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11.0 DISCHARGES FROM SWIMMING POOLS

11.1 BACKGROUND

This Chapter has been prepared to assist with the regulation of pool water wastes (including filter backwash water and clear pool water) for:

- conventionally chlorinated freshwater pools;
- salt chlorinated pools; and
- pools using ionisation technologies for disinfection.

It is intended to provide a best practice approach for the disposal of pool water wastes under existing legislation, which is consistent with the precautionary principle/approach to environmental management. This Chapter intends to provide advice for those wishing to use best practice and comply with existing legislation, especially for the construction of new pools.

In recent history Council has not encouraged any discharge from swimming pools to sewer or to land, resulting in all discharges from pools entering the stormwater network and then aquatic environments. While many large commercial pools discharge backwash waters to sewer, overflows have historically still been discharged to stormwater. The practice of discharging all pool wastewaters to stormwater is potentially in breach of Sections 36, 119 and 126 of the *Environmental Protection Act 1994,* Sections 31 and 32 of the *Environmental Protection (Water) Policy 1997* and Section 17A of the *Sewerage and Water Supply Act 1949* unless all "reasonable and practicable measures" are taken to minimise environmental harm.

This Chapter provides three flow charts to help determine what is a "reasonable and practicable" approach to dispose of pool waste waters but still minimise environmental harm. Once a management method has been determined, a suitable drainage system can be designed.

11.2 POLICY OBJECTIVE

The aim of Council for this issue is to:

- minimise the load on Council's sewer system (particularly during wet weather);
- minimise the discharges of pool water to stormwater (unless the water quality meets Water Quality Objectives for the protection of relevant Environmental Values in downstream water bodies); and
- encourage the swimming pool industry to develop filters and chemical regimes that protect human health, minimise the need to discharge backwash waters to sewer, and protect the environment when waters must be discharged to stormwater.

Note that currently, of the three options defined in Figure C11.1, Council believes the use of freshwater chlorinated pools with cartridge filters present the smallest risk to the aquatic environment. This opinion is based on:

- the cleaning method for cartridge filters results in small quantities of backwash water and no need to connect to sewer;
- the relative risks posed to the aquatic environment if a pool owner was to release the whole pool contents to a creek system without pre-treatment; and
- the ability to simply remove the hazardous element from the water (eg by not adding chemicals for a few days), if disposal to stormwater is absolutely necessary.

11.3 APPLICATION

This guideline is intended to apply to all pools. For new pools built after 30 June 2001, the guidelines must be followed[1]. For existing pools, the use of the guidelines outlined in this Chapter is encouraged only (ie the guidelines can be used by those persons who wish to minimise the environmental impact of their existing pool and need access to relevant technical information).

11.4 CURRENT BEST PRACTICE

Under Section 36 of the *Environmental Protection Act 1994*, "a person must not carry out any activity that causes, or is likely to cause, environmental harm, unless the person takes all reasonable and practicable measures to prevent or minimise the harm". To ensure a person's general environmental duty is met, they should work through the flow charts below and implement the management option that would be considered both "reasonable and practicable" for the given situation.

Figure C11.1 outlines the process for selecting the most appropriate (practical) discharge regime that will assist pool owners in complying with the relevant legislation. Detailed technical notes are cross-referenced in the following three flow charts.

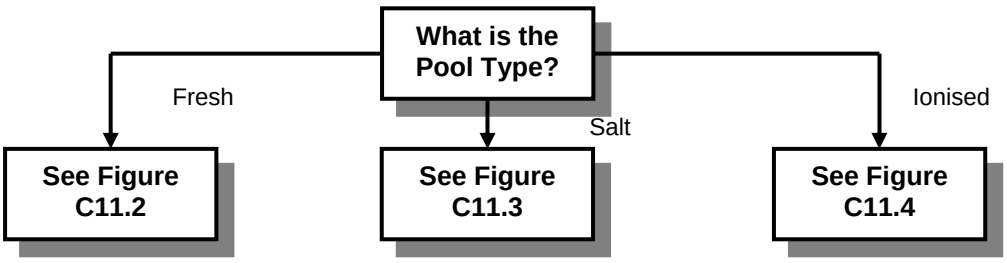

FIGURE C11.1
POOL TYPES

[1] Note that Council is developing supporting materials and processes to further assist the implementation of this guideline (eg standard drawings).

