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OREGON ADMINISTRATIVE RULES
DEPARTMENT OF HUMAN SERVICES, PUBLIC HEALTH DIVISION
CHAPTER 333

DIVISION 60

PUBLIC WATER SYSTEMS

Public Swimming Pools

333-060-0125
Inlets ~~and Outlets~~
(1) Pool inlets ~~and outlets~~ must~~shall~~ be provided, sized and arranged to produce a uniform circulation of water so as to maintain a uniform disinfectant residual throughout the pool.
(2) There must~~shall~~ be at least one inlet per 400 square feet of pool area or 10,000 gallons of water, whichever is greater.
(3) Pools more than 50 feet wide and reverse flow pools must use floor inlet fittings uniformly spaced no more than 20 feet apart and within 15 feet of the sidewalls.~~At least one outlet shall be provided at the lowest point of the pool floor to drain the entire floor area.~~
(4) Grates must be designed so as to prevent entrapment of fingers.~~When the main outlets for pool pump suction are installed in the pool floor near one end, the spacing shall be not greater than 20 feet (6m) on center and an outlet shall be provided not more than 15 feet (4.6m) from each side wall.~~
(5) All recirculation inlet fittings must be adjustable for rate of flow. Wall inlet fittings must be directional.~~Total velocity through outlet grate openings shall not exceed two feet/second (60cm per second).~~
(6) Inlet fittings must have tamper-proof screws that cannot be removed except with tools. Grates, vortex plates and inlet fittings must be in place whenever the pool is in use.~~Grates shall be designed so as to prevent entrapment of fingers.~~
~~(7) Pool outlets shall be valved and connected to the recirculation pump and shall have a design capacity equal to 100 percent of the recirculation pump capacity.~~
(~~7~~8) Direct potable water pool inlets must~~shall~~:
(a) Be over-the-rim fill spouts with air gaps located under a diving board or~~,~~ beside grab rails;~~ or~~
(b) Be through-the-wall fill lines located above the water level and equipped with an appropriate backflow prevention device installed per OAR 333-061-0071~~0099~~; or
(c) Be directly connected to the recirculation water supply and equipped with reduced pressure device installed per OAR 333-061-0071~~0099~~ on the potable water supply adjacent to the connection with the pool recirculation water.
Stat. Auth.: ORS 448.011
Stats. Implemented: ORS 448.005 - 448.100, ORS 448.990

333-060-0127
Submerged Suction Outlets and Drains

The provisions in this rule are consistent with the requirements of the federal Virginia Graeme Baker Pool and Spa Safety Act (VGBPSSA), 15 USC 8001. Public swimming pools, wading pools and spas that operate year-round were expected to be in compliance by December 19, 2008. Seasonal public pools and spas that were closed when the law went into effect are expected to be in compliance with the federal law on the day that they reopen in 2009. The U.S. Consumer Product Safety Commission (CPSC) is responsible for enforcing the VGBPSSA. Sections (1) and (2) of this rule will not be enforced by the state or a county delegated authority under ORS 448.100 against public swimming pools, wading pools and spas built prior to the effective date of this rule as the state is not responsible for enforcement of the VGBPSSA. However, any public swimming pool, wading pool or spa not in compliance with the VGBPSSA could be subject to an enforcement action by the CPSC.

(1) Two Outlets. There must be at least two outlets located at the lowest point of the pool floor to drain the entire floor area. Exceptions to this include:

(a) Reverse Flow Pools, where the drain is not connected to the recirculation system, but is provided for drainage of the pool through an air-gap connection to the sanitary sewer.

(b) Other suction-fitting arrangement that allows the drainage of the pool through an air-gap connection to the sanitary sewer, or other approved location, while also providing entrapment protection.

(c) Pools with no drain system, with provisions to completely drain the pool to the sanitary sewer or other approved location, by other means that have entrapment protection.

(2) MAIN DRAINS AND SUBMERGED SUCTION FITTINGS. All submerged suction fittings must be installed according to the standards below.

(a) Pool main drains must be installed in the deepest part of the pool and designed to minimize tripping and toe stubbing hazards. Suction fittings must be installed to minimize tripping, toe stubbing and scrape hazards.

(b) Main drain and submerged suction outlets must be designed with sufficient open area that the maximum velocity through the cover does not exceed the cover's listed flowrate.

(c) All hardware and fittings must be supplied by the manufacturer and installed according to the manufacturer's directions.

(d) Main drain and submerged suction fitting systems must provide ENTRAPMENT, HAIR ENTANGLEMENT and EVISCERATION protection.

