

**SANTA CRUZ COUNTY ENVIRONMENTAL HEALTH POOL
POOL OR SPA DESIGN SUMMARY AND CONSTRUCTION CHECKLIST**

Name of Complex/ Business _____
 Address _____ City _____
 Owner _____ Phone # _____
 Owner Email _____
 Pool Contractor _____ Phone # _____
 Pool Contractor License Number (C53 REQ'D) _____
 Point of Contact _____ Phone # _____
 Address _____ City _____ State _____
 Email _____

Check one: Pool/Spa # or description _____
 Pool Spa Wading Pool Water Attraction Special Purpose

Note: All pumps, filters, chemical feeders, skimmers, and supplemental equipment shall comply with NSF/ANSI 50 performance standards

SYSTEM SUMMARY

POOL STRUCTURE

| | | | | | | |
|--|------------------|-------|-------------------|--|--------------|-----|
| Dimensions/ Design | Material | | Finish Type | | Finish Color | |
| Length | | Width | | | | |
| Min depth | | | Max depth | | | |
| Surface Area | SQ FT | | | | | |
| Conversion Factor Multiply by 7.48 to get volume in gallons. 7.48gal=1 cub ft | Volume (gallons) | | Required Turnover | | | GPM |

Check acknowledging that the pool will be white in color and will have no recessed areas or projections (shelves, benches, etc.), except for inlets, outlets, handholds, recessed steps, ladders, stairs, handrails (No more than 1 foot from the bottom riser), skimmers, or perimeter overflow systems

RECIRCULATION

| | | | | | | |
|------------------------------------|------------------------------------|-------|--|-----------------|--|--|
| Recirculation Pump #1 | | | | Number of Pumps | | |
| MFG | | MODEL | | SIZE (HP) | | |
| (60TDH used Typically) | Total Dynamic Head used for sizing | | | Feet of water | | |
| Design Turnover (GPM) | | | <input type="checkbox"/> NSF 50 for commercial use | | | |
| Recirculation Pump #2 | | | | | | |
| MFG | | MODEL | | SIZE (HP) | | |
| Total Dynamic Head used for sizing | | | Feet of water | | | |
| Design Turnover (GPM) | | | <input type="checkbox"/> NSF 50 for commercial use | | | |

Recirculation Pipe Sizes

| | | | |
|--|--|-----------|---------------------------|
| Bottom suction outlets (Main Drains) | | IN | Hydraulically Balanced |
| Equalizer lines | | IN | Hydraulically Balanced |
| Are the suction pipe velocities less than 6 feet per second? Check verified, <input type="checkbox"/> YES | | | |
| Return Lines No. | | Ret. Size | IN Hydraulically Balanced |
| Are pipes PVC Schedule 40? If not, please indicate here: | | | |

| Skimmer(s) | | | | | | |
|---|--|-------------------------------------|--|---|--|-----|
| MFG | | Model | | Rating | | GPM |
| Number of Skimmers | | (1 per 500 SQ FT and add 1 if over) | | | | |
| Are the skimmers able to take 100% of the flow through the recirculation system? <input type="checkbox"/> Check if yes, if not, additional skimmers than those noted above may be required | | | | | | |
| Is the pool surface equal or over 5,000 SQ FT? | | | | <input type="checkbox"/> If YES, perimeter overflow REQ | | |
| <input type="checkbox"/> NSF 50 for commercial use | | | | | | |

| | | | | | | |
|--|------|--|------------|-------------------|------|-----|
| Filter(s) | MFG. | | Model | | Type | |
| <input type="checkbox"/> NSF 50 for commercial use | | | | Turnover Capacity | | GPM |
| Number of filters | | | Total Area | | | |

| | | | | | | |
|---|--|------|--|-------|--|----------------------|
| Water Heater | | MFG. | | Model | | Flow switch Required |
| Water heater must be valved to bypass for service and meet applicable NSF 50, plumbing and ANSI requirements. | | | | | | |

| | | | | | | |
|--|------|--|-------|--|----------------------|--|
| Chemical Controller | MFG. | | Model | | Flow switch Required | |
| The chemical control and dispensing equipment must be electrically interconnected with the recirculation pump such that all chemical dispensing ceases when the pump is off. Check as verified <input type="checkbox"/> , Note page # _____ | | | | | | |
| Check indicating that all chemical equipment is NSF 50 for commercial use <input type="checkbox"/> | | | | | | |

| | | | | | | |
|--|------|--|----------|--|---------------------------------------|--|
| Disinfectant Feed | Type | | MFG. | | Model | |
| Output | | | Lbs./day | | 3 gallons per 10,000 gallons required | |
| Does the unit must provide 3 lbs. of Chlorine per 10,000 gallons? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | | | |

| | | | | | | |
|------------|-----|--|-------|--|-----------|--|
| Flow Meter | MFG | | Model | | Pipe Size | |
|------------|-----|--|-------|--|-----------|--|

| | | | | | |
|---|----------------|-----|--|-------|--|
| Gauges | Vacuum Gauge | MFG | | Model | |
| | Pressure Gauge | MFG | | Model | |
| Valves | Valves | MFG | | Model | |
| Acknowledge no valves are on the deck <input type="checkbox"/> | | | | | |
| Acknowledge equipment recirculation, backwash, and drain systems requiring shutoff isolation are equipped it a valve <input type="checkbox"/> | | | | | |

| SPA JETS | | | | | Number of Pumps | |
|------------------------|--|--|-------|--|-----------------|---------------|
| Jet Pump #1 | MFG | | MODEL | | SIZE (HP) | |
| (40TDH used Typically) | Total Dynamic Head used for sizing: | | | | | Feet of water |
| Design Turnover (GPM) | <input type="checkbox"/> NSF 50 for commercial use | | | | | |
| Jet Pump #2 | MFG | | MODEL | | SIZE (HP) | |
| (40TDH used Typically) | Total Dynamic Head used for sizing: | | | | | Feet of water |
| Design Turnover (GPM) | <input type="checkbox"/> NSF 50 for commercial use | | | | | |

| | | | | | | |
|--|---------------------|---|----|------------------------|------------------------|--|
| Jet Pipe Sizes | Jet suction outlets | | IN | Hydraulically Balanced | | |
| Jet suction outlet location | | <input type="checkbox"/> Floor or <input type="checkbox"/> Wall | | | | |
| Are the suction pipe velocities less than 6 feet per second? Check verified, <input type="checkbox"/> YES | | | | | | |
| Return Lines No. | | Ret. Size | | IN | Hydraulically Balanced | |
| Are pipes PVC Schedule 40? If not, please indicate here: | | | | | | |
| Are the return pipe velocities must be no more than 8 feet per second? Check verified, YES <input type="checkbox"/> | | | | | | |

POOL OR SPA PLAN REVIEW SUBMITTAL GUIDELINES

Facilities located in the unincorporated area must first obtain zoning and land-use clearance prior to submittal. When zoning clearance is obtained the applicant must then submit a plan review packet to the Division of Environmental Health Service. THE BUILDING DEPARTMENT WILL NOT FORWARD A PLAN REVIEW PACKET TO THIS AGENCY. An Environmental Health plan review application is a separate submittal subject to additional fees. Most pool projects will require Building Permitting in addition to a submittal with Environmental Health. Pool construction must be conducted by properly licensed personnel. A C53 Contractor licensee is required for new or remodeled pools and spas.

Plan Review Packet

A plan review packet must include one complete set of plans for review. A minimum ¼" per foot scale must be used for pool submittals. A scale of at least 1" per foot must be used for spas. A complete packet shall include the following:

- A Completed Plan Review Application and fee (call for current fees)
- A completed POOL OR SPA DESIGN SUMMARY AND CONSTRUCTION CHECKLIST
- The name, license number, and license classification of the contractor who will complete the scope of work-Can be provided after the project is taken to bid
- A completed zoning clearance
- A site plan including the location the pool, pool equipment room, safety equipment, signage, fencing, adjacent buildings, parking lots, restrooms, showers, and changing rooms.
- A pool plan depicting an overhead view of the pool including location of steps, ladders, depth markers, no diving tiles, contrast tile locations, and other required equipment.
- Profile plans depicting pool dimensional tolerances, step heights, bench heights, handrail heights, recessed step dimensions and similar structural components.
- Suction plumbing plan
- Return plumbing plan
- Equipment room lay-out, drains and wastewater disposal location
- Specification sheets for all recirculation, anti-entrapment, and skimmer equipment
- Landscape plan including deck, deck drainage and landscaping
- Lighting/ electrical plan
- Potable water/ fill line information

Inspection

Once approved, this Agency will need to conduct the following inspections during construction work:

1. Plumbing/ Pre-gunite inspection
2. Deck inspection
3. Enclosure inspection
4. Preplaster inspection
5. Final Inspection

Once the pool received structural and equipment inspection clearance, then the facility becomes eligible for an operational health permit. An operational HEALTH PERMIT APPLICATION is a separate application and fee. An operational HEALTH PERMIT covers inspection to ensure continued safe operation when the pool is in use.

Below list of the regulations enforced by this Agency. Please ensure that your submittal is compliant with these regulations.

