EXECUTIVE COMMITTEE CA DP 270193

DESIGN AND INSTALLATION GUIDELINES RE THE INSTALLATION OF WATER TANKS ON CAPE CABARITA PROPERTIES

1. PREAMBLE

1.1 By-Law 3, Building Works and Installation, of the Cape Cabarita Community Management Statement provides that a resident must not carry out any work on a Lot without the written consent of the Executive Committee.

1.2 By-Law 4, External Fixtures, of the Management Statement provides that a resident must not without the approval of the Executive Committee install on a Lot anything which can be seen from outside the Lot.

1.3 The Executive Committee anticipates that residents will want to install water tanks on their properties.

1.4 The Executive Committee is not opposed to the installation of water tanks.

2. DESIGN AND INSTALLATION GUIDELINES

2.1 A resident who wishes to install a water tank must submit a proposal to the Executive Committee before any work commences.

2.2 As a matter of principle the installation must conform with the City of Canada Bay Council Rainwater Tank Policy which includes the requirement to .lodge a Development Application for tanks with a capacity of 40,000 litres or more. and which forms part of this Protocol - see Appendix 1.

2.3 The proposal must include:

2.3.1 A service provider's description of the work to be carried out including a site sketch.

2.3.2 Advice as to the position of neighbours who will be visually or audibly affected by the installation.

2.4 Before determining the matter the Executive Committee may carry out an inspection of the site and confer with neighbours affected by the installation.

2.5 In determining the matter the Executive Committee shall take into account the impact of the installation on the Cape Cabarita community generally.

2.6 Approval of the installation shall be subject to at least the following conditions:

2.6.1 It must comply with the City of Canada Bay Council Rainwater Tank Policy.

2.6.2 The characteristics of the water tank, particularly size, shape and colour, must be consistent with the Cape Cabarita Architectural Standards and compatible with the property on which it is being installed.

2.6.3 Construction work is be carried out in a manner which does not inconvenience other residents.

2.6.4 The work site and if applicable community property must be restored to the pre-existing condition and standard.

2.6.5 The applicant will be responsible for all costs associated with the installation and on-going maintenance and repair of the water tank.

APPENDIX: City of Canada Bay Council Rainwater Tank Policy

Issued 20 August, 2004

City of Canada Bay Council

Rainwater Tank Policy

Adopted by Council on 9th December 2003

Effective from 1st February 2004

City of Canada Bay Council – Rainwater Tank Policy

The City of Canada Bay advocates the principles of water sensitive urban design (WSUD). It is a requirement of the city that all developments and redevelopments shall incorporate the installation of a rainwater tank for non-potable water re-use (unless that development is exempt according to its Development Classification, see *Appendix 1: Development Type* for further details).

Water Sensitive Urban Design Principles

WSUD principles help reduce the negative impacts caused by development on the natural, built and human environments. The City of Canada Bay requires that all development must recognise, appreciate and enhance the existing hydrology and strive to:

- Preserve existing topographic and natural features, including watercourses and wetlands.
- Protect surface water and groundwater resources.
- Integrate public open space with stormwater drainage corridors, maximizing public access, passive recreational activities and visual amenity.

Development must not adversely affect flooding of either upstream or downstream land and must not adversely affect the environmental values of the receiving waters. Natural waterway use must be maximized and incorporated into the plan. Development must:

- Minimise impervious areas.
- Minimise use of formal drainage systems (eg pipes).
- Encourage infiltration (where appropriate).
- Encourage stormwater reuse.

Rainwater tanks

Objectives:

Rainwater tanks must be installed in manner which will yield benefits to both the owner and/or occupant of the development and the wider community in both an environmental and an economic manner. Rainwater tanks should help promote natural water balance by helping maintain a balance between collection, infiltration and runoff of stormwater.

Rainwater tank size should reflect its intended use(s), number of occupants, size of catchment area and expected precipitation rates and frequencies. The installations of the tank must be in the most practical manner possible with regards to plumbing requirements and connections, access for installation and maintenance and visual amenity.

Guidelines:

Minimum Tank Capacity

- Minimum rainwater tank capacity required for all type 2 residential developments is 2000L.
- Minimum rainwater tank capacity for all type 3 developments is 5000L (per building).

Tank location and construction

- Tank stands must not be greater than 500mm above natural ground level.
- Excavations must not extend deeper than 1.0m below natural ground level.
- The maximum hight of the tank must not be greater than 900mm above the height of the nearest fence and not greater than 2.7m above natural ground level.
- Tanks must be at least 900mm from any property boundary.
- Tanks must be sited beside or behind main buildings and should not be visible from the street.
- Tanks must not be sited on any wall footing or retaining wall.
- Tanks and tank stands must be installed in accordance with manufacturers specification.
- The colour of the tank and stand must match the existing/proposed building colour.
- Tanks must not be installed above or immediately adjacent to house services such as water, sewerage, gas, telephone or electricity.
- Tanks must be installed in a manner which maintains visual amenity from both the street and from neighbouring properties.
- Exceptions to any of these requirements may be sought from council where the site lends itself to rainwater collection, other drainage sub-components are not suited to the site or under other exceptional circumstances.

Tank connection and Water Re-use applications

- Tanks should only collect roof water (unless special consideration is sought from council).
- Tanks must be fitted with a first flush device to divert the first 1mm of rainfall from the entire catchment area.
- All plumbing must be completed by a licensed plumber in compliance with AS/NZS3500.5, any other relevant national standards and Sydney Water Requirements.