(A) Main drains and submerged suction fittings and sumps must be compliant with the requirements of ANSI/ASME A112.19.8 (2007). The cover must be labeled and include; "VGB 2008," the logo of the third party listing agency, the standard for which it was tested, the gallons for which it was approved and the location it is to be placed.

(B) All submerged suction fittings must be installed with a sump designed and approved by the manufacturer for that outlet cover.

(C) All field built sumps must be designed by an Oregon registered engineer and must be built so the opening of the suction pipe is no closer than 1.5 times the pipe's inside diameter from the bottom of the listed suction cover/plate.

(D) Main drains and submerged suction fittings must be separated by at least three feet (measured from the main drain connector pipe centerlines) between the furthest fittings, or be on separate planes, placed so the floor and wall suction fittings cannot be easily blocked at the same time.

(i) The outlets must be sized to handle an equal portion of at least 200 percent of the recirculation flow.
(ii) The outlets must be installed so that they cannot be isolated from one another; no intervening valves.
(iii) The piping going back to the pump must be located in the hydraulic middle of the connector piping, and must be the same size as the connector piping.
(3) BROKEN OR MISSING GRATE FITTINGS. If the pool operator finds that a suction fitting is broken or missing, they must close the pool immediately, shut down the recirculation system and remain closed until the fitting has been replaced.
Stat. Auth.: ORS 448.011
Stats. Implemented: ORS 448.005 - 448.100, ORS 448.990

333-060-0505
New Wading Pool Construction
(1) RECIRCULATION. All public wading pools that have submerged outlets must have at least two outlets for each pump. Each public wading pool, except those in subsection (1)(c) of this rule, must have a recirculation rate that meets or exceeds subsection (1)(a) or (1)(b) of this rule, whichever is greater:
(a) A 60-minute turnover time; or~~and~~
(b) When skimmers are used, each skimmer must be designed to skim between 30 to 45 gpm water flow, when 70 percent~~%~~ of the recirculation flow is through the skimmers ((# of skimmers) x (30 to 45 gpm design flow)/0.70 = gpm recirculation rate). The skimmer piping must be designed to handle 100 percent of the recirculation rate.
(c) Spray pools, water playgrounds and interactive fountains that do not pond water and that use potable water once and dispose of it without recirculating it are not regulated or licensed by the Division.
(2) SEPARATE SYSTEM. Each public wading pool must have its own separate recirculation system.
(3) SURFACE SKIMMING. The pool must be designed to skim the water surface continuously. The Division may consider overflow structures such as intermittent fixed weir overflow and trench drains, if shown to be comparably compliant to gutter systems. The Division or its agent may consider alternate overflow designs if the designer shows that adequate skimming and water mixing occur when non-traditional designs are proposed.
(a) SKIMMERS must be listed as meeting ANSI/NSF Standard 50 requirements by a nationally recognized testing organization approved by the Division.
~~(A)~~ A skimmer must be provided for every 400 square feet (37 m2) of water surface area or fraction thereof and provide flow in the amount determined in subsection (1)(b) of this rule.
~~(B) Skimmers must have an equalizer line connecting the skimmer to the main drain sump. The equalizer line may not have a direct connection to any suction piping.~~
~~(C) A spring-loaded equalizer-line valve and float control must be installed in the skimmer to meet ANSI/NSF Standard 50 requirements.~~
(b) GUTTERS AND TRENCH DRAINS. Gutters allow skimming along the entire edge of the gutter. Generally the gutter extends completely around the perimeter of the pool. A TRENCH DRAIN is used much like a gutter, and is installed in zero-depth areas where

