SAFETY PRACTICES FOR RESIDENTIAL BODIES OF WATER

Background

This Loss Control Technical Bulletin provides policyholders with specific guidelines on safety practices for residential bodies of water for the following residential occupancies (homeowners associations, apartments, condominiums, townhouses, etc.). This bulletin applies to all retention ponds, decorative ponds, lakes, lagoons, water-wells and other water sources located on a community or association’s premise. This bulletin does not apply to swimming pools.

Retention Ponds:

The dangers posed by retention ponds are often hot topics brought up when residents of a neighborhood gather for community meetings. The concerns associated with retention ponds always revolve around child safety. Many residents feel that there is a great potential of a child from drowning in the pond following heavy rainfall or falling through ice, and because of this hazard, a permanent fence should be erected to deter children from gaining access to the pond. Others feel that the pond should be a "natural-looking" pond with plants and vegetation.

Decorative Ponds, Lakes, Lagoons, etc.:

Ponds, lakes, lagoons are the center of accidental drownings. Most victims range in age from toddlers to young adults and sometimes are non-residents of the community where the incident occurred. Children under the age of four make up the largest group of victims in pond drownings. Small children may get too close to the water's edge, lose their balance in the soft earth, and drown in the shallow water. Other children may wade into shallow water and fall into deep holes. Winter drowning victims fall through thin ice and may not be capable of pulling themselves to safety. In these incidents, hypothermia is an immediate problem and must be treated appropriately.

Lack of close supervision, underestimating the curiosity of children, and adults who overestimate their child's sense of judgement all contribute to drownings of young children in these ponds. Even though a child verbally acknowledges a warning or caution, that does not mean that they understand the hazard or risk of ponds. Children's short attention spans, plus the attractiveness of the pond water as a play area, render most verbal instructions ineffective. Adult supervision should include maintaining constant eye contact with children playing near a pond or lagoon. Teaching children to swim at an early age may help reduce this concern.

Adults are also drowning victims in ponds. Data show that accidents most often occur when people use ponds and lakes for recreational swimming. Most victims are in their late teens or early twenties. Sharp drop-offs on the pond floor and leg cramps may cause even good swimmers to experience problems. Multiple drownings have occurred when one person attempts to rescue another individual who is in trouble.

Water-Wells:

Some drownings result from falls into wells, particularly those no longer in use. Most wells when abandoned are covered by wooden planks or other types of capping devices. Wooden planks may rot over a period of time and caps may get removed for a variety of reasons. Sometimes older children or pranksters will open up wells not realizing the seriousness of these actions.
Definitions

Retention Pond: A retention pond is constructed to detain storm water and allow solids and industrial solids to be retained. In general, retention ponds provide more effective pollutant removal than other storm water management device. Most retention ponds, also called wet ponds, maintain a permanent pool of water in addition to temporarily detaining stormwater. This permanent pool of water is the principal distinguishing feature between retention ponds and detention ponds. The depth of this water varies drastically based on the rainfall and soil permeation rates.

Water Well: An artificial pit, hole, or tunnel, drilled, dug, driven, jetted or otherwise constructed into the ground to a depth that reaches an aquifer.

General Safety Precautions for ALL Bodies of Water (retention ponds, decorative ponds, lakes, quarry ponds, etc)

- Every onsite water source should have a rescue post inserted firmly in the ground near the water’s edge. Secure nylon rope to the post that is long enough to reach across the pond. Attach one end of the rope to a buoy, the other end to woodblock, and then hang these on the rescue post. A gallon plastic milk jug containing a pint of water can also serve as a buoy. A thin, 12 to 14 foot pole should also be kept at the rescue post for assisting victims out of the pond. A sign printed with emergency phone numbers should also be attached to the rescue post. 1.

![Diagram of a rescue post with labels for emergency procedures.]

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• Install appropriate warning signs. Miscellaneous “warning signs” should be posted on the access walkways leading to the retention ponds. Signs should be posted on the trees at a height visible for pedestrians (12 to 15 ft. high). The signs should be large enough to be seen (greater than 14 in. x 20 in.), clearly visible (red, yellow, orange) and descriptive in their message. Lettering on warning signs must be at least 2 inches high and any graphics must be large enough to be clearly seen. Warning signs must be made of a weather-resistant material such as metal, pressure-treated wood, plastic, and other approved equivalent. All lettering, graphics, and the surface of the sign must be composed of a weather-resistant material. The sign must be securely anchored. Examples of possible wording include the following:

  a) STOP: Restricted Area: NO ADMITTANCE
  b) WARNING: PRIVATE PROPERTY: Trespassers Will be Prosecuted
  c) NO TRESPASSING: Security Patrol on Duty