California Building Code (Title 24), Division I §3101B-3141B

California Building Code (Title 24), Division II §3160B-3162B (including figures 31B 1-8 and Tables 31B 6-7)

California Health and Safety Code §116025-116068

California Health and Safety Code §115950-115952

California Code of Regulations (Title 22) §65501-65551

Below is link to these regulations:

http://publichealth.lacounty.gov/eh/docs/ep_rw_PCB.pdf

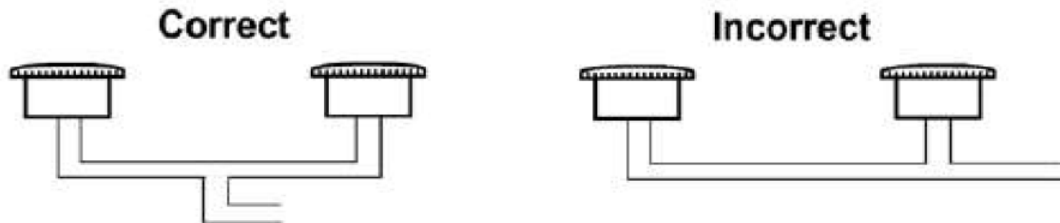
<https://www.cdph.ca.gov/HealthInfo/environhealth/water/Pages/CaliforniaPublicSwimmingPoolRequirements.aspx>

Construction Checklist

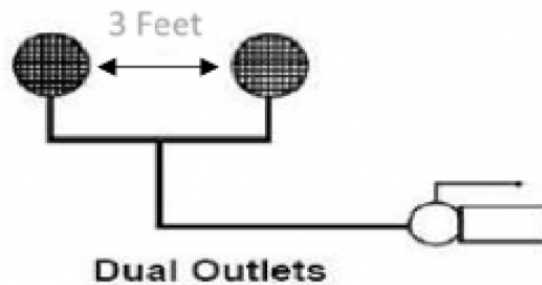
Check all items acknowledging they were addressed in the plans. Please be aware that this list is not all inclusive and cannot address all scenarios.

Anti-Entrapment

- There are two suction outlets for each recirculation pump
- The suction outlets are split and hydraulically balanced



- The suction outlet covers are separated by a distance of at least 3 Feet



- The piping is sized such that the pipe velocity in each suction outlet branch is no more than 3FPS and no more than 6FPS if one line is blocked.
- The anti-entrapment covers are ANSI/APSP -16 compliant and rated to a flow higher than the recirculation rate achieved by the pump.
- If required by the manufacturer, the covers are equipped with a sump and/or cover attachments.

Pool Structural Requirements

Structure:

- The pool or spa must be of reinforced concrete or equivalent in strength and durability.
- The pool slope must meet the specifications in **Appendix 1: Tolerances** vary depending on the pool depth and whether a diving board is present.
- Spa dimensions shall adhere to the images in **Appendix 2: Spa Dimensions**.
- The pool must be at least 12 feet in width and length if the depth is less than 6 FT.
- The pool must be at least 15 feet in width and depth if over 6FT in depth.
- Benches, shelves, and other projections or indentation are not allowed in a pool.
Exceptions: Inlets, outlets, handholds, recessed steps, ladders, stairs, handrails (No more than 1 foot from the bottom riser), skimmers, or perimeter overflow systems
- Slides are not included here. See **Slide Guidelines** on our web site for more information.

Finish

- All swimming pools shall be finished with white plaster or other approved finish materials that can withstand repeated brushing, scrubbing, and cleaning procedures.
- Contrast tile is used along the water line, step edges, bench edges, lane markings, and at the belly band. **NO OTHER DESIGNS OR LETTERING IS ALLOWED ON THE POOL OR SPA SURFACE.** If tile is used as a pool or spa finish, a sample of the tile must be submitted to this division for approval.
*Non plaster pool finishes are generally not accepted; proposed samples submitted with plans will be evaluated on a case-by-case basis. Painted on epoxy are not approved.
- Lane markings shall not exceed 12 inches in width.

Handholds

Provide a section view of the coping, drawn to scale.

- A handhold of bullnose coping or cantilevered decking is present around the entire perimeter of the pool
- Coping is present at no greater than 9 inches above the waterline.
- Handholds must overhang the tile at least one (1) inch, but not over two (2) inches and must not exceed two and one half (2 1/2) inches in thickness. See **Appendix 3: Coping**
- Pool coping shall be slip resistant.

Tile Line

- Water line tile must be of contrasting color; paint is not acceptable.
- Pools greater than five (5) feet in depth shall have a straight line of slip resistant tile (aka belly band) that is a minimum of four (4) inches and not greater than six (6) inches wide, of contrasting color, and installed where the water is four and one half (4 1/2) feet in depth.

Depth Markers

- Install depth markers on both sides of the pool at the minimum and maximum depths and at the break in the bottom slope from the shallow to deep portions; also, on both ends of the pool. See **Appendix 5: Depth Markers and No Diving Tiles.**
- Depth markers shall be positioned to indicate the water depth accurate to the nearest 6 inches.
- Depth markers shall be located on the coping or the deck as close as possible but no more than 3 feet from the pool water and along the tile line surface of pool for pools with skimmers (with perimeter overflow will have them at face of cantilevered coping, at the back wall above the gutter, or immediately below the waterline; pools with rim flow gutters can have them immediately below the waterline)
- Depth markers on coping or deck shall be slip resistant and include units of FT and IN
- Depth markers shall be tile; paint is not acceptable.
- The depth markers shall have numerals a minimum of 4 inches in height and be of a color contrasting with the background.
- Depth markers shall be spaced not to exceed intervals of 25 feet.
Exception: Spa or wading pools shall have a minimum of two (2) depth markers.
- No Diving Markers (universal figure of a diver with a superimposed red circle with a slash across the diver) must be present next to deck depth markers of 6 feet in depth or less.

Steps, Stairs, and Ladders

- A means of entry and exit to and from the pool shall consist of steps, recessed steps, ladders, or stairs, or a combination of them.

Stairs

- Stairs are required at the shallow end of all pools when the depth exceeds 1 ft. All pools with multiple shallow ends shall have stairs at each shallow end. A second means of entry and exit shall be provided in the deep portion of a pool having a depth greater than 4 ½ feet. When the pool width exceeds 30 feet, such means of entry and exit shall be provided at each side, not more than 100 feet apart.
- Each step of a stair shall have the same dimensions with a tread not less than 12 inches wide, except that if the top step is curved convexly, the top step tread shall not be less than 21 inches wide as measured at the point of maximum curvature. Risers shall be uniform and shall not exceed 12 inches in height. See **Appendix 4: Step and Handrail Dimensions**.
- At least one handrail shall be provided, extending from the deck to not less than a point above the top of the lowest step and with the upper railing surface not less than 28 inches above the deck.
- Spas require 2 handrails on stairs.
- Ladders and recessed steps shall have a minimum tread of 5 inches, width of 14 inches, and shall be designed to be readily cleaned. Risers shall be uniform and not exceed 12 inches in height. The first riser shall be measured from the deck.
- Contrast tile must be provided at the edge of the steps.

Ladders

- Ladders shall be corrosion-resistant and shall be equipped with slip-resistant tread surfaces. Ladders shall be rigidly installed and shall provide a clearance of not less than 3 inches or more than 5 inches between any part of the ladder and the pool wall. See **Appendix 4: Step and Handrail Dimensions**.
- Hand railings for ladders and recessed steps shall be provided at the top of both sides and shall extend over the coping or edge of the deck for each ladder and step hole.

RECIRCULATION EQUIPMENT & PLUMBING

All new and replacement pool-related equipment shall comply with the applicable requirements established by the NSF/ANSI 50-2012 performance standard. Accurate make and model numbers shall be submitted for all equipment for review. All equipment, including gauges and flow meter, shall be positioned to be readily accessible without requiring persons to climb over or remove obstacles to make repairs or inspections.

Location of Pool Equipment

- Equipment to be mounted on concrete pad and sloped at least ¼ inch per foot to drain or approved other surface disposal.
- Equipment installed so that access is limited to authorized persons.

Pump(s)

Recirculation pumps must be able to provide the following:

- A minimum turnover rate of six (6) hours for a pool.
- A minimum turnover rate of one half (1/2) hour for a spa pool.
- A minimum turnover rate of one (1) hour for a wading pool.
- A minimum turnover rate of one-half (1/2) hour for spray grounds.
- A minimum turnover rate of two (2) hours for a medical pool.
- Pump Capacities:
 - Pressure D.E. – 60-foot head.
 - Vacuum D.E. – 40-foot head and 20 inches vacuum on the suction side.
 - Rapid sand – 45-foot head.
 - High-rate sand – 60-foot head.
 - Cartridge – 60-foot head.

Filter

- Filters must be sized according to the following filter media rates:
 - Diatomaceous earth 2 gpm/sq ft
 - Rapid sand 3 gpm/sq ft
 - High-rate sand 5 gpm/sq ft
 - Cartridge 0.375 gpm/sq ft
 - Diatomaceous earth filters must backwash through a separation tank with a sight glass between filter and separation tank.
- All filters shall backwash to sanitary sewer through a permanently plumbed air-gap type separation. A sight glass is required on sand filters when the air gap is not visible from the filter location.
- If no sanitary sewer line is available, a disposal pit or drywell or alternate method of disposal may be approved by the local Building, Land Use and/or Public Works Departments
- Backwash may not be returned into the pool or spa.

Disinfectant Feeders

- Must be connected to a chemical controller. The chemical controller must be able to provide at minimum pH and free chlorine readings.
- The disinfectant feeder shall be capable of supplying not less than the equivalent of 3 pounds of 100 percent available chlorine per day per 10,000 gallons of pool water capacity.
- A visible means of determining the rate of flow through the device shall be provided for each disinfectant feeder.

Chemical Feeders and Controllers (including disinfectant and pH adjustments)

- Chemical feeders be adjusted by an approved chemical monitoring and control system.
- The chemical control system shall be equipped with a flow switch
- The chemical control system and associated disinfection feeders shall be wired so that they shut off when the pump stops recirculating water.

Recirculation System (pipes, drains, etc.)