an overflow lip cannot be provided. Trench drains are installed at the same angle as the floor. To skim properly, the bottom edge of the trench drains must be level to a very small tolerance and slightly below the water surface.
(A) To determine the minimum amount of surge capacity needed for the pool, add subparagraphs~~sections~~ (3)(b)(A)(i) and (ii) of this rule and provide this capacity by installing a surge tank, or any combination of surge tank, gutter, or trench drain:
(i) Provide a minimum surge capacity equal to an amount determined by calculating eight~~8~~ minutes of recirculation flow (8 x recirculation rate = surge capacity); then
(ii) Add the surge needs of any spray feature or water activity system. Allow an amount equal to at least two minutes~~30 seconds~~ of feature recirculation flow, or as recommended by the manufacturer, whichever is greater.
(B) Install an automatic fill device, to maintain the water level, on all wading pools with gutters or trench drains.
(4) INLETS. Locate the inlets to evenly distribute treated water to all parts of the wading pool and to move debris to the overflow and drain systems. The designer is responsible for demonstrating that the inlet system will provide adequate circulation to all portions of the wading pool:
(a) Use floor inlets on all wading pools more than 30 feet wide (9.1m), and on zero-depth pools.
(b) In-floor cleaning systems, or other products that may cause a tripping or stubbing hazard, are not allowed.
(c) All inlet fittings must have tamper-proof screws or attachments that cannot be removed except with tools. Inlet fittings will be in place whenever the pool is in use.
(5) SUBMERGED SUCTION FITTINGS AND MAIN DRAINS. All submerged suction fittings must be installed according to the standards below. ~~Install a drain in the deepest part of the wading pool to allow complete drainage of the pool. Main drain fittings must be installed flush with the surrounding surface.~~
(a) Wading pool main drains must be installed in the deepest part of the pool and be designed to minimize tripping and toe stubbing hazards.
(b) Main drain and submerged suction outlets must be designed with sufficient open area that the maximum velocity through the cover does not exceed the cover's listed flowrate.
(c) All hardware and fittings must be supplied by the manufacturer and installed according to the manufacturer's directions.
(d) Main drain and submerged suction fitting systems must provide ENTRAPMENT, HAIR ENTANGLEMENT and EVISCERATION protection.
(A) Main drains and submerged suction fittings and sumps must be compliant with the requirements of ANSI/ASME A112.19.8 (2007). The cover must be labeled and include; "VGB 2008," the logo of the third party listing agency, the standard for which it was tested, the gallons for which it was approved and the location it is to be placed.
(B) Maintain any documentation about your main drain or suction fitting.
(C) All submerged suction fittings must be installed with a sump designed and approved by the manufacturer for that outlet cover.
(D) All field built sumps must be designed by an Oregon registered engineer and must be built so the opening of the suction pipe is no closer than 1.5 times the pipe's inside diameter from the bottom of the listed suction cover/plate.

(E) Two or more outlets must be provided. They must be separated by at least three feet (measured from the midpoint of the main drain connector pipe centerlines) between the furthest fittings, or be on separate planes, placed such that they cannot be blocked by one person.
(i) The outlets must be sized to handle an equal portion of at least 200 percent of the recirculation flow.
(ii) The outlets must be installed so that they cannot be isolated from one another; no intervening valves.
(iii) The main drain or submerged suction fitting-piping going back to the pump must be located in the hydraulic middle of the fitting connector piping, and must be the same size as the connector piping.
(6) BROKEN OR MISSING GRATE FITTINGS. If the pool operator finds that a suction fitting is broken or missing, they must close the wading pool immediately, shut down the recirculation system and remain closed until the fitting has been replaced.~~Provide protection against ENTRAPMENT, HAIR ENTANGLEMENT and EVISCERATION for all suction fittings. Skimmers must comply with section (3)(a) of this rule. Other suction systems require two layers (forms) of protection listed in section (6)(a) through (f) of this rule. Suction or outlet fittings must be sized so that the maximum velocity through the open area of the grating is less than 1.5 feet per second at maximum flow. The acceptable methods of entrapment protection are:~~
~~(a) MULTIPLE SUCTION FITTINGS. Install two or more outlets of equal size with a minimum 3-foot straight connector pipe, connected between the fittings. Connect a suction line, the same size as the connector pipe, between the connector pipe and the pump. Install the suction line in the hydraulic middle of the connector pipe. Valving or any other means of isolating an outlet fitting from the other fittings is prohibited:~~
~~(A) When two fittings are provided, each fitting must be sized to handle 100% of the recirculation flow.~~
~~(B) When three or more fittings are provided, separated from each other by 3 feet of connector piping, each fitting will be sized to handle an equal portion of 200% of the recirculation flow.~~
~~Example: (three suction fittings would each handle 66 % of the total recirculation flow; four fittings, 50%)~~
~~(b) ANTI-ENTRAPMENT DRAIN COVER. The drain cover and installation must meet the requirements of ASME/ANSI A112.19.8M, Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, Hot Tubs, and Whirlpool Bathtub Appliances, and be listed by a Division approved national testing service as compliant with this standard. This information must be permanently marked on the drain cover. The fitting must be securely fastened in place and installed flush with the surrounding surface;~~
~~(c) An 18 X 18 INCH (300 mm2) OR LARGER DRAIN grate, a grate or combination of grate fittings forming a channel drain measuring at least 24 inches in contiguous open area length;~~
~~(d) A GRAVITY RETURN system to return water to a surge tank;~~
~~(e) A SAFETY VACUUM RELEASE SYSTEM (SVRS), meeting the standard ASME/ANSI A112.19.17, Manufactured Safety Vacuum Release Systems (SVRS) for Residential and Commercial Swimming Pool, Spa, Hot Tub, and Wading Pool Suction~~

