

S433 BMPs for Pools, Spas, Hot Tubs, and Fountains

Description of Pollutant Sources: This section includes BMPs for pools, spas, hot tubs, and fountains used for recreational and/or decorative purposes that may use chemicals and/or be heated. Industrial Stormwater Permittees that use pools, spas, hot tubs, and fountains as part of an industrial process should refer to their Industrial Stormwater Permit.

Discharge from pools, spas, hot tubs, and fountains can degrade ambient water quality. The waters from these sources typically contain bacteria that contaminate the receiving waters. Chemicals lethal to aquatic life such as chlorine, bromine and algaecides can be found in pools, spas, hot tubs, and fountains. These waters may be at an elevated temperature and can have negative effects on receiving waters and to aquatic life. Diatomaceous earth backwash from swimming pool filters can clog gills and suffocate fish.

Routine maintenance activities generate a variety of wastes. Chlorinated water, backwash residues, algaecides, and acid washes are a few examples. Direct disposal of these waters to drainage systems and waters of the State is not permitted without prior treatment and approval.

The quality of any discharge to the ground after proper treatment must comply with Ecology's Ground Water Quality Standards, [Chapter 173-200 WAC](#).

The Washington State Department of Health and local health authorities regulate Water Recreation facilities which include pools, spas, and hot tubs. Owners and operators of those facilities must comply with those regulations, policies and procedures. Following the guidelines here does not exempt or supersede any requirements of the regulatory authorities.

Pollutant Control Approach: Many manufacturers do not recommend draining pools, spas, hot tubs or fountains; refer to the facility's operation and maintenance manual. If the water feature must be drained, convey discharges (within hoses or pipes) to a sanitary sewer if approved by the local sewer authority or to a storm sewer following the conditions outlined below. Do not discharge to a septic system, since it may cause the system to fail. No discharge to the ground or to surface water should occur, unless permitted by the proper regulatory authority.

Applicable Operational BMPs:

- Clean the pool, spa, hot tub, or fountain regularly. Maintain proper chlorine levels and maintain water filtration and circulation. Doing so will limit the need to drain the facility.
- Manage pH and water hardness to reduce copper pipe corrosion that can stain the facility and pollute receiving waters.
- Before using copper algaecides, try less toxic alternatives. Only use copper algaecides if the others alternative do not work. Ask a maintenance service or pool chemical supplier for help resolving persistent algae problems without using copper algaecides.

- Develop, implement, and regularly update a facility maintenance plan that follows all discharge requirements.
- Dispose of unwanted chemicals properly. Many of them are hazardous wastes when discarded.
- Discharge waters originating from a pool, spa, hot tub, or fountain to a sanitary sewer, if approved by the local sewer authority, local health authority, or both. Do not discharge waters containing copper-based algaecides to storm sewer systems.
- Do not discharge water directly from a pool, spa, hot tub, fountain, process wastes, or wastewaters into storm drains except if the discharge water is:
 - Dechlorinated/debrominated to 0.1 ppm or less. Some guidance on dechlorination is provided in the Washington State Department of Health's *Water System Design Manual* ([WSDOH, 2009](#)). The *Water System Design Manual* ([WSDOH, 2009](#)) further references *C651-99: AWWA Standard for Disinfecting Water Mains* ([AWWA, 1999](#)) and *C652-02: AWWA Standard for Disinfection of Water-Storage Facilities* ([AWWA, 2002](#)) for more details. Contact a pool chemical supplier to obtain the neutralizing chemicals needed.
 - Free from sodium chloride.
 - pH-adjusted.
 - Reoxygenated if necessary.
 - Free of any coloration, dirt, suds, or algae.
 - Free of any filter media.
 - Free of acid cleaning wastes.
 - At a temperature that will prevent an increase in temperature in the receiving water. Cool heated water prior to discharge.
 - Released at a rate that can be accommodated by the receiving body (i.e. can infiltrate or be safely conveyed).
- Swimming pool cleaning wastewater and filter backwash shall not be discharged to the storm sewer.
- Bag diatomaceous earth (pool filtering agent) and dispose at a landfill.

Applicable Structural Source Control BMPs:

- Ensure that the pool, spa, hot tub, or fountain system is free of leaks and operates within the design parameters.
- Do not provide any permanent links to drainage systems. All connections should be visible and carefully controlled.

- If the dechlorination or cooling process selected requires the water to be stored for a time, it should be contained within the pool or appropriate temporary storage container.

Washington State Department of Ecology

2019 Stormwater Management Manual for Western Washington (2019 SWMMWW)

Publication No.19-10-021