- All plumbing shall be sized so that flow velocity does not exceed:
 - 6 feet per second in pump suction piping
 - 8 feet per second in any portion of the return system
- Each pool shall be provided with a main drain submerged suction outlet typically located at the bottom of a pool that conducts water to a recirculating pump.
- Each pump on a pools system shall be connected to at least 2 suction outlets. The suction outlets shall be hydraulically balanced and symmetrically plumbed through one or more "T" fittings and shall be separated by a distance of at least 3 feet apart in any dimension between the suction outlets.
- The main drains shall be on a separate, dedicated suction line and not interconnect with the skimmer suction lines until they converge in the equipment area (using an ASME/ANSI approved valve).
- All drain and/or suction covers must be ANSI/APSP-16 (AB 1020) compliant, rated for the designed flowrate of the pump, and removable only with tools. Please be aware that anti-entrapment covers have an expiration date after which they should be replaced.
- The velocity of the suction piping installed between the suction outlets shall not exceed 3 feet per second.
- Hydrostatic relief devices shall be installed in areas with a high groundwater table or as required by the local plumbing codes. When used in conjunction with a safety vacuum release system, the hydrostatic relief device must meet the manufacturer's installation requirements for the safety vacuum release system.
- If the drain and/or suction covers require a sump, the depth of the sump shall be as specified by the cover manufacturer.
- If the drain and/or suction covers do not require a sump, documentation of such from the manufacturer must be provided with the plans.
- Return lines and skimmers shall be located to provide uniform water circulation throughout the pool.
- Pools greater than 40 ft in width or 3,000 sq ft in surface area shall have floor-mounted return inlets. All floor inlet fittings shall be located to provide uniform circulation and shall be installed flush with the surface of the pool bottom.
- Two (2) return lines are required for the first 10,000 gallons and one (1) return line for each additional 10,000 gallons, or fractional part thereof. Return line piping shall be sized so as to provide an equal flow of water at each inlet.
- Adjustable directional eyeball fittings are required.
- Inlet fittings shall be located no less than 18 inches below the waterline, except for a spa pool or wading pool. Inlet fittings shall be separated by at least 10 feet and shall be located to ensure uniform circulation.

Skimmers

- skimmer is required for each 500 square feet of pool surface area, or adequate number to meet 100% of pump flow at the manufacturer's maximum flow rating, whichever is greater.
- Each skimmer shall aid in recirculation and surface skimming. Skimmers shall be individually adjustable for the rate of flow.
- If used, a skimmer equalizer suction outlet shall be connected to at least two suction grate assemblies that meet the ANSI/APSP-16 2011 performance standard and are located at least 3 feet apart in any dimension between the suction outlets. Skimmers shall have an equalizer line check valve to prevent suction through the equalizer line when water levels are normal.
- Each skimmer is required to have a removable and cleanable screen or basket to trap large solids. The screen or basket all be accessible through an opening in the deck above the skimmer.
- The skimmer shall be provided with an air-lock protective device that shall not permit leakage of air into the recirculation suction piping system.
- Skimmers shall be capable of continually withdrawing not less than 100% of the flow rate. Skimmers shall be operated to continuously remove floating debris.
- Skimmer(s) shall have a weir which automatically adjusts to variations of the water level less than 4 inches.
- Skimmers shall not be used on a pool with a water surface area 5,000 square feet or greater (perimeter overflow system must be used; see "PERIMETER OVERFLOW SYSTEMS" below).

Gauges

- An approved pressure and vacuum gauge shall be provided for each pump system. The pressure gauge on the filter shall be marked with the clean start-up pressure reading.
- An approved flowmeter shall be provided on each recirculation system and installed on the return line per the manufacturer's written instructions with increments in the range of normal flow.

Water Supply

- Each pool shall be supplied with potable water by means of a permanently installed pipeline from a public supply system holding a permit from the California Department of Public Health or from a source approved by Environmental Health Services. There shall be no direct connection between any potable water supply system and the pool or its piping system unless protected by an approved backflow prevention device. Automatic makeup water flow controls with a manual override control shall be provided to maintain the proper pool water level.

LIGHTING

- Underwater pool lighting is required (exception: wading pools). One (1) watt per square foot of pool water surface area is the minimum requirement.
- All underwater lighting systems operating at more than 15 volts shall be protected by a ground fault circuit interrupter.
- Only approved underwater lighting fixtures shall be used and no lighting fixtures shall be installed for operations at more than 150 volts between conductors.
- All electrical work required for compliance shall be performed by a contractor licensed to perform electrical work.

- Pool deck areas shall be provided with lighting so that persons walking on the deck can identify hazards. Lighting fixtures shall be aimed towards the deck area and away from the pool surface insofar as practical.

SAFETY EQUIPMENT & SIGNS

Approved Safety Equipment

- A 12-foot minimum fixed length rescue pole with a permanently attached body hook. A shorter hook may be used for a spa.
- A 17-inch minimum exterior diameter life ring with attached rope of 3/8 inch diameter, long enough to span the maximum width of the pool. A life ring may not be required if rescue can occur from the deck around a spa.

Signs

All signs shall have clearly legible letters or numbers not less than 4 inches high, unless otherwise specified, affixed to a wall, pole, gate or similar permanent structure in a location visible to all pool users. See Appendix 7: Signs. Post the following safety signs:

- No lifeguard. Where no lifeguard service is provided a sign shall be posted "Warning: No lifeguard on duty." The sign shall also state in letters at least 1 inch high "Children under the age of 14 shall not use pool without a parent or adult guardian in attendance."
- Pool user capacity. A sign shall indicate the maximum number of pool users permitted for each pool.
 - Spa: The pool user capacity of a spa pool shall be based on one pool user for every 10 square feet of pool water surface area.
 - Pools: The pool user capacity for all other pools shall be based on one pool user for every 20 square feet of pool water surface area.
 - Exception: Pool user capacity requirements do not apply to wading pools or splash
- Artificial Respiration and CPR sign. Illustrated diagram with text at least ¼ inch high of artificial respiration and cardiopulmonary resuscitation (CPR) procedures.
- Emergency sign. Emergency telephone number 9-1-1. The number of the nearest emergency services and the name and address of the pool facility in lettering at least 1 inch high.
- No diving sign. "NO DIVING ALLOWED" sign in the pool area for pools less than 6 feet in depth.
- No use after dark. "NO USE OF POOL ALLOWED AFTER DARK" where pools were constructed for which lighting was not required, posted at each pool entrance on the outside of the gate(s).
- Keep gate/door closed. "KEEP GATE/DOOR CLOSED" sign on exterior side of gates/doors leading into pool areas.
- Diarrhea. A sign in letters at least 1 inch high and in a language or diagram that is clearly stated shall be posted to be visible from each entrance which states that persons having currently active diarrhea or who have had active diarrhea within the previous 14 days shall not be allowed to enter the pool water.
- Warning sign for a spa. Warning sign for spa use at least 1 inch high stating "Caution":
 - 1) Elderly persons, pregnant women, infants and those with health conditions requiring medical care should consult with a physician before entering the spa.
 - 2) Unsupervised use by children under the age of 14 is prohibited.
 - 3) Hot water immersion while under the influence of alcohol, narcotics, drugs or medicines may lead to serious consequences and is not recommended.

4) Do not use alone.

5) Long exposure may result in hyperthermia, nausea, dizziness or fainting.

- Emergency shut off. "Emergency shut off switch" for spa in letters at least 1 inch high posted at the emergency shut off switch.
- Spray grounds and splash pads. A sign posted at each spray ground, visible from any part of the spray ground, stating "Caution: Water is recirculated. Do not drink."

Direction of Flow

- The direction of flow for the recirculation equipment shall be labeled clearly with directional symbols such as arrows on all piping in the equipment area.
- Where the recirculation equipment for more than one pool is located onsite, the equipment shall be marked as to which pool the system serves.

DECKING

- A continuous and unobstructed four (4) foot minimum width deck that is made of slip resistant, cleanable, nonabrasive concrete or like material must be provided flush with the top of the pool and extend completely around the pool.
Exception: a deck at least 4 feet in width shall extend around 50 percent or more of the perimeter of a spa pool.
- The deck must slope a minimum of one eighth (1/8) inch per foot but no more than one quarter (1/4) inch per foot away from the pool to a deck drainage system and shall be constructed and finished to prevent standing water.
- A distance of at least six (6) feet must separate any two (2) pools. Revised March 2014 12
- All deck surfaces must have a coefficient of friction value of .60 or greater. d. Landscaping and planters are not to be located within four (4) feet of any pool. Avoid using plants or trees which shed close to the pool.
- A hose bib, with an approved backflow prevention device, is required in the pool area. The hose bib shall be located so that all portions of the pool deck may be reached with 75-foot length of hose attached to the hose bib.

Enclosure

The pool shall be enclosed by one (1) of the following: a fence, portion of a building, wall or other approved durable enclosure. Doors, openable windows, or gates of living quarters or associated private premises shall not be permitted as part of the pool enclosure. The enclosure shall have a minimum effective perpendicular height of five (5) feet as measured from the outside of the enclosure from finish grade to the top of the enclosure.

Fencing

- Pool enclosures shall be constructed over hard or permanent material equivalent to concrete.
- The enclosure shall be designed and constructed so that it cannot be readily climbed by small children. Horizontal and diagonal member designs, which might serve as a ladder for small children, are prohibited. Horizontal members shall be spaced at least 48 inches apart.
- Openings, holes or gaps in the enclosure, doors and/or gates shall not allow the passage of a four (4) inch diameter sphere.
- Planters or other structures shall not be permitted to encroach upon the clear span area as depicted in Figure 31B-5. See **Appendix 6: Enclosures**.
- Masonry or Stone columns must be a minimum 5 feet tall, smooth and non-climbable.

