

JAN 26 2009

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# A BILL FOR AN ACT

RELATING TO DETENTION AND RETENTION PONDS.

**BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:**

1           SECTION 1. The legislature finds that Hawaii has the  
2 highest rate of drowning in the country. An average of thirty  
3 Hawaii residents, or 2.4 victims for every one hundred thousand  
4 people, drown each year in the State's oceans, lakes, dams and  
5 reservoirs, rainwater retention and detention ponds, flood  
6 waters, swimming pools, spas, and bath tubs.

7           Hawaii's keiki are the most vulnerable to drowning, which  
8 in this State and nine others, is the leading cause of death  
9 among children aged fourteen and younger. Hawaii's older keiki  
10 are more vulnerable to drowning in the ocean, lakes, ponds, dams  
11 and reservoirs, rainwater catchments, as well as detention and  
12 retention ponds.

13           Detention and retention ponds are meant to hold storm  
14 water. Similarly, rainwater catchments are used to harvest  
15 runoff rainwater. While many catchment systems collect runoff  
16 in enclosed tanks, some systems utilize artificial ponds to  
17 catch water.



1 Unregulated and poorly maintained rainwater detention and  
2 retention ponds pose a serious health and safety risk,  
3 particularly to Hawaii's children. Since rainwater retention  
4 and detention ponds are often mistaken for recreational bodies  
5 of water, they should be clearly marked with hazard and warning  
6 signs that prohibit swimming and water sports.

7 The legislature further finds that more than a year ago,  
8 the department of health recommended reducing the drowning rate  
9 by more than half to less than one resident per one hundred  
10 thousand by 2010. A high drowning rate detracts from the  
11 State's image as a safe as well as pleasurable visitor  
12 destination.

13 The American Academy of Pediatrics and the Consumer Product  
14 Safety Commission have recommended the use of fencing to protect  
15 children from water hazards. Also, the State's injury  
16 prevention panel has recommended four-sided isolation fencing  
17 for residential pools to isolate the pool from the house or  
18 yard. Rainwater detention and retention ponds should be  
19 similarly enclosed with fencing at least four feet high and  
20 accessed by one or more locked gates.

21 The purpose of this Act is to ensure the health, safety,  
22 and welfare of the citizens of the State by creating a program



1 for monitoring and enforcing the safety of Hawaii's rainwater  
2 retention and detention ponds to prevent drowning.

3 This Act also recognizes Charlotte "Sharkey" Schaefer, the  
4 five-year-old girl who drowned at a Pearl City naval housing  
5 complex while trying to save the life of her childhood friend.

6 SECTION 2. Chapter 46, Hawaii Revised Statutes, is amended  
7 by adding a new section to be appropriately designated and to  
8 read as follows:

9 "§46- Retention pond, detention pond, and catchment  
10 area pond; requirements; maintenance plan. Beginning January 1,  
11 2010, no retention pond, detention pond, or catchment area pond,  
12 as those terms are defined in section 321-B, shall be permitted  
13 to be constructed within a county unless the developer or  
14 responsible person proposing its construction and maintenance:

15 (1) Certifies that a retention pond, detention pond, or  
16 catchment area pond is necessary for rainwater or  
17 storm water mitigation and that there is no other  
18 alternative;

19 (2) Includes a one hundred foot wide buffer in the design  
20 surrounding the pond to separate it from schools,  
21 child care facilities, homes, parks, athletic fields,  
22 or housing projects; provided that trails and



1           sidewalks shall be separated from all storm water  
2           detention facilities by not less than twenty five  
3           feet, measured from the one hundred year pool of the  
4           pond; and

5           (3) Creates and adopts a maintenance plan pursuant to  
6           section 321-E."

7           SECTION 3. Chapter 302A, Hawaii Revised Statutes, is  
8 amended by adding a new section to be appropriately designated  
9 and to read as follows:

10           "**§302A-       Water safety education; retention pond,**  
11 **detention pond, and catchment area pond.** The department shall  
12 incorporate retention pond, detention pond, and catchment area  
13 pond safety into the department's water safety curriculum."

14           SECTION 4. Chapter 321, Hawaii Revised Statutes, is  
15 amended by adding a new part to be appropriately designated and  
16 to read as follows:

17           "**PART     RAINWATER DETENTION AND RETENTION POND SAFETY**

18           **§321-A Short title.** This part may be cited as the  
19 "Charlotte 'Sharkey' Schaefer Law".

20           **§321-B Definitions.** For the purposes of this part, unless  
21 the context clearly requires otherwise:



1 "Catchment area pond" means an area used to harvest  
2 rainwater runoff.