• In an effort to reduce the potential of a resident or nonresident from using the community ponds or lakes for recreational purposes, “warning signs” should be posted around all community retention ponds, decorative ponds, lakes, water-wells, or any other standing water source located on the premises. The signs must be clearly visible and descriptive in identifying the potential exposures. Universal signage showing figures with “X” over them identifying no swimming or ice skating can also be provided. The signs should be large enough to be seen (greater than 18 in. x 24 in.), clearly visible (red, yellow, orange) and descriptive in their message. No swimming, boating or ice-skating should be permitted. Examples of possible wording include the following:

  a) WARNING: NO SWIMMING, BOATING OR ICE SKATING PERMITTED
  b) DANGER: KEEP OUT
  c) STOP: Restricted Area: NO ADMITTANCE
  d) WARNING: PRIVATE PROPERTY: Trespassers Will be Prosecuted
  a) NO TRESPASSING: Security Patrol on Duty

To make your community’s pond safer, eliminate all physical hazards. This may include grading slopes for easier drop-
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offs; dragging shallow areas to remove dangerous objects, and installing fencing or roping around unsafe areas.

- Use depth markers and signs to identify the various depths of the pond at different spots.
- Consider installing shallow safety benches or ledges within and/or around the pond to reduce accidents.
- Ensure children wear proper safety equipment (life preservers, etc.) when playing in or around outdoor water sources.

Additional Safety Precautions for Retention Ponds

A retention pond is a potential hazard for nearby residents due to the presence of standing water and easy public access by nearby residents. The following safety precautions should be considered when assessing the overall safety of the retention pond:

- **Education** is the first key to help eliminate retention pond accidents. Educate CHILDREN OF ALL AGES to avoid the retention ponds and adjacent areas.
- **Supervision** is the second important key to help eliminate retention pond accidents. Consider assigning a dedicated person in the development to oversee the safety precautions, general condition, maintenance and overall activities associated with the retention ponds. This person should be someone that stays in the area during peak times.
- **Prevention** is the final key to help eliminate retention pond accidents. Install permanent fencing around the entire perimeter of the retention pond to prevent access.
- Install permanent steel grating on all concrete storm sewers greater than 12 in. in diameter that lead to and from retention basins
- Grow dense vegetation to limit immediate access to the retention pond by residents.
- Plant grass seed within the ponds to reduce the amount of mud and increase aesthetics.
- PROHIBIT and ENFORCE children from playing any extracurricular activities such as fishing, boating, swimming, diving, biking, ice-skating, etc. within or near the retention ponds.
- Consider installing permanent exterior lighting around the retention pond.
- Retention ponds require regular inspection, landscaping (mowing), and cleaning of inlets and outlets. Care must be taken to control nuisance insects (especially mosquitoes), weeds, algae, and odors.

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Additional safety precautions for onsite water-wells:

- “Complete removal of the hazard is often necessary. This can be accomplished by filling old wells with concrete or other fill material. Follow the proper steps to the plugging of all abandoned wells:

  1) Contact your local health department to request a copy of the well log. This is a record filed by the well driller upon completion of the well. It provides information on well depth, casing diameter, depth of water, geologic formations penetrated, and more.

  2) Remove all pumping equipment, pipes, debris, and other obstructions from the well.

  3) Measure the well depth and casing diameter to determine the volume of plugging material needed. A weighted tape or string is suitable for this purpose.

  4) Plug the well using the materials less permeable to water than the native soil and rock else water can migrate between water bearing layers and possibly degrade high-quality water with lower-quality water. When cement is not practical, clay or a mixture of sand and bentonite can be used.

  5) It is recommended that the well casing be cut off at least 4 feet below ground level to eliminate interference with future use of the site. Generally, well casings are not required to be removed entirely.

  6) Mound and compact low permeability soil over the plugged well to prevent ponding of surface water above the site.

  7) Submit an Abandoned Well Plugging Record to the local health department within 60 days from the date the well is plugged.”

Proper well closing takes time and money. Cost varies with well depth and diameter, and site geology. Spending a few hundred dollars to plug an abandoned well near your community may prevent a major catastrophe from occurring as well as help prevent contamination of your drinking water. Contact local water supply specialist for additional information and well abandonment report forms. You should call your municipal, county or state government and your water management district for any specific regulations regarding well abandonment in your area.

- Old wells that cannot be plugged should have solid covers that cannot be easily removed and they should be checked regularly.

- It may be practical to fence off a water-well to keep children away.
**Notice**

This standard conforms to the underwriting practices of the Philadelphia Insurance Companies and is not intended to address or conform to various state or local codes governing a specific jurisdiction. Local ordinance codes or community bylaws also may contain information on the outdoor water source safety for your community.

**References**