- Chain link may be used provided that the openings are not greater than one and three quarter (1 3/4) inches measured horizontally.

Gates

- The enclosure shall be designed and constructed so that all persons will be required to pass through common pool enclosure gates or doors to gain access to the pool area. All gates and doors exiting the pool area shall open into a public area or walkway accessible by all patrons of the pool.
- Gates and doors shall open outward away from the pool except where otherwise prohibited by law.
- Gates and doors shall be equipped with self-closing and self-latching devices. The self-latching device shall be designated to keep the gate or door securely closed.
- Hand activated door or gate opening hardware shall be located at 42-44 inches above the deck or walkway.
- The pool enclosure shall have at least one (1) means of egress without a key for emergency purposes. Unless all gates or doors are so equipped, those gates and /or doors which allow egress without a key shall be clearly and conspicuously labeled in letters at least 4 inches high "EMERGENCY EXIT."
- Gates and doors shall be capable of being locked during times when the pool is closed.

ANCILLARY FACILITIES

- Public toilet facilities, showers, and drink fountain(s) shall be provided at the pool/spa site. (Exception: They may be omitted when bathers have access to such facilities either in living quarters located within 300 feet walking distance from the pool or in an adjacent building such as a recreational facility, clubhouse, or cabana).
- Separate toilet facilities shall be provided for each sex.
- Using a factor of one bather per 15 square feet of pool water surface area, the following shall be provided:
 - One (1) toilet for each 60 women or less
 - One (1) toilet and one urinal for each 75 men or less
 - One (1) shower for each 50 bathers
 - One (1) lavatory for each 80 bathers.
- When required, one guarded jet drinking fountain shall be provided for the first 250 bathers and an additional fountain shall be provided for each additional 200 bathers or fraction thereof.
- Floors shall have a hard nonabsorbent surface, such as concrete, ceramic tile or other approved material which extends upwards onto the wall at least 5 inches with an integral coved base. Concrete floors shall be sealed with an approved sealer; paints are unacceptable. Floors shall be slip resistant and shall be sloped not less than one quarter (1/4) inch per foot to floor drains. Carpeting is not permitted on toilet or shower room floors.
- Restroom walls and ceilings shall be smooth and easily cleanable.
- Water impermeable materials (fiberglass reinforced polyester [FRP], ceramic tile, cement plaster or the equivalent) is required on walls in the restrooms and on shower walls.
- Hot and cold water shall be provided to lavatories and showers. Hot water shall not exceed 110°F to prevent scalding.
- Lavatories shall be provided with soap from permanently installed soap dispensers.

- Single use towels or hot air blowers and toilet tissue shall be provided in permanently installed dispensing devices in toilet facilities.
- All restroom doors and windows shall be arranged to prevent viewing of the interior from any portion of the building used by the opposite sex and from view from the outdoors. View screens are permitted for this purpose.
- Indoor pools, dressing rooms and toilet rooms shall be ventilated to the requirements in Chapter 4 of the California Mechanical Code.

SPA POOL SPECIAL REQUIREMENTS

- A 'Spa Pool' means a pool that incorporates a water jet system, an aeration system, or a combination of the two systems used in conjunction with heated water. Spa pools shall meet all the requirements of a swim pool, except as follows:
- The water surface area of a spa shall not exceed 250 sq. ft. and the water depth shall not exceed 4 ft.
- The water depth over the benches shall be uniform and shall not exceed 24 inches. See **Appendix 2: Spa Dimensions**.
- Two (2) handrails shall be provided extending from the deck to not less than a point above the top of the lowest step. Step risers shall not exceed 12 inches in height. The steps shall be located where the deck is at least four (4) feet wide.
- Contrast tile must be provided at the edge of the steps and at the edge of the spa benches.
- A spa pool shall have a minimum of two depth markers.
- The spa pool aeration and /or jet system shall be completely separate from the recirculation system and shall not be interconnected with any other pool.
- Aeration and/or jet system shall be patron controlled by means of a timer.
- A single clearly labeled emergency shut off switch which controls both the recirculation system and the aeration and/or jet system shall be installed adjacent to the spa pool. It shall be located as close as possible to the spa, but not more than twenty (20) feet away, and within the enclosure.
- The maximum allowable water temperature in a spa pool shall be 104 degrees Fahrenheit.

WADING POOL REQUIREMENTS

- A wading pool is a pool intended to be used for wading by small children and has a maximum depth of 18 inches at the deepest point.
- At least 2 depth markers shall be present on the wading pool.

PERIMETER OVERFLOW SYSTEMS

- Perimeter overflow systems are required on pools with a surface area of 5,000 square feet or more, and shall comply with all the following provisions:

Location

- The overflow system shall be integrated with the pool structure and extend completely around the pool parallel to the pool deck except where an entry or exit may require interruption.

Channel Detail

- The overflow channel shall be not less than 3 inches deep, the section shall not diverge with depth, and the width of the bottom shall be not less than 3 inches. The opening beneath the

coping into the overflow system shall be a minimum of 4 inches beneath the coping in any direction measured radially from the inner edge of the overflow channel lip.

Channel Lip

- The overflow channel lip shall not be more than 12 inches below the level of the deck. The lip edge shall be rounded and shall not be thicker than 2 1/2 inches nor thinner than 1 inch from the top 2 inches.

Channel Covering

- Covered overflow channels shall be permitted provided the openings do not exceed ½ inch in the smaller dimension.

Channel Outlets

- Outlet spacing and channel bottom slope shall be hydraulically designed by an engineer or architect who has experience working on public pools.

Channel Outlet Covers

- Overflow channel outlets covers shall be accessible for cleaning and maintenance. Openings of the channel outlet covers shall not pass a ½ inch sphere in the smaller dimension.

Channel Drain Piping

- Channel drain piping shall provide drainage of the overflow system, carry overflow water to a surge basin and return to skimming within 10 minutes after being flooded by a sudden displacement of the pool water by pool users.

Surge Storage Capacity

- A perimeter overflow system shall be provided with a minimum surge storage of not less than 1 gallon per square foot of pool water surface area. Surge storage shall be permitted in the surge basin, perimeter overflow channel and in the channel drain piping returning to the surge basin.

GAS CHLORINE SPECIAL REQUIREMENTS

- If considering use of Gas chlorine, contact EHS for specific requirements.

INDOOR POOL AND SPA INSTALATIONS

- Indoor pools, dressing rooms and toilet rooms shall be adequately ventilated.

SOLAR HEATING REQUIREMENTS

Solar heating systems shall comply with the following requirements:

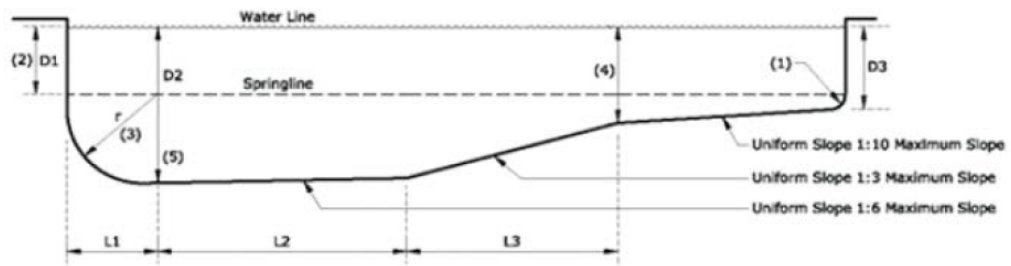
- Solar heating system suction outlets shall comply with recirculation requirements.
- The installation of a solar heating system on a new or existing pool shall not interfere with the required turnover rate nor exceed the maximum pipe flow velocities.
- Solar heating equipment shall comply with applicable requirements established by the NSF/ANSI 50- 2012 performance standard.

Other Suction Ports

- Suction vacuum ports are not allowed in the pool shell.

Appendix I: Tolerances for a Standard Pool based on Depth

LONGITUDINAL SECTION



TRANSVERSE SECTION AT D2

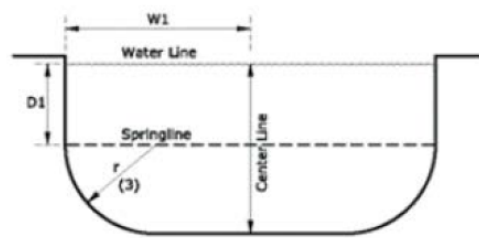


Figure 31B-3 Depths and Clearances for Pools without Diving Boards

Table 31B-3A Pools with Maximum Water Depth ≤ 6' 0"

| Dimension | Depth of Water | | | Length of Section | | | |
|-----------|----------------|------|------|-------------------|------|------|------|
| | D1 | D2 | D3 | L1 | L2 | L3 | W1 |
| Minimum | 2'6" | - | 0'0" | 3'6" | 3'0" | 3'0" | 6'0" |
| Maximum | - | 6'0" | 3'6" | - | - | - | - |

Table 31B-3B Pools with Maximum Water Depth > 6' 0"

| Dimension | Depth of Water | | | Length of Section | | |
|-----------|----------------|---------|------|-------------------|------|------|
| | D1 | D2 | D3 | L1 | L2 | W1 |
| Minimum | 2'6" | > 6' 0" | 0'0" | 3'6" | 3'0" | 7'6" |
| Maximum | - | - | 3'6" | - | - | - |

Notes for Figure 3B and Tables 3.3 and 3.4

1. Radius at the shallow end shall be a maximum of 1'0".
2. Springline D1 shall extend to the break in slope between the shallow area and the deep area.
3. Maximum radius shall equal D2 minus D1 dimensions.
4. Where there is a break in slope, the break shall be located at a water depth equal to 4'6".
5. Each pool shall be provided with a main drain submerged suction outlet typically located at the bottom of the pool that conducts water to a recirculating pump.

