaves and is about 30% thinner overall. This is partly due to the time of year. Four large straps have been placed over the rootball to anchor it in place. An irrigation system has been set-up to provide supplemental water. One spinner is located in the canopy of the tree. (See attached photos on the following page.)

Please feel free to contact me should any questions arise. Thank-you for the opportunity to assist in this manner.

Kind Regards,

A handwritten signature in blue ink that reads "Alexis Alvey". The signature is written in a cursive, flowing style.



Tree overall



Rootball straps and irrigation line



Irrigation leading towards tree



Loss of old leaves



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January 22nd, 2021

RE: 23 Star Island Drive Ficus - Report #3/24

To the Urban Forestry Division:

In September 2020, a large Strangler Fig (*Ficus aurea*) was relocated to its new location on-site at 23 Star Island Drive. Successful relocation occurred after months of coordinated preparation work. The tree is approximately 55ft tall by 80ft in spread with an 18ft diameter. I will be inspecting the tree monthly for two years - this is the third monthly report.

Currently the tree remains in fair condition. Since last month, the tree has dropped additional old leaves and is about 40% thinner overall. This is partly due to the time of year. About 4-6 inches of new growth has formed from some previously cut branches. A new trailer for the construction crew has been installed near the tree, outside the TPZ. Beneath the trailer, the grade has been raised 18 inches to what I was informed was the final grade. A pile of crushed limerock is to the east of the tree, outside the TPZ. Trenching has occurred near the electrical boxes to the west of the tree. (See attached photos on the following page.) All construction materials, fill, and trenching will need to remain outside the TPZ and TPZ fencing must remain intact.

Please feel free to contact me should any questions arise. Thank-you for the opportunity to assist in this manner.

Kind Regards,

A handwritten signature in blue ink that reads "Alexis Alvey".



Tree overall



Trenching around electrical boxes



New trailer and crushed rock outside TPZ



New growth from previously cut branches



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#NY-5539B

Tree Relocation Report

23 Star Island Drive

10/19/2020



Tree Relocation Report

10/19/2020

In September 2020, a large Strangler Fig (*Ficus aurea*) was relocated to its new location on-site at 23 Star Island Drive. Successful relocation occurred after months of coordinated preparation work. The tree is approximately 55ft tall by 80ft in spread with an 18ft diameter. Currently the tree remains in good condition. I will be inspecting the tree monthly for two years beginning in early November, and a monthly report will be provided.

This report shall in no shape or form be construed as a tree risk assessment which is beyond the scope of work written in the contractual agreement. Please feel free to contact me should any questions arise. Thank-you for the opportunity to assist in this manner.



Contact Information -

Alexis Alvey
ISA Board Certified Master Arborist® #NY-5539B

Alvey Tree Consulting LLC
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www.alveytree.com

Property Location -

23 Star Island Drive
Miami Beach, FL 33139

Client -

Mr. Joseph Abadi
joe.abadi@rjpc.com

Pre-Relocation

Preparation for relocation of the Ficus tree began in April 2020. The tree was in good condition with a dense, healthy green canopy. Little deadwood was present. The tree had been previously reduction pruned in height and spread approximately 15ft, and then again reduction pruned 10ft. The tree was located at the front of the existing house, next to the brick driveway. There were a couple large aerial roots present.

In April the tree was root-pruned. Prior to root-pruning, a whitefly control drench had been applied. The tree was root-pruned in April on all sides except the driveway side since the existing concrete driveway foundation limited access and also limited root growth on this side. Later the driveway bricks and concrete were removed. A large aerial root that was to be relocated as well was also root-pruned.

Following root-pruning, a battery-controlled irrigation system was installed to provide supplemental irrigation daily. A spinner was set-up in the canopy to moisten the leaves. SuperThrive liquid fertilizer was applied as a soil drench. Chelated nutrients as well as rooting hormone were also applied.