~~Systems, and listed by a Division approved national testing service as compliant with this standard. The listing service seal must be attached to the device; or~~
~~(f) OTHER means of passive protection approved for use by the Division;~~
(7) BASIN DESIGN. The slope of the pool bottom can be no more than 1 in 12. Eight inches (200 mm) is the maximum water depth allowed at any edge of the pool accessible from the deck. When perimeter water depths exceed eight~~8~~ inches (200mm) at the edge of the pool, stairs and handrails complying with the requirements of OAR 333-060-0080(1), (3), (4)(b), (7), (8), and (9), must be provided at the designated entry points.
(8) DECKING. Unobstructed decking, five~~5~~ feet (1.5 m) or more in width must be provided around the wading pool perimeter. When a wading pool is adjacent to a swimming pool, it must be located near the shallow end of the swimming pool, with a minimum of nine~~9~~ feet (2.7 m) of deck between the pools.
(9) ENCLOSURE. Enclose the wading pool area, as required by OAR 333-060-0105. Spray pools, water playgrounds, and fountains that do not pond water may comply with paragraph (11)(c)(E) of this rule in lieu of providing an enclosure.
(10) DEPTH MARKING:
(a) The operator must indicate the maximum pool depth in feet and inches, with a sign near each entrance to the wading pool.
(b) Depth markings must be placed around the pool perimeter indicating the water depth at the edge, following the requirements in OAR 333-060-0065.
(c) Pools with a zero-depth edge are not required to have perimeter depth markings, but are still required to provide the maximum depth signs.
(d) Pools and fountains that do not pond water are not required to have depth markings or maximum depth signs.
(11) SPRAY FEATURES AND PLAY EQUIPMENT. Fountains, sprays, slides and similar features may be installed, if specifically designed for aquatic installation:
(a) WATER SOURCE. Water-using features must be designed and installed to draw their water supply from the main drain or similar fitting, surge tank, trench drains or gutters, but not from the skimmers. The main drain fittings and the related piping must be sized for 100 percent~~%~~ of the pool recirculation rate plus 100 percent~~%~~ of the capacity of any feature pump routed through the fittings. The sizing of the feature pump must be based on 20 ft. TDH (59,000 Pa), unless the actual TDH is calculated.
(b) EQUIPMENT DESIGN AND INSTALLATION. Play equipment shall be designed and installed to meet all applicable standards of the CPSC Handbook for Playground Safety (1997 edition), and ASTM F1487, Standard for Public Playground Equipment:
(A) Applicable r~~R~~equirements include equipment design and construction, proper anchoring, entrapment protection, protrusion safety, and safety use-zone sizing. All equipment shall be designed for use in pools.
(B) Play e~~E~~quipment must be designed to be difficult to climb, unless the equipment is specifically designed for climbing and provided with safety zones and impact attenuating surfaces acceptable to the Division.
(C) Swings are not allowed.
(D) Obstructions extending from the walls or the bottom of the wading pool are not permitted, unless a designed part of the play equipment, with provisions made for safety and good water circulation.

(E) "Children's Activity Slides" are small, low exit velocity slides designed for use by small children in shallow water. They must be designated by the manufacturer for use in 24 inches (0.6 m) or less of water, and installed as recommended by the manufacturer. Other types of slides are not allowed.
(F) Spray pools, using potable water, must comply with all requirements concerning basin design, materials, entrapment protection, fall protection, and safety during construction of the pool, and must be maintained and operated in a safe and healthy manner.
(c) SPRAY POOLS or WATER PLAYGROUNDS. Spray pools or water playgrounds are basins containing spray features intended for recreational use, but that do not collect water in the basin. If the water is captured and recirculated, the pool shall meet the requirements of OAR, chapter 333, division ~~0~~60. If potable water is used once and drained to waste, the spray pool or water playground is not regulated or licensed under these rules:
(A) Design spray pools with a zero-depth design, with no walls in the basin.
(B) Spray pools do not require devices for skimming.
(C) All water recirculated through the spray features shall be filtered and sanitized, or from a potable water source. Equipment capable of continuously supplying at least 0.25 ppm additional chlorine to the line returning water to the spray features must be provided, except when potable water is supplied, used once and drained to waste, or all the water is filtered and treated before being sent back to the water features.
(D) Slip-resistant, easy to clean and water impervious surfaces must be installed in the spray basin. Impact attenuating surfaces, basin surfacing materials with shock absorbing properties, for use with equipment addressed in subsection (11)(b) of this rule, will be considered, but must be water impervious, not conducive to bacteria and algae growth, and resistant to vandalism and damage. All impact cushioning materials must be approved by the Division for use in a wet environment.
(E) Spray pools do not require a security enclosure. At least six feet (1.9 m) of deck around the perimeter of the pool basin and sloped away from the basin must be provided.
[Publications: Publications referenced are available from the agency.]
Stat. Auth.: ORS 448.011
Stats. Implemented: ORS 448.005 - 448.100, 448.990