Appendix I: Tolerances for Pools with Long Diving Boards

LONGITUDINAL SECTION

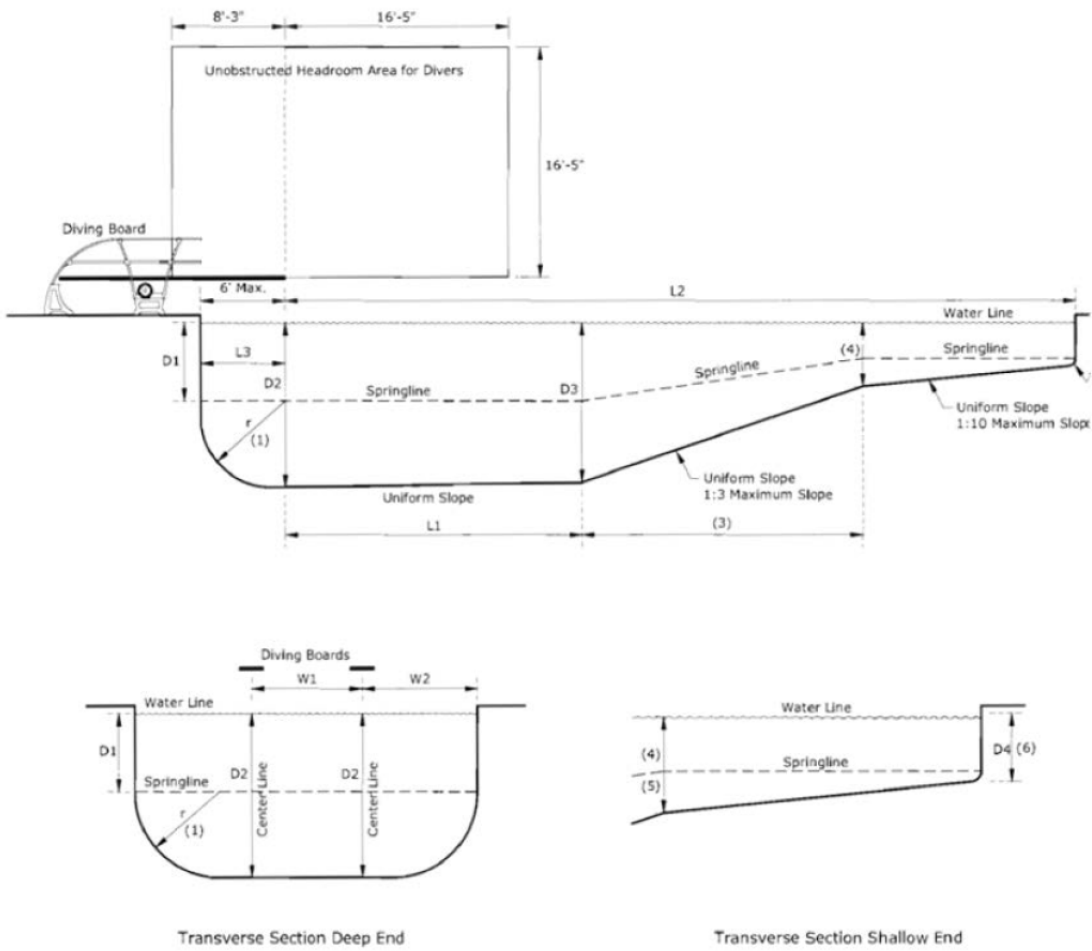


Figure 31B-1 Depths and Clearances for Pool with Diving Boards Greater than 30 Inches (762 mm) above the Water Line

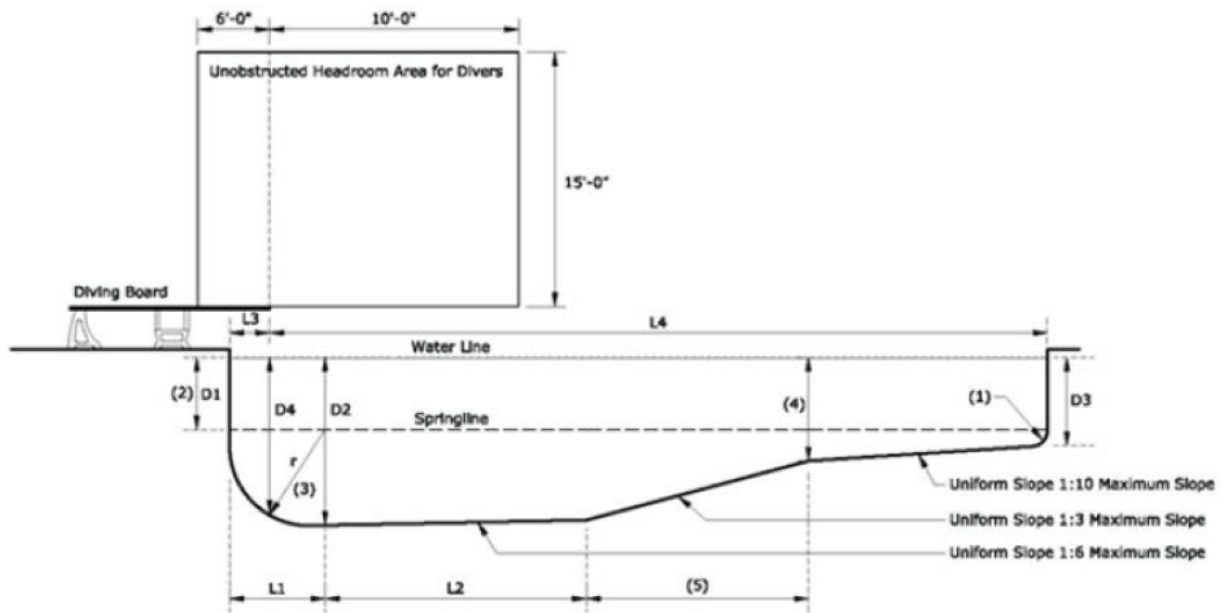
Table 31B-1

| BOARDS AND PLATFORMS | DIM | DEPTH OF WATER | | | | LENGTH OF SECTION | | | | |
|----------------------|------|----------------|--------|--------|-------|-------------------|--------|--------|--------|--------|
| | | D1 | D2 | D3 | D4 | L1 | L2 | L3 | W1 | W2 |
| 1-meter board | Min. | 5'-6" | 11'-6" | 11'-2" | 0'-0" | 16'-5" | 29'-7" | 5'-11" | 7'-11" | 8'-3" |
| 3-meter board | Min. | 6'-6" | 12'-6" | 12'-2" | 0'-0" | 19'-9" | 33'-8" | 5'-11" | 8'-7" | 11'-6" |

Notes for Figure 31B-1 and Table 31B-1:

1. Maximum radius shall equal D2 minus D1 dimensions.
2. Radius at the shallow end shall not be more than 12 inches.
3. The length of a section is based on the maximum slope and other maximum and minimum dimensions.
4. Where there is a break in slope, the break shall be located at a water depth equal to 4'-6".
5. The springline depth at (4) shall not be more than 4'-0".
6. The maximum water depth shall be 3'-6".
7. Each pool shall be provided with a main drain submerged suction outlet typically located at the bottom of the pool that conducts water to a recirculating pump.

LONGITUDINAL SECTION



TRANSVERSE SECTION AT D2

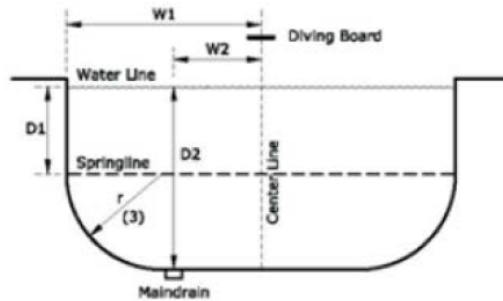


Figure 31B-2 Depths and Clearances for Pools with Diving Boards 30 inches (762 MM) or Less above the Water Line

Table 31B-2

| DIMENSION | DEPTH OF WATER | | | | LENGTH OF SECTION | | | | | |
|-----------|----------------|-------|-------|-------|-------------------|-------|-------|--------|-------|-------|
| | D1 | D2 | D3 | D4 | L1 | L2 | L3 | L4 | W1 | W2 |
| Minimum | 2'-6" | 8'-6" | 0'-0" | 7'-0" | 6'-0" | 6'-0" | 2'-6" | 30'-0" | 9'-0" | 3'-0" |
| Maximum | — | — | 3'-6" | — | 10'-0" | — | 4'-0" | — | — | — |

Notes for Figure 31B-2 and Table 31B-2:

1. Radius at the shallow end shall be a maximum of 1'-0".
2. Springline D1 shall extend to the break in slope between the shallow area and the deep area.
3. Maximum radius shall equal D2 minus D1 dimensions.
4. Where there is a break in slope, the break shall be located at a water depth equal to 4'-6".
5. Length of section is based on maximum slope and other maximum or minimum dimensions.
6. Each pool shall be provided with a main drain submerged suction outlet typically located at the bottom of the pool that conducts water to a recirculating pump.