4/2020 - Ficus recently root-pruned

Pre-Relocation



4/2020 - *Ficus* recently root-pruned



4/2020 - Spinner in canopy



4/2020 - *Ficus* recently root-pruned

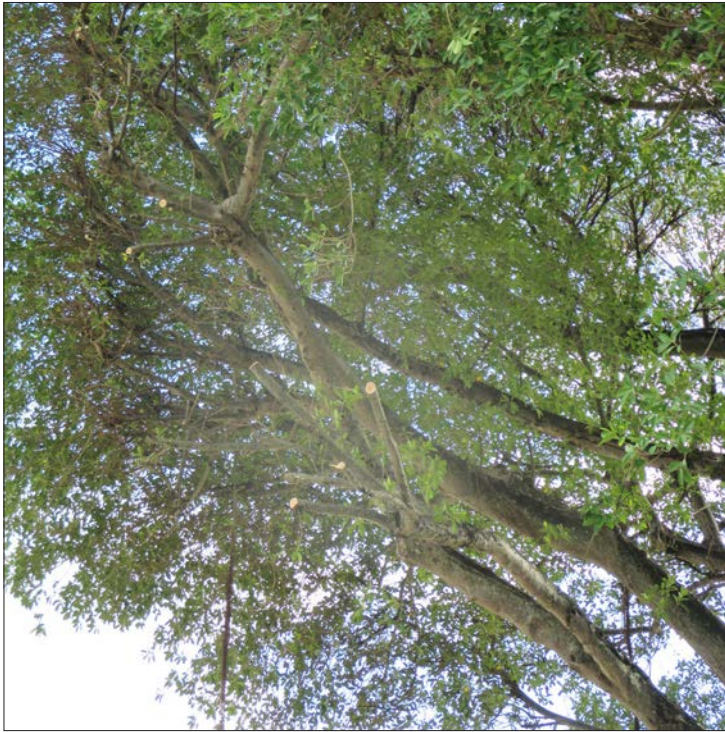
Canopy Pruning

In early September 2020, the canopy of the Ficus tree was pruned. Reduction pruning occurred on three out of four sides of the tree in order to enhance crown symmetry and to make the canopy more compact while reducing weight prior to relocation. Branches were reduced in length approximately 12ft, which is about half-way between the two prior reduction pruning sessions. Most pruned branches were 1-1.5 inches in diameter. Two larger limbs about 4 inches in diameter were also pruned to improve clearance; these limbs would have spread into the neighbor's property at the tree's new location. Overall, about 15% of the live canopy was removed. ANSI A300 Pruning Standards were followed.



9/2020 - Ficus canopy pruning

Canopy Pruning



9/2020 - Small diameter pruning cuts



9/2020 - Ficus directly after canopy pruning



9/2020 - Ficus canopy pruning occurring

Relocation

In late September 2020, the Ficus tree was relocated. A metal frame was constructed beneath the tree. Pipes were placed under the tree and were welded to the frame. The rootball depth was about 2.5ft and was limited by the high water table. The rootball spread was 32ft by 18ft. After severing all roots beneath the rootball, heavy equipment was used to lift and slide the tree out of its original planting hole. Two excavators on one end of the frame and two loaders on the other end of the frame lifted and pulled the tree to its new location at the front of the property. Steel plates laid on the ground enabled the metal frame to slide.



9/2020 - Ficus being relocated

Relocation



9/2020 - Excavators lifting and moving the Ficus



9/2020 - Ficus at its final location

Post-Relocation

I revisited the site in early October, 2020 after tree relocation was completed. The soil around the rootball had been backfilled and the tree had been watered to field capacity. PolyStart starter fertilizer had been applied as a soil drench. I was informed by the landscape contractor that tree protection fencing and an irrigation system will be installed soon.



10/2020 - Relocated Ficus tree

Post-Relocation



10/2020 - New growth from pruning cuts



10/2020 - Metal pipes removed and soil backfilled



10/2020 - Relocated Ficus tree

Notes - TPZ Calculations & Tree and Palm Relocation

Tree Protection Zone (TPZ) -

- For trees and palms that are to remain, protective barriers shall be placed at the dripline or 10ft radius from the trunk, whichever is greater.
- For trees and palms that are relocated, protective barriers shall be placed at the dripline or 1 - 2ft outside the rootball, whichever is greater.