333-060-0510
Existing Wading Pools
The requirements in this rule apply to all wading pools built before July 13, 2006.
(1) RETRO-FIT RECIRCULATION SYSTEMS. All water-retaining wading pools need recirculation, filtration, and disinfection. Those wading pools without water recirculation shall be renovated, or phased out of use and removed, before December 31, 2009.
(a) COMPLIANCE. Operators of all wading pools affected by this rule must provide to the Division or its agent, before July 1, 2007, a proposed plan and timetable for renovation or removal of the pool.
(A) The proposed plan and timetable will be reviewed by the Division or agent health department and an acceptable plan and timetable will be negotiated or approved.
(B) Before renovation begins, construction plans, a plan review application and fees must be submitted to the Division or its agent to obtain approval and a construction permit.

(C) If a wading pool operator fails to submit a plan by July 1, 2007, or fails to complete renovations or removal by December 31, 2009, the license for the pool will not be renewed:
(i) After December 31, 2009, wading pools without water recirculation systems and without a license to operate, are declared public nuisances under the authority of ORS 448.060; and
(ii) The Division or its agent, in compliance with ORS 448.060 may proceed with abatement of said nuisance.
(b) INTERIM OPERATION. Operators of wading pools that have no recirculation, filtration or disinfection systems must change the water at least every four hours. This may be accomplished by gradual drainage, or by dumping and filling. This may continue until the wading pool is retro-fit or December 31, 2009 whichever comes first. Additional requirements include:
(A) At opening, and every two hours after that, until closing, the water must be tested and a chlorinating product added to reach a residual of 5 ppm.
(B) The water must be drained at closing each day. Before opening again, the basin must be thoroughly rinsed and any debris removed. The basin must be scrubbed at least weekly, with a solution containing at least 50 ppm of chlorine, mixed according to the directions on the chemical container. Potable water must be used to fill the pool and the chlorine level adjusted.
(2) Protection against ENTRAPMENT, HAIR ENTANGLEMENT and EVISCERATION for all suction fittings will be provided on all wading pools, except those addressed in subsection (1)(b) of this rule by December 31, 2008.
(a) COMPLIANCE. If a wading pool operator fails to provide entrapment protection by December 31, 2008 the operator will close the wading pool until either protection is provided and approved by the Division or its agent, or the pool is removed. If corrections are not completed by December 31, 2009, the license for the pool will not be renewed.
(A) Before renovation begins; construction plans, a plan review application and fees must be submitted to the Division or its agent to obtain approval and a construction permit.
(B) After December 31, 2009, wading pools without entrapment protection and without a license to operate are declared public nuisances under the authority of ORS 448.060; and
(C) The Division or its agent, in compliance with ORS 448.060 may proceed with abatement of said nuisance, including summary abatement, if necessary.
(D) Renovations must meet the requirements of OAR 333-060-0505(5) after June 16th. 2009.
~~(b) DESIGN AND INSTALLATION. One method of protection is required using the options in OAR 333-060-0505(6)(a) through (f). A Safety Vacuum Release System (SVRS) as described in OAR 333-060-0505(6)(e) must not be used as the sole means of protection against entrapment, entanglement and evisceration. The Division may approve, on a case by case basis, individual situations where the SVRS may be used alone or with alternative devices meeting the intent of this rule, when full compliance is not an option. NOTE: Two layers (forms) of protection are recommended using the options in OAR 333-060-0505(6)(a) through (f).~~
Stat. Auth.: ORS 448.011
Stats. Implemented: ORS 448.005 - 448.100, 448.990