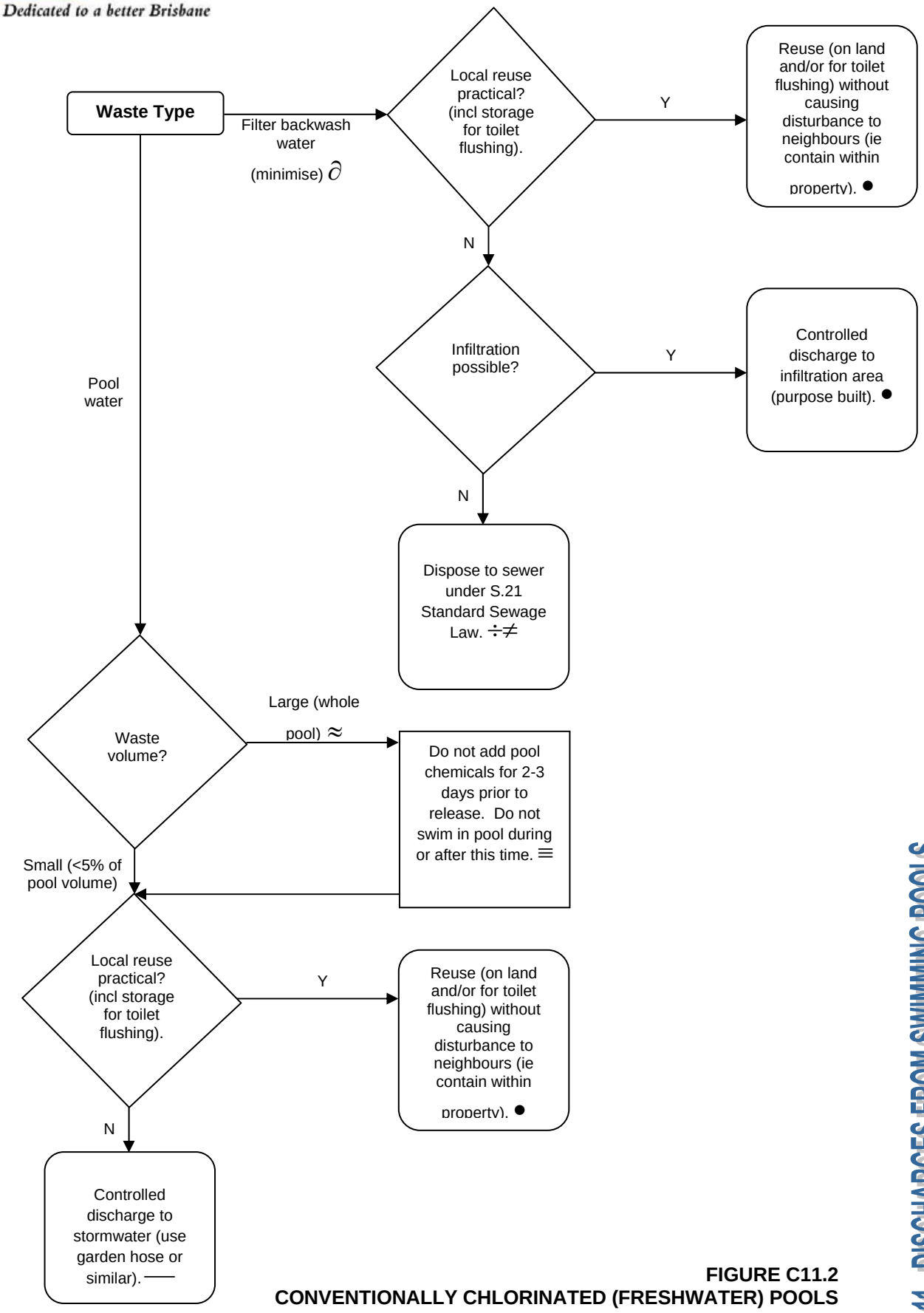

FIGURE C11.2
CONVENTIONALLY CHLORINATED (FRESHWATER) POOLS