Tree and Palm Relocation Notes -

1. All phases of transplanting trees and palms to be performed or supervised by Certified Arborist.
2. Trees to be relocated shall be root pruned six to eight weeks prior to transplanting. Landscape Contractor shall maintain transplanted material during construction period by watering, moving, spraying, fertilizing, and pruning.
3. Landscape Contractor is responsible for verifying locations of all underground and overhead utilities and easements prior to commencing work. All utility companies and/or the General Contractor shall be notified to verify locations prior to digging. Utility trenching is to be coordinated with the Landscape Contractor prior to beginning of project. The Owner and Certified Arborist shall not be responsible for damage to utility or irrigation lines.
4. The Landscape Contractor shall comply with all local and state codes and shall be responsible for obtaining all applicable permits.
5. The Landscape Contractor shall regularly inspect the relocated material to ensure compliance with standard horticultural practices.
6. The Landscape Contractor is responsible for guaranteeing the transplanted trees and palms for a period of one year. At the time of the final inspection all transplanted trees and palms that are not in viable condition shall be replaced by the Landscape Contractor.
7. The Landscape Contractor shall take all precautions to minimize shock of root pruning and transplanting in accordance with standard arboriculture practices.
8. The diameter of the root ball to be transplanted shall follow the guidelines set forth in the latest edition of the Florida Grades and Standards for Nursery Plants.
9. Roots shall be cleanly cut with a sharp spade, hand saw, chainsaw, or other approved root-pruning equipment.
10. Trees shall not be pruned at transplanting to compensate for root loss. Any pruning required shall be as per the ANSI A300 Standards.
11. For all palms except Sabal palmetto, only dead fronds shall be removed. Sabal palmetto shall have all fronds cut without damaging the bud. Fronds shall be securely tied around the bud prior to relocation and shall be untied after placement in the new planting hole. The bud shall be protected from damage or injury during relocation.
12. After root pruning trees, backfill roots to original existing grade with existing soil free of any deleterious material to root growth.
13. Provide a layer of 3" mulch over backfill area to prevent weed growth, conserve moisture and prevent evaporation. Keep mulch 6" away from the trunk.
14. Provide tree protection as per Landscape Architect's Tree Protection Detail to ensure that the tree or root system is not damaged during the root-pruning period.
15. After root pruning and prior to relocation, tree(s) shall be watered a minimum of twice weekly.
16. Transplanting shall occur within 24 hours after being dug for relocation. The root ball shall be kept moist.
17. Digging and preparation of the new hole for the transplant shall be done prior to removing the tree from the existing location.
18. The depth of the new hole shall be equal to the depth of the root ball and the width shall be equal to two to three times the width of the root ball.
19. Trees and palms shall be lifted from the ground with heavy equipment designed specifically for tree relocation so that the trunk and crown is not impacted and damaged by the equipment.
20. The slings used to lift the trees and large palms shall be non-binding nylon slings that are wrapped under the root ball to support the weight of tree or palm. Slings shall not be solely wrapped around the trunk of the tree. Padding the sling may be necessary so that the trunk is not damaged.

Notes - Tree and Palm Relocation (Contd.)

21. Trees and palms shall be planted so that the top of the rootball is flush with the existing grade. Ensure that deep planting does not occur. The tree and palm shall be centrally positioned in the planting hole and set straight, plumb or normal to the growth pattern prior to transplanting.
22. Transplanted trees and palms shall be backfilled with a uniform mix of 25% fully decomposed compost and 75% existing site soil cleaned free of weeds and rocks.
23. Trees and palms shall be watered to eliminate air pockets in the backfill mix prior to mulching.
24. A 4" soil berm shall be created around the edge of the planting hole to hold water, or as per the Landscape Architect's Planting Details.
25. Install tree and palm bracing as per the Landscape Architect's Planting Details, to ensure stability of trees and palms.
26. After transplanting trees and palms, the Landscape Contractor shall be responsible for watering to maintain soil moisture during the guarantee period. The following schedule is suggested: First month - Daily; Second month - 3 times per week; Third and Fourth month - 2 times per week; Last Eight months - 1 time per week. For trees over 4" in caliper at the time of planting, the suggested schedule is: First 6 weeks - Daily; from 1.5 months to 6 months - 3 times per week, last 6 months - 1 time per week.