Appendix 2: Spa Dimensions

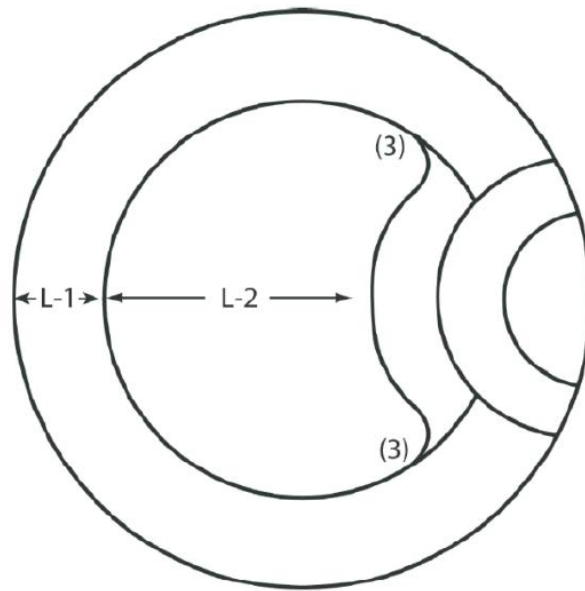
Table 31B-6

| Dimension | Depth of Water | | Length of Sections | |
|-----------|----------------|-----|--------------------|-----|
| | D1 | D2 | L1 | L2 |
| Minimum | - | 24" | 12" | 24" |
| Maximum | 24" | 48" | 24" | - |

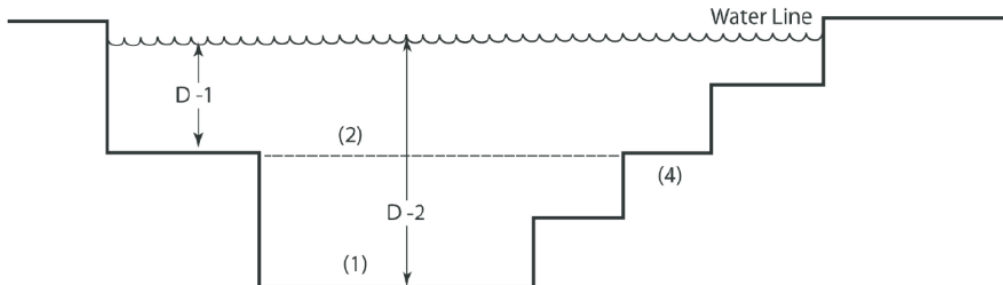
Notes for Figure 31B-6 and Table 31B-6

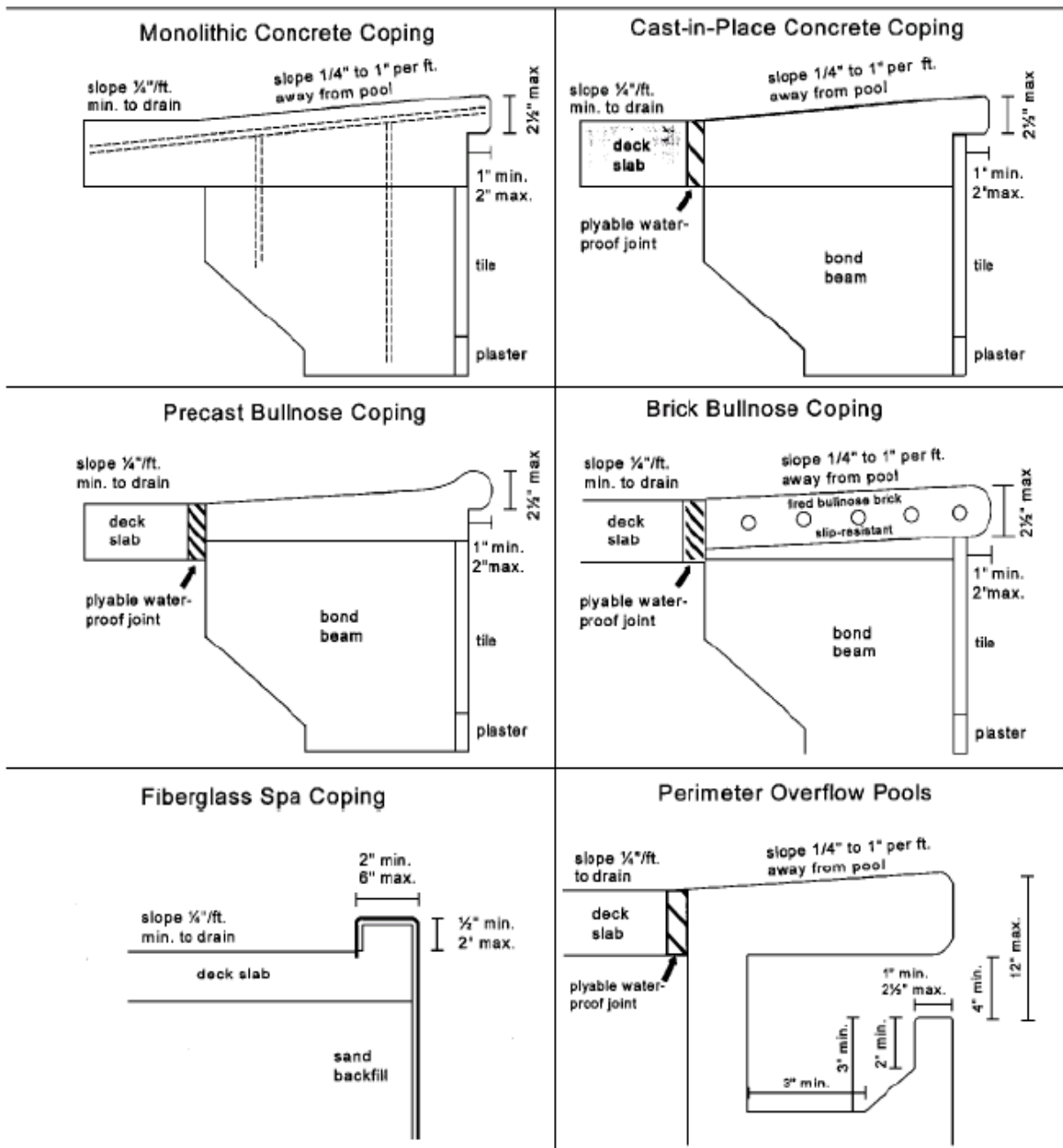
1. Bottom slope shall not exceed 1:10 and must be uniform.
2. Bench ramping shall not exceed 1:10 uniform slope, measured at the inner circumference of the bench.
3. Six inch minimum radius at "pinch points."
4. See Section 3111B for step and handrail dimensions.

TOP VIEW



TRANSVERSE SECTION





Appendix 4: Step and Handrail Dimensions

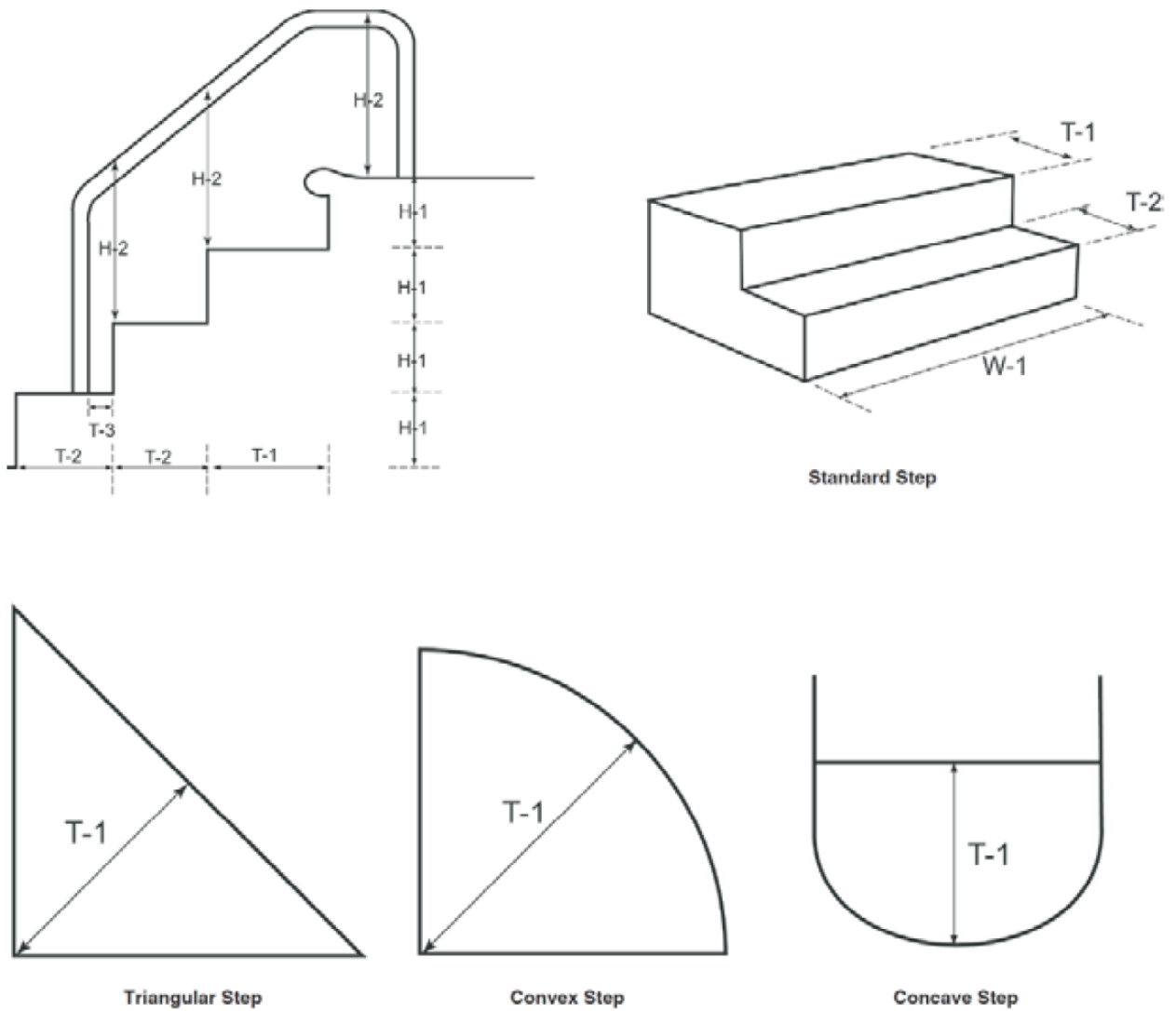
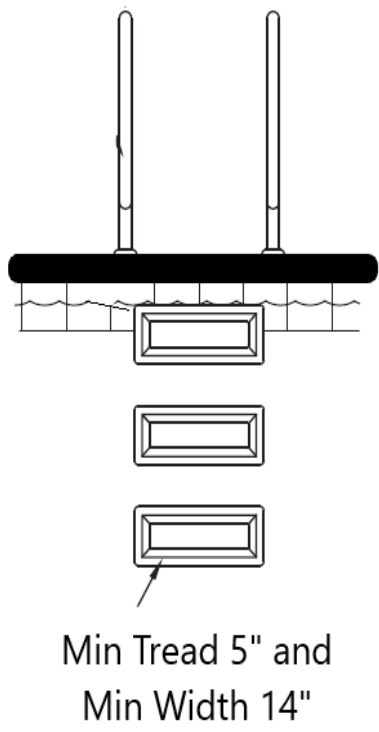
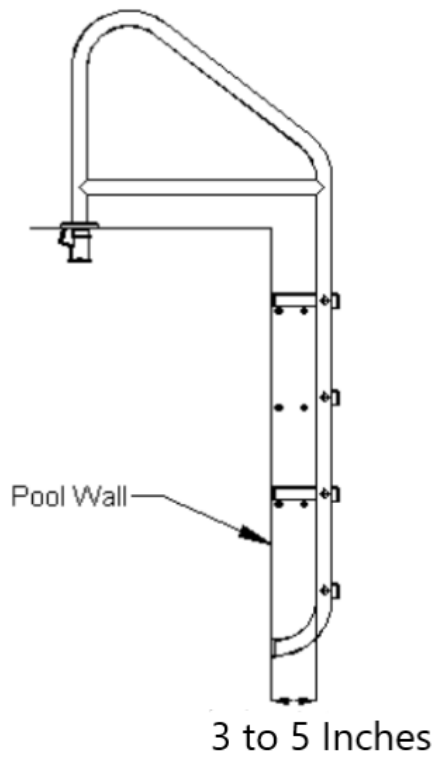