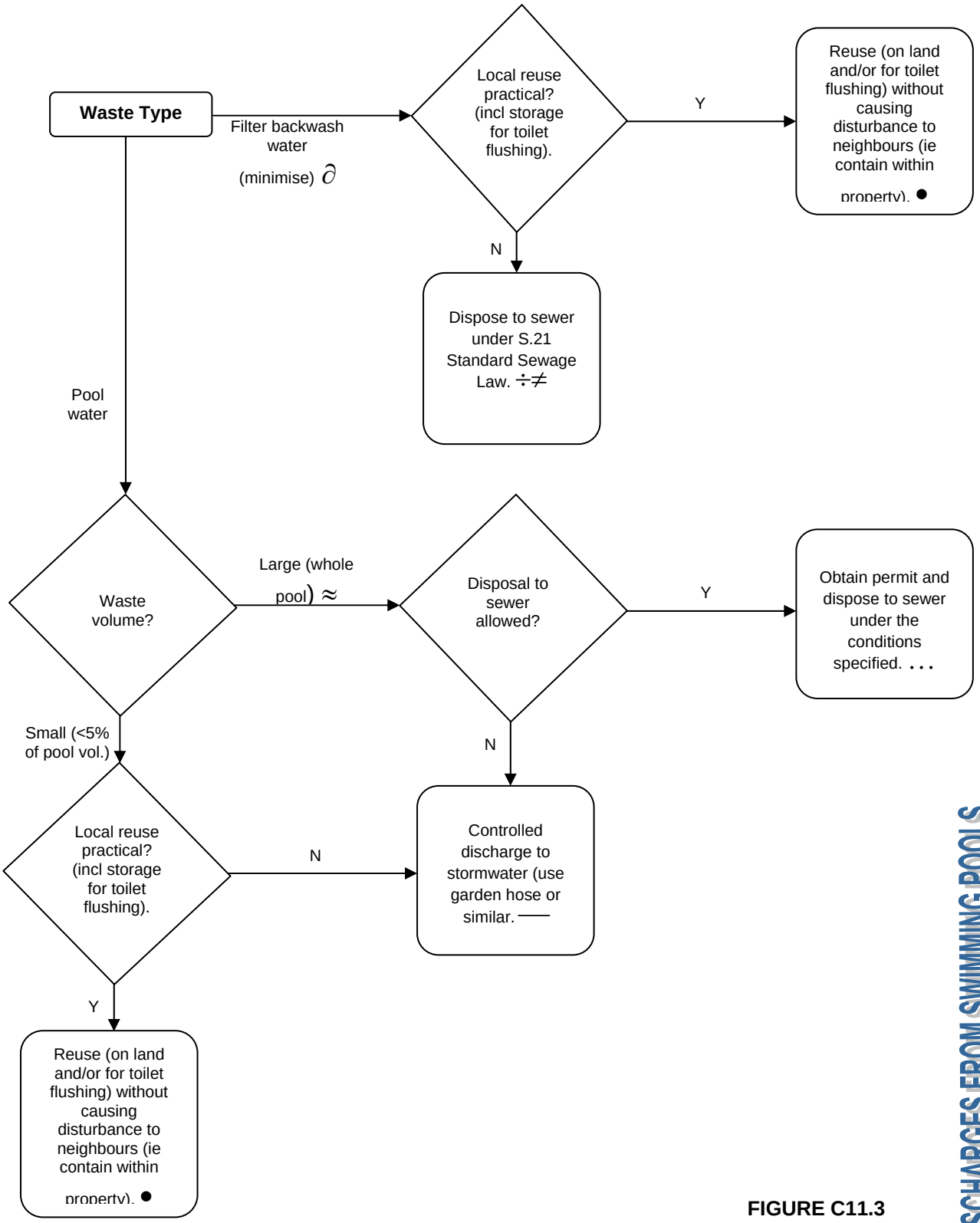

FIGURE C11.3
SALT CHLORINATED POOLS