3 "Detention pond" or "wet-detention system" means a  
4 permanent or semi-permanent aquatic system that acts as a trap  
5 where pollutants picked up by the initial surge of storm water  
6 settle out before leaving the detention pond. A detention pond  
7 dries out only under drought conditions and the water in a  
8 detention pond is displaced by an equivalent amount of entering  
9 storm water.

10 "Retention pond" or "dry-retention systems" means an area  
11 that is designed to hold storm water until the effects of  
12 percolation, evapotranspiration, or controlled release, return  
13 the area to its normally dry state. The area is designed to  
14 dissipate inflowing storm water within seventy-two hours to  
15 accommodate a new volume of water.

16 **§321-C Exemptions.** Golf courses, hotels, resort  
17 properties, or other secured recreational areas that submit  
18 maintenance plans and provide proof of security shall be exempt  
19 from the requirements of this part.

20 **§321-D Retention pond, detention pond, and catchment area**  
21 **pond; safety measures required; inspection; fines.** (a) The  
22 department shall perform an annual safety inspection of each



1 retention pond, detention pond, and catchment area in the State  
2 built after December 31, 2009 to ensure that the operation of  
3 each retention pond, detection pond, and catchment area pond  
4 complies with the maintenance plan adopted pursuant to this  
5 section and pertinent rules.

6 (b) Each retention pond, detention pond, and catchment  
7 area pond shall:

8 (1) Be supplied with:

9 (A) Emergency flotation devices; and

10 (B) A reaching pole or similar device to pull ashore  
11 individuals who may be stranded in the pond;  
12 provided these emergency safety devices shall be  
13 posted immediately adjacent to each locked gate inside  
14 the fence under paragraph (2);

15 (2) Be enclosed with fencing at least four feet high, with  
16 access controlled by a locked gate or gates;

17 (3) Have adequate drainage;

18 (4) Have hazard signs posted outside of every entry point  
19 or locked gate or at four hundred foot intervals  
20 warning of the dangers of drowning and prohibiting  
21 entry; provided that dry ponds shall have signs  
22 warning that they may fill suddenly with deep water;



- 1           (5) Maintain a one hundred foot buffer from parks,  
2           playgrounds, schools, athletic fields, and  
3           neighborhoods where children play and live; provided  
4           that trails and sidewalks shall be separated from all  
5           storm water detention facilities by not less than  
6           twenty five feet, measured from the one hundred year  
7           pool of the pond;
- 8           (6) Have adequate drainage capable of releasing  
9           exceptional storm runoff if normal discharge devices  
10          are totally or partially inoperative. Off-site flows  
11          greater than the allowable release rate for the pond  
12          shall be conveyed through an emergency spillway, not  
13          through the primary outlet structure. The primary  
14          outlet structure shall be sized and the invert  
15          elevation of the emergency overflow weir determined  
16          according to the on-site runoff only and all other  
17          flows shall be either retained or safely bypassed  
18          through the emergency overflow weir. Emergency  
19          overflow facilities should be designed to handle 1.25  
20          times the peak discharge and the peak flow velocity  
21          resulting from the one hundred year design storm event  
22          runoff from the entire contributing watershed draining



1 to the detention facility, assuming post-development  
2 condition on-site and existing condition off-site;

3 (7) Have a safety ramp exit from the pond that is a  
4 minimum width of twenty feet and have an exit slope of  
5 six horizontal to one vertical (6:1). The ramp shall  
6 be constructed of suitable material to prevent  
7 structural instability due to vehicle impacts or wave  
8 action;

9 (8) Undergo periodic maintenance to control weed and  
10 larval growth;

11 (9) Remove debris and trash and perform other necessary  
12 maintenance on a regular basis to ensure continued  
13 operation in conformance to recommended design  
14 standards; and

15 (10) Be subject to an annual safety inspection.

16 (c) The department shall conduct an annual inspection to  
17 verify that the developer or person responsible for the  
18 retention pond, detention pond, or catchment area pond:

19 (1) Has on file an ongoing maintenance plan, including  
20 design drawings and operational records, adopted  
21 pursuant to this chapter; and





1           (2) Is complying with the maintenance plan as well as  
2           federal, state, and county design and safety  
3           guidelines.

4           **§321-E Maintenance plan.** (a) Every developer or person  
5 responsible for constructing or maintaining a retention pond,  
6 detention pond, or catchment area pond in the State shall adopt  
7 a maintenance plan to ensure continued safety that includes  
8 design drawings, safety features, such as warning signs and  
9 safety devices, a method to maintain operational records, and  
10 requiring adequate drainage and enclosing a retention pond,  
11 detention pond, or catchment area pond with fencing.

