

**CITY OF COLUMBIA ENGINEERING REGULATIONS
PART 31: SPECIFICATIONS FOR COMMERCIAL SWIMMING POOL
BACKWASH AND DRAINAGE
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CITY OF COLUMBIA ENGINEERING REGULATIONS

PART 31: SPECIFICATIONS FOR COMMERCIAL SWIMMING POOL BACKWASH AND DRAINAGE

31.1 General

31.1.1 This section includes guidelines and requirements for Commercial Swimming Pool Backwash and Drainage. Commercial Swimming Pool Discharge Application Form attached hereto as Attachment A is part of these specifications.

31.1.2 All new Commercial Swimming Pool filter backwash and drainage discharge connections must meet these specifications and must receive approval from the City of Columbia (the City) prior to installation.

31.2 Definitions

31.2.1 Backwash means the act of cleaning filter media by means of reverse flow through the filter media or water containing any amount of matter removed from the filter media by the act of cleaning the filter media.

31.2.2 Commercial Swimming Pool means an artificial structure either above or below the ground surface to provide for such recreational uses as bathing, swimming, diving, wading, spraying, sliding, floating, rafting, or other similar usage which is not built in connection with a single family residence, or duplex (two living units within a single structure) and the use of which is not confined to the family of the residence and their private guests.

31.2.3 Filter means any apparatus containing filter media which is intended to physically remove suspended particles from pool water.

31.2.4 Filter Backwash Piping means the piping which extends from the backwash outlet of the filter to its terminus at the point of disposal.

31.2.5 Main Body of the Pool means the major portion of the pool body excluding any recesses, niches, coves, etc.

31.2.6 Main Drain means the outlet(s) at the bottom of the pool. These outlets are suction/gravity outlets connected to the recirculation piping.

31.2.7 Main Drain Piping means the piping connecting the main drain to either the pump suction, surge tank, or the vacuum filter.

31.2.8 Surge Tank means an approved fixture or device of such material, shape, and capacity as to adequately receive the surge water from indirect or direct overflows, so constructed to be easily cleaned.

31.3 Design and Construction Requirements

31.3.1 Discharge of pool filter backwash

31.3.1.1 Pool filter backwash must discharge through dedicated filter backwash piping, and must be valved. The filter backwash piping discharge connection must be completely separated from the pool main drain. Pool filter backwash piping must be connected only to the sanitary sewer system, unless prior approval to discharge elsewhere is granted by the City Engineer. Pool filter backwash discharges must meet the following requirements:

31.3.1.1.1 An interceptor tank must be installed between the filter and the point at which the discharge enters the sanitary sewer system. The tank must include baffle structures for oil, grease, and solids/sand/soil separation. A standard grease interceptor can be utilized (minimum 1,000 gallons), see City of Columbia Engineering Regulations Part 30: Specifications for Grease Traps and Grease Interceptors, Attachment A.

31.3.1.1.2 A pH between 6 and 9 standard units must be maintained for all discharges, and demonstrated with monthly monitoring.

31.3.1.1.3 A discharge log (showing, at a minimum, the date, rate and duration of the discharge) must be kept onsite. All discharges through this discharge connection must be logged.

31.3.1.1.4 A Total Dissolved Solids baseline sampling must be conducted to determine long term monitoring requirements and/or to determine effects on wastewater treatment plant loading.

31.3.1.1.5 City of Columbia personnel must be granted access to the filter backwash system for inspection.

31.3.1.1.6 All logs related to this discharge connection must be submitted to the City of Columbia Wastewater Division each January for the previous year.

31.3.1.1.7 Capacity Assurance Plan approval documentation is required prior to acceptance.

31.3.2 Discharge of Non-Backwash from the Pool Main Drain

31.3.2.1 Pool main drain piping must be provided, must be completely separated from the filter backwash piping, and must be valved. The main drain piping must discharge to a vegetated land area when possible. Otherwise, the main drain piping must be routed to the storm drainage system in a location approved by the City Engineer. The main drain piping must only convey non-backwash (e.g. water from the main body of the pool, water from the surge tank). Non-backwash may not discharge to the sanitary sewer system under any circumstances. The following requirements apply to the main drain piping discharge:

31.3.2.1.1 The discharge must be dechlorinated to achieve a Total Residual Chlorine concentration of no more than 0.5 mg/L.

31.3.2.1.2 The discharge must have a pH between 6 and 9 standard units.

31.4 Plan Review for Acceptance

31.4.1 A City of Columbia Commercial Swimming Pool Discharge Form must be completed and submitted to City of Columbia Subdivision Plan Review for approval. Three (3) sets of plans illustrating the pool layout, including, but not limited to, all site plans, and all related discharge connections, must accompany the form.

31.5 Attachement A: Commercial Swimming Pool Discharge Application Form
(Next page)



PO Box 147 | Columbia, SC 29217 | (803) 545-3400

Facility Name: _____

Facility Address: _____

Contact Name: _____

Contact Phone: _____ Contact Email: _____

Filter Type: _____

Does the pool filter backwash discharge to a dedicated line, separate from the main pool drain, and routed to the Sanitary Sewer System? _____ Yes _____ No _____ N/A

Does the pool filter backwash pass through a tank or interceptor, meeting all design criteria, prior to entering the Sanitary Sewer System? _____ Yes _____ No _____ N/A

Is a monitoring system in place (or planned) to ensure the pH of the pool filter backwash remains between 6 and 9 standard units? _____ Yes _____ No _____ N/A

Is a discharge log present (or planned) onsite to log each discharge including, at a minimum, the date, rate and duration of each discharge? _____ Yes _____ No _____ N/A

Has a Total Dissolved Solids baseline sampling been conducted to determine long term requirements? _____ Yes _____ No _____ N/A

Will City of Columbia personnel be granted access to the filter backwash system for inspection? _____ Yes _____ No _____ N/A

Is a program in place (or planned) to submit discharge logs related to the filter backwash discharge annually in January for the previous year? _____ Yes _____ No _____ N/A

Has a Capacity Assurance Plan been approved? _____ Yes _____ No _____ N/A

Is the main pool drain routed to the land or the Storm Drainage System? _____ Yes _____ No _____ N/A

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Is a procedure in place (or planned) to ensure discharges through the main drain are dechlorinated to achieve a TRC of no more than 0.5 mg/L?

____ Yes ____ No ____ N/A

Is a procedure in place (or planned) to ensure discharges through the main drain have a pH between 6 and 9 standard units?

____ Yes ____ No ____ N/A

Date of Capacity Assurance Plan Approval: _____

Name of Capacity Assurance Plan Approver: _____

Comments: _____

The pool design must meet the City of Columbia Commercial Swimming Pool Discharge Requirements. All Plans, Specifications, etc. necessary to demonstrate compliance with the applicable requirements must be submitted along with this form.

Certifications and Reviews on the next page.



Responsible Party Certification

Responsible Party Signature: _____

Responsible Party Name (Printed): _____

Date: _____

City of Columbia Wastewater Review

_____ Approved _____ Disapproved (see Comments below)

Wastewater Reviewer Signature: _____

Wastewater Reviewer Name (Printed): _____

Comments: _____

City of Columbia Stormwater Review

_____ Approved _____ Disapproved (see Comments below)

Stormwater Reviewer Signature: _____

Stormwater Reviewer Name (Printed): _____

Comments: _____