Notes - Tree and Palm Protection

1. Fences shall be erected to protect trees and palms to be preserved. Fences define a specific protection zone for each tree or group of trees. Fences shall be installed prior to the beginning of construction and are to remain until all site work has been completed. Fences may not be relocated or removed without the written permission of the Arborist. Refer to the Landscape Architect's Tree Protection Detail.
2. Construction trailers, traffic, and storage areas must remain outside fenced areas at all times.
3. All underground utilities and drain or irrigation lines shall be routed outside the tree protection zone. If lines must traverse the protection area, disturbance shall be minimized by using techniques such as tunneling or boring.
4. No materials, equipment, spoil, or waste or washout water may be deposited, stored, or parked within the tree protection zone.
5. Additional tree pruning required for clearance during construction must be approved by the Certified Arborist and shall be performed by trained arborists, not by construction personnel.
6. If injury should occur to any tree during construction, it should be evaluated as soon as possible by the Landscape Contractor and the Certified Arborist should be notified immediately.
7. Any grading, construction, demolition, or other work that is expected to encounter tree roots must be monitored by the Landscape Contractor.
8. All trees shall be irrigated at least two times a week. Each irrigation session shall wet the soil within the tree protection zone to a depth of 30 inches.
9. Before grading, pad preparation, or excavation for foundations, footings, walls, or trenching near trees the trees shall be root pruned at the edge of the tree protection zone by cutting all roots cleanly to a depth of 36 inches. Roots shall be cut manually by digging a trench and cutting exposed roots with a saw, vibrating knife, rock saw, narrow trencher with sharp blades, or other approved root-pruning equipment.
10. Any roots damaged during grading or construction shall be exposed to sound tissue and cut cleanly with a saw.
11. Spoil from trenches, basements, or other excavations shall not be placed within the tree protection zone, either temporarily or permanently.
12. No burn piles or debris pits shall be placed within the tree protection zone. No ashes, debris, or garbage may be dumped or buried within the tree protection zone.
13. Maintain fire-safe areas around the fences. Also, no heat sources, flames, ignition sources, or smoking is allowed near mulch or trees.
14. Protective barriers shall be placed around each tree, cluster of trees, or the edge of the preservation area at the specified distance. Protective barriers shall be a minimum of four feet above ground level and shall be constructed of wood, plastic, or metal, and shall remain in place until development is completed. Protective barriers shall be in place prior to the start of any construction.
15. Understory plants within protective barriers shall be protected.
16. No excess oil, fill, equipment, building materials or building debris shall be placed within the areas surrounded by protective barriers, nor shall there be disposal of any waste material such as paints, oils, solvents, asphalt, concrete, mortar or any other material harmful to trees or understory plants within the areas surrounded by protective barriers.
17. Trees shall not be braced in such a fashion as to scar, penetrate, perforate or otherwise inflict damage to the tree.
18. Natural grade shall be maintained within protective barriers. In the event that the natural grade of the site is changed as a result of site development such that the safety of the tree may be endangered, tree wells or retaining walls are required.
19. Fences and walls shall be constructed to avoid disturbance to any protected tree. Post holes and trenches located close to trees shall be dug by hand and adjusted as necessary, using techniques such as discontinuous footings, to avoid damage to major roots.

Note: Trees inherently pose a certain degree of hazard and risk from breakage, failure or other causes and conditions. Recommendations that are made are intended to minimize or reduce such hazardous conditions. However, there can be no guarantee or warranty that efforts to discover or correct unsafe conditions will prevent future breakage or failure, nor can there be any guarantee that all hazardous conditions have been detected. The client should not infer that a tree is safe either because services have been recommended or done to reduce risk, or because no services have been recommended or done on a specific tree. The client assumes any and all risks associated with pursuing consultant's advice and fully understands that he or she is engaged in securing professional consultation regarding the above-mentioned property.