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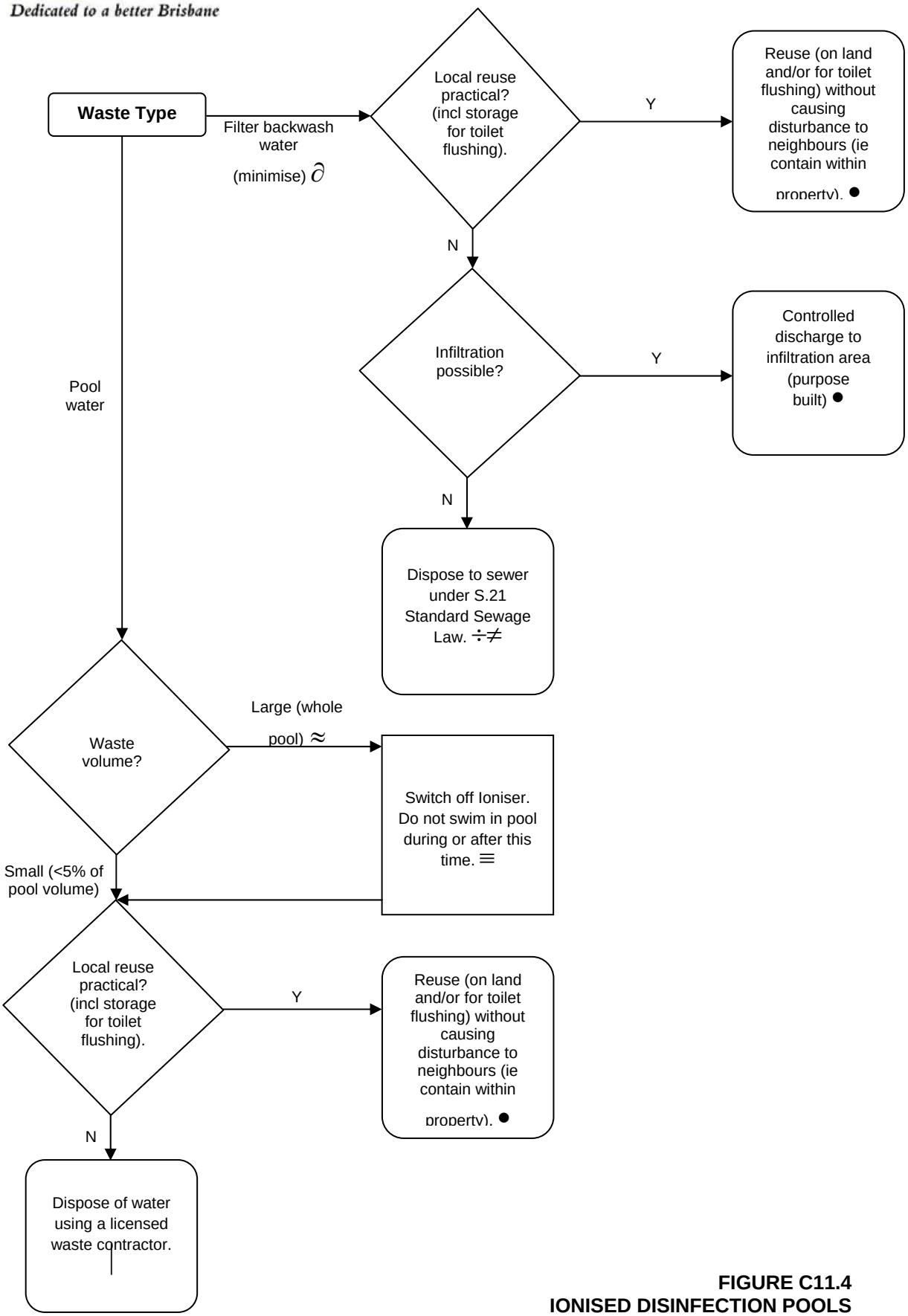