12           (b) Maintenance plans shall comply with best practices  
13 standards as required by federal, state, and county guidelines.  
14 For the purposes of this section, best practices standards  
15 means:

16           (1) For wet-detention systems:

17           (A) A six-foot maintenance ledge shall be installed  
18           approximately twelve inches above the permanent  
19           water level. A safety ledge six feet in width  
20           shall be installed approximately eighteen inches  
21           below the permanent water level. The slope  
22           between the two ledges shall be stable and



1           protected from erosion with hard armoring or  
2           bioengineered techniques.

3           (B) For wet bottom facilities without a security  
4           fence, a maintenance ledge ten feet in width is  
5           required and shall be installed twelve inches  
6           above the permanent water level. The ground  
7           surface slope shall be no steeper than a ration  
8           of six (horizontal) to one (vertical) from the  
9           maintenance ledge to a depth of six feet below  
10          the permanent water level of the facility.  
11          Ground surface slopes shall be no steeper than  
12          3:1 when the depth exceeds six feet below the  
13          permanent water level of the facility. The  
14          planting of vegetated barriers, from the top of  
15          the bank to the water's edge around the perimeter  
16          of wet-bottom ponds without a security fence, is  
17          highly recommended. These barriers serve as  
18          potential obstacles to persons or animals who may  
19          consider entering the water. The vegetation  
20          shall preferably be planted in a manger that does  
21          not disguise the pond's edge. Maintenance of the



1 vegetated barrier shall be the responsibility of  
2 the pond's owner or the homeowners association.

3 (2) For dry-retention systems:

4 (A) Standard best practices of dry bottom ponds shall  
5 include provisions that ensure complete interior  
6 drainage such as natural grades to outlet  
7 structures, longitudinal and transverse grades to  
8 perimeter drainage facilities, paved gutters, or  
9 installation of subsurface drains. For  
10 residential developments or developments that are  
11 within one hundred feet of parks, playgrounds,  
12 schools, or sporting fields, the maximum planned  
13 depth of stored storm water shall not exceed four  
14 feet. In excavated detention facilities, a  
15 minimum side slope of 3:1 shall be provided for  
16 stability. In the case of valley storage,  
17 natural slopes shall be considered stable.

18 (3) For paved parking lot drainage:

19 (A) Paved parking lots shall be designed to provide  
20 temporary detention storage of storm water.

21 Pursuant to standard best practices, outlets for  
22 parking lot storage shall be designed to empty



1           the stored waters slowly. Depths of storage  
2           shall be limited to a maximum depth of seven  
3           inches to prevent damage to parked vehicles to  
4           not impair access to vehicles. Ponding shall be  
5           confined to those areas of the parking lot that  
6           are farthest from the area served.

7           (c) Existing retention ponds, detention ponds, and  
8 catchment area ponds that do not have a maintenance plan in  
9 place are exempt from this chapter. Responsible parties shall  
10 submit their names to the department so that they can be  
11 contacted should the requirements change.

12           **§321-F Rules; fines.** The department shall adopt rules in  
13 accordance with chapter 91 to carry out the purposes of this  
14 part. Violations of this part shall be subject to  
15 administrative fines in amounts as determined by the department  
16 in accordance with rules."

17           SECTION 5. There is appropriated out of the general  
18 revenues of the State of Hawaii the sum of \$           or so much  
19 thereof as may be necessary for fiscal year 2009-2010 to fund a  
20 retention and detention pond task force to study the issue of  
21 retention and detention ponds in the State and suggest  
22 appropriate legislation to the legislature as warranted.



1           The task force shall consist of nine members appointed by  
 2 the chairperson of the board of land and natural resources and  
 3 shall serve without pay; provided that task force members shall  
 4 be reimbursed for reasonable expenses including travel expenses  
 5 necessarily incurred in the performance of their official  
 6 duties.

7           The sum appropriated shall be expended by the department of  
 8 land and natural resources for the purposes of this Act.

9           SECTION 6. In codifying the new sections added by section  
 10 4 of this Act, the revisor of statutes shall substitute  
 11 appropriate section numbers for the letters used in designating  
 12 the new sections in this Act.

13           SECTION 7. New statutory material is underscored.

14           SECTION 8. This Act shall take effect upon its approval;  
 15 provided that section 5 shall take effect on July 1, 2009.

16

INTRODUCED BY: Will Engro

*[Signature]*  
*[Signature]*  
 Michelle D. Gidari



**Report Title:**

Detention and Retention Ponds

**Description:**

Regulates detention and retention ponds. Establishes retention and detention pond task force.