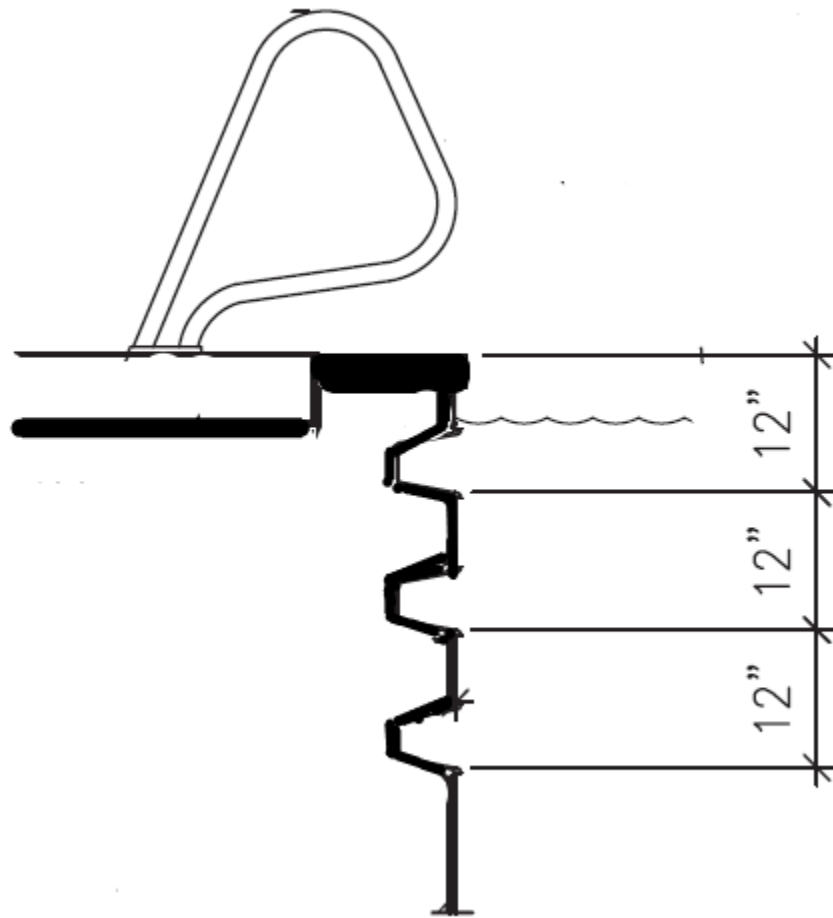
Figure 31B-7 Stair and Handrail Dimensions

Table 31B-7

| DIMENSIONS | T-1 STANDARD | T-1 TRIANGULAR, CONCAVE, CONVEX | T-2 | T-3 | W-1 | H-1 | H-2 |
|------------|--------------|---------------------------------|-----|-----|-----|-----|-----|
| Minimum | 14" | 21" | 12" | 3" | 24" | 6" | 28" |
| Maximum | 18" | 24" | 16" | — | — | 12" | 36" |

Appendix 4: Step and Handrail Dimensions





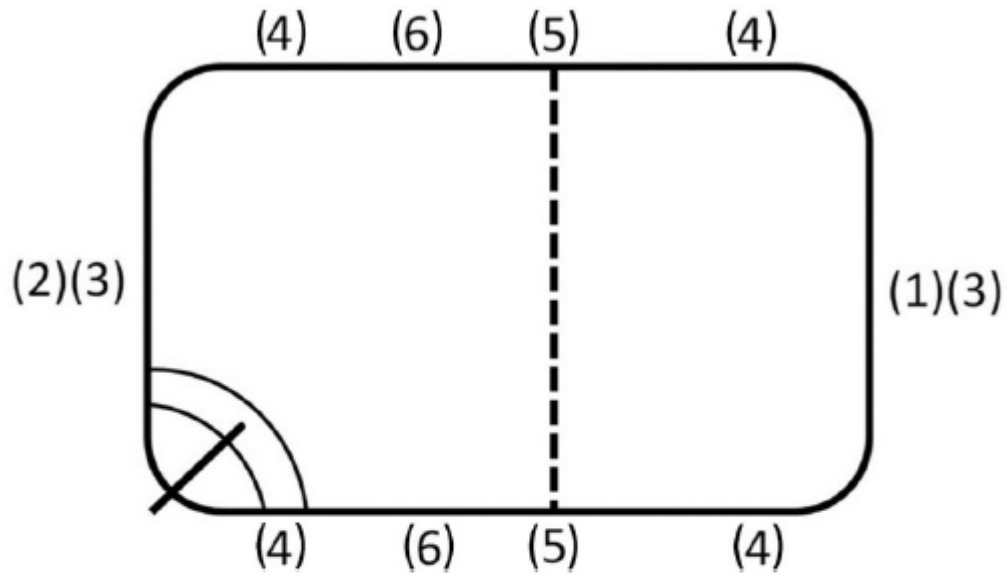


Figure 31B-8 **Depth Marker Locations**

Notes for Figure 31B-8

1. *Maximum depth.*
2. *Minimum depth.*
3. *Each end of pool.*
4. *Both sides at the shallowest and deepest part of pool.*
5. *At the break in the bottom slope between the shallow and deep end.*
6. *Along the perimeter of the pool at distances not to exceed 25 feet.*