FIGURE C11.4
IONISED DISINFECTION POOLS

11.5 NOTES ACCOMPANYING FLOW CHARTS

⊇ For all backwashing operations, use current Swimming Pool and Spa Association (SPASA) guidelines for backwashing of swimming pool filters (refer to Choosing Your Pool & Spa in Queensland published by SPASA). Council encourages the use of filters that minimise the volume of backwash water (eg cartridge filters where appropriate, or high efficiency sand filters). Currently, Council is considering the feasibility of legislating to require filters for new pools that do not generate a large volume of polluted backwash water (eg cartridge filters)[2].

● For this form of pool water, reuse in domestic applications (eg toilet flushing) should be undertaken where practicable and should occur via a holding tank. For pools where domestic reuse is not practical or possible, disposal should be to a grassed/vegetated area or to an infiltration device (eg a stone filled trench or purpose built infiltration cell) either open to the surface or underground, in a manner that does not result in runoff outside the property boundaries or cause nuisance to neighbours (eg excessive soil wetness, structural instability, unwanted water infiltration etc). It is acknowledged that this option may not be feasible on some sites (eg residential areas with steep slopes and shallow, permeable soils).

Note that for salt chlorinated pools, care should be taken when discharging backwash water to garden areas, as the salt may affect some species. Regular watering with tap water in these areas may also be necessary to minimise adverse impacts.

÷ The preferred option for pool filter backwash water (especially freshwater chlorinated) is local reuse either by surface application or infiltration. Where discharge to sewer is the only practicable option, domestic pool owners must obtain a permit from Council to discharge to sewer (possibly at specified times or at specified flow rates) under S.21 of the Standard Sewage Law (contact Brisbane City Council on telephone 3403 8888). Note that the plumbing infrastructure must ensure that swimming pool overflows do not automatically go to sewer (ie the system must require manual intervention). Council is developing standard drawings to assist this process.

≠ In unsewered areas, under no circumstances should backwash water be directed to septic treatment systems (eg septic tanks) or on-site sewage treatment systems (chlorinated water will cause damage to the biological component of these treatment systems).

≡ Where discharge of entire pool contents cannot be avoided, do not add any pool chemicals (chlorinating agents, pH adjusters, etc) for 2-3 days prior to discharge. Measure chlorine levels, and if not detected (eg using a standard pool water test kit), allow discharge as set out in ● or ——. If chlorine is still detected, it will be necessary to delay the discharge and retest after a further 2-3 days, or to add a dechlorinating agent to the pool (eg Sodium Thiosulfate) to reduce the chlorine concentration. Do not allow swimming in the pool from when pool disinfection chemicals are no longer being added.

[2] This would reduce the need to connect backwash water to sewer and the risk that other forms of pool water would be illegally discharged to sewer in wet weather (a major issue for Council).

≈ All efforts should be made to avoid draining of pools except for major maintenance works. Note that pool water overflows (due to overfilling by rainwater or tap water) must not be directed to sewer under any circumstances.

... For discharge of the entire pool contents, a permit to dispose of the pool water to sewer must be obtained from Brisbane City Council (see comments for ÷).

| Due to the elevated nature of metal concentrations in pool waters using ionisation technologies (eg copper, silver), disposal to stormwater is not permitted under any circumstances. If local reuse to land is not possible, disposal of whole pool contents must be done using a licensed waste contractor.

—— It is preferable that all discharges to stormwater are performed during or shortly after (4-6 hours) wet weather. In locations discharging to large, well-mixed tidal waterways (eg discharge directly to the Brisbane River, not local creeks), the requirement to discharge during wet weather can be waived.