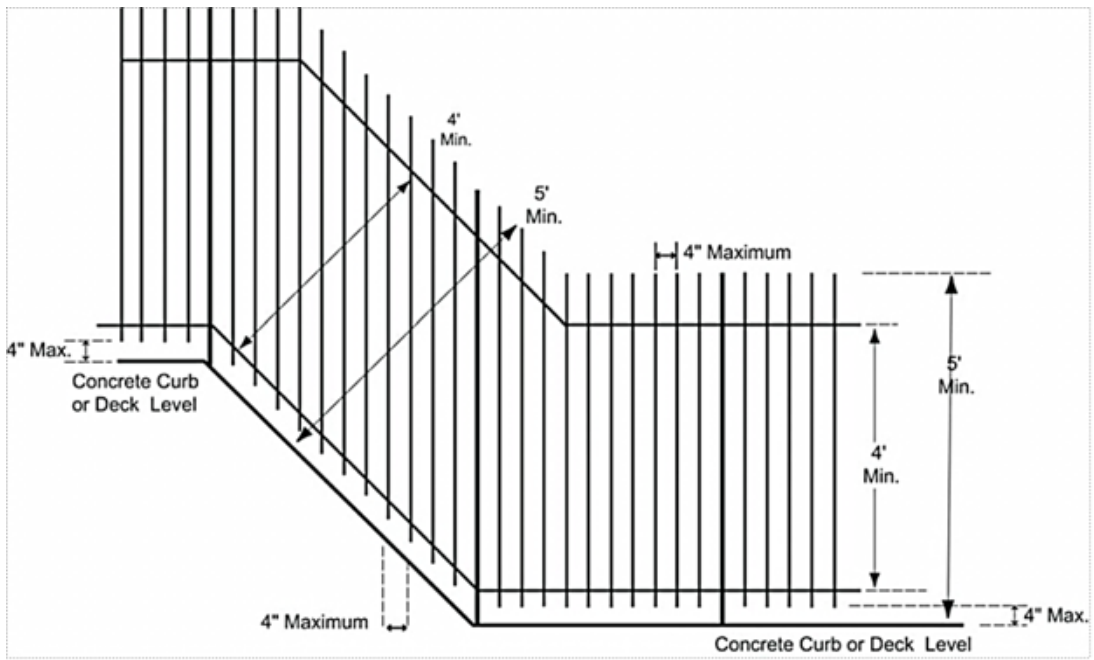
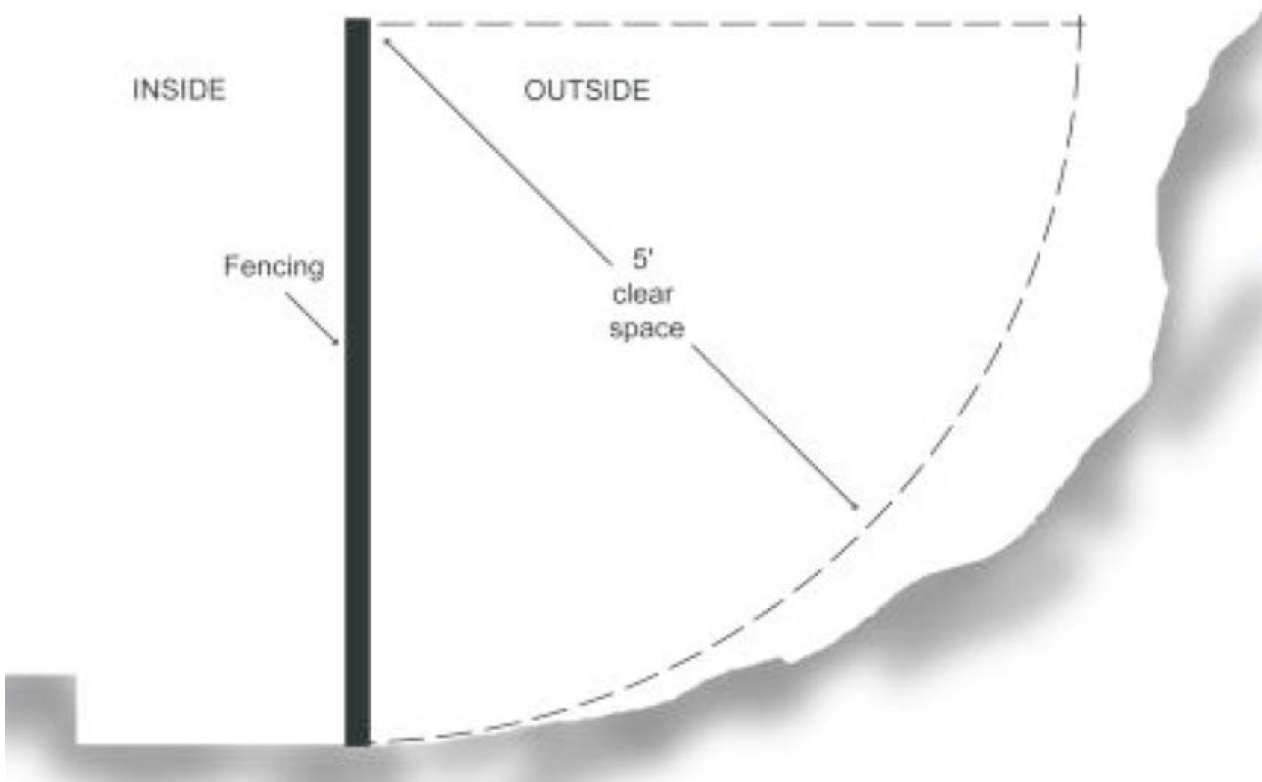





Figure 31B-4

Perpendicular Fencing Dimensions on Sloping Ground






APPENDIX 7: Signs




| SIGN | LOCATION | REQUIRED FOR: | EXAMPLE |
|---|--|---------------|--|
| <p><u>POOL CAPACITY</u> A sign shall indicate the maximum number of pool users permitted for each pool. (3120B.2)</p> <p>Note: Capacity of a spa pool shall be based on one person for every 10 square feet of spa pool water surface area. Capacity for all other pools shall be based on one person for every 20 square feet of pool water surface area.</p> | Sign shall be affixed to a wall, pole, gate, or similar permanent structure in a location visible to all pool users. | Pools Spas |   |
| <p><u>NO DIVING</u> Pools with a maximum water depth of 6 feet or less shall have a sign stating, "No Diving." (3120B.3)</p> | Signs must be posted in conspicuous places easily visible from all areas of pool enclosure. | Pools Spas |  |

The following signs are required:


All signs shall have clearly legible **letters or numbers not less than 4 inches** (102 mm) high (unless otherwise required.) (Sec. 3120B.1)

| SIGN | LOCATION | REQUIRED FOR: | EXAMPLE |
|--|--|--------------------------------|---|
| <p><u>Keep Closed</u> A sign shall be posted stating, "Keep Closed." (3120B.10)</p> | Sign shall be posted on the exterior side of gates and doors leading into the pool enclosure area. | Pools Spas |  |
| <p><u>No Lifeguard on Duty</u> Where no lifeguard service is provided a warning sign shall be posted stating, "WARNING: NO LIFEGUARD ON DUTY." The sign also shall state in letters at least 1 inch (25 mm) high, "Children under the age of 14 shall not use pool without a parent or adult guardian in attendance." (3120B.4)</p> | Sign shall be affixed to a wall, pole, gate, or similar permanent structure in a location visible to all pool users. | Pools Spas Spray Grounds | <p>WARNING: NO LIFEGUARD ON DUTY</p> <p>Children under the age of 14 shall not use pool without parent or adult guardian in attendance</p> |

| | | | |
|---|---|---|---|
| <p>CPR An illustrated diagram with text at least ¼ inch (6 mm) high of artificial respiration and CPR procedures. (3120B.5)</p> | <p>Sign shall be affixed to a wall, pole, gate, or similar permanent structure in a location visible to all pool users.</p> | <p>Pools Spas Spray Grounds</p> |  |
| <p>EMERGENCY SIGN The emergency telephone number 911, the emergency number of the nearest emergency services (Fire Department) and the name and street address of the pool facility shall be posted. (3120B.6)</p> | <p>Sign shall be affixed to a wall, pole, gate, or similar permanent structure in a location visible to all pool users.</p> | <p>Pools Spas Spray Grounds</p> | <p>EMERGENCY Dial 911 Nearest Emergency Services: Santa Cruz Fire Dept. 831-471-1170 Facility Name: ABC Apartments Facility Address: 123 Broadway</p> |
| <p>DIARRHEA SIGN A sign in letters at least 1 inch (25 mm) high and in a language or diagram which clearly states that persons having currently active diarrhea or who have had active diarrhea within the previous 14 days shall not be allowed to enter the pool water. (3120B.11)</p> | <p>Sign shall be posted at the entrance area(s) of a public pool.</p> | <p>Pools Spas Spray Grounds</p> |  |

| SIGN | LOCATION | REQUIRED FOR: | EXAMPLE |
|---|---|----------------------|---|
| <p><u>SPA WARNING SIGN</u> A warning sign for spa pools shall be posted stating, "CAUTION" and shall include the following language in letters at least 1 inch (25 mm) high. (3120B.7)</p> <ol style="list-style-type: none"> 1. Elderly persons, Pregnant women, infants, and those with health conditions requiring medical care should consult with a physician before entering the spa. 2. Unsupervised use by children under the age of 14 is prohibited. 3. Hot water immersion while under the influence of alcohol, narcotics, drugs, or medicines may lead to serious consequences and is not recommended. 4. Do not use alone. 5. Long exposure may result in hyperthermia, nausea, dizziness, or fainting. | <p>Sign shall be affixed to a wall, pole, gate, or similar permanent structure in a location visible to all pool users.</p> | <p>Spas</p> |  |
| <p><u>Emergency shut off</u> Sign in letters at least 1 inch (25 mm) high and stating, "EMERGENCY SHUT OFF SWITCH." (3120B.8)</p> | <p>Sign shall be posted at the spa emergency shut off switch.</p> | <p>Spas</p> |  |
| <p><u>SPRAY GROUND</u> Spray ground shall have a sign posted those states, "CAUTION: WATER IS RECIRCULATED. DO NOT DRINK." (3120b.13)</p> | <p>Sign shall be posted at each spray ground and be visible from any part of the spray ground.</p> | <p>Spray Grounds</p> |  |

Additional Signs May Be Required For:

| SIGN | LOCATION | REQUIRED FOR: | EXAMPLE |
|---|--|-----------------------|---|
| <p>KEYED GATES If a pool enclosure has gates that require a key to exit, those gates and/or doors which will allow egress without a key shall have a sign stating, "EMERGENCY EXIT." (3119b.2 (3))</p> | <p>Sign shall be posted on gates/doors where keyless egress is possible.</p> | <p>Pools Spas</p> |  |
| <p>NO POOL LIGHTS If pool was constructed without lighting or if lighting is inoperable, a sign shall be posted stating, "NO USE OF POOL ALLOWED AFTER DARK." (3120B.9)</p> | <p>Sign shall be posted at each pool entrance on the outside of the gate(s).</p> | <p>Pools Spas</p> | |

*Additional signs are required for wave pools and facilities using gaseous chlorine. See <http://www.iccsafe.org/cs/codes/Errata/State/CA/520SI205.pdf> for details.

For further information regarding Public Pools, please contact Santa Cruz County Environmental Health Service at (831) 454-2022 or go to our website www.scceh.com