- Tanks must be fully sealed and fitted with a filter or screen to prevent debris form entering the tank and mosquitoes from breeding in the tank.
- Tanks must be designed such that they can be regularly desludged.
- Tanks must be connected to either the internal toilet flushing or washing machines or both and must be connected to all external fittings (excluding drinking water).
- Both the tank and any fittings connected to it must be labelled 'RAINWATER, NOT SUITABLE FOR DRINKING'
- Pumps must not be audible to neighbouring properties between 8:00pm and 7:00am Monday to Saturday and 8:00pm to 8:00am on Sundays (submersible pumps are recommended).
- Tanks should be connected to mains water to allow top-up during dry periods but top-up should not take place until the tank is 80% empty and should not be at a rate greater than 2L/minute.
- 20-25mm water meters must be replaced with an Integral Dual Check valve, 32mm and above meters must have a dual check valve installed adjacent to the meter (contact Sydney Water for details of valve requirements).
- A visible air gap must be maintained between the maximum height of water in the tank and the top-up outlet.
- Overflow from the tank should be directed to part of the drainage network, preferably to a landscaping measure or on-site stormwater detention facility.
- Tanks should not be directly connected to any part of the main water supply.

Contribution of rainwater tanks to OSD Requirements

Rainwater tanks are not considered to contribute to On Site Detention requirements.

However, designs integrating rainwater tanks with on site detention storage may be acceptable.

Drinking tank water

Since the City of Canada Bay Council is located in an area that includes heavy traffic, incinerators and industrial areas, the use of tank water for drinking is not recommended. This is in accordance with the guidelines recommended by the NSW Health Department.

Tank maintenance

A schedule of maintenance should be created in accordance with *Appendix 2: Schedules of maintenance.* The ongoing performance of the tank should be ensured through the application of the schedule of maintenance

End of Policy. Appendices follow next page.

Appendix 1: Development Type

Type 1 Development – Does not require the installation of a Rainwater Tank:

A development is deemed be a Type 1 development only if it satisfies any of the following criteria:

- The development is a new single or replacement single residential dwelling where 40% or less of the total site area is impermeable.
- The development is any alteration and/or addition to an existing single residential dwelling where the value of the development is less than $50,000 **and** the increase in impervious area is less than 40m2.

Type 2 Development – Requires the installation of a Rainwater Tank:

A development is deemed be a Type 2 development if it satisfies any of the following criteria:

- Any single residential development that does not comply with the criteria listed in Type 1 above.

Type 3 Development– Requires the installation of a Rainwater Tank(s):

All other development is deemed to be Type 3. This includes all multi-residential developments including dual occupancy, medium density and high rise developments.

Development Type Checklist:

Requirements pertaining to each type of development:

	Type 1	Type 2	Type 3
Rainwater Tank	✗	✓	✓

Appendix 2: Schedules of maintenance

All rainwater tank designs must be supported by an appropriate schedule of maintenance. The schedule of maintenance must address the site specific system and address each subcomponent of that system.

The schedule may be applicable across multiple allotments in circumstances where a drainage sub-component is installed in this way. In these circumstances, a single Schedule of Maintenance is required but each occupant is equally responsible for the maintenance.

Maintenance of stormwater systems will usually be included on a Positive Public Covenant made in favour of the Council under *Section 88B* of the *Conveyancing Act 1919*.

Sample Schedule of Maintenance: Rainwater Tank System of this Appendix shows an example of a Schedule of Maintenance for a typical rainwater tank system, which collects rainwater from a roof only.

Sample Schedule of Maintenance: Rainwater Tank System:

This section outlines the procedures required to maintain a typical rainwater tank system. Each aspect of the system is addressed through both a description of the maintenance required and a more specific procedure of maintenance.

All work required by this Schedule should be completed by Suitably Qualified Practitioner. All drainage works should be undertaken by a certified plumber in accordance with AS/NZS 3500.5. Other works, including electrical work, should be completed by other certified tradesmen in accordance with the relevant standards.

CAUTION: Any maintenance works that require entry of a 'confined space' (e.g. full body entry of a stormwater pit) must be carried out by suitably qualified personnel in accordance with the *Occupational Heath and Safety Act 1993*, 'Workcover Authority of NSW' requirements and 'Confined Spaced' regulations.

Roof Gutters

Description:

All gutters will be fitted with leaf guards and should be inspected and cleaned to ensure leaf litter cannot enter the downpipes.

Maintenance (6 monthly):

Leaf guards should be inspected for defects and to ensure they are fully operational. Gutters should be cleaned of any debris.

First Flush Device

Description:

This first flush system which collects the initial runoff volume from the roof must be inspected and cleaned to ensure it remains fully functional. The collection reservoir and small bore outlet must be free of accumulated debris. The size of the small bore outlet should be maintained

Maintenance (6 monthly):

Open the cap of the base first flush reservoir, drain any water and remove any debris. Make sure the small bore outlet is not blocked.

Rainwater Storage Tank

Description:

The structural integrity of the rainwater storage tank is critical and should be inspected for faults. The inlet and outlet to the tank must be free of debris and fully operational. The tank should be desludged as is required.

Maintenance (12 monthly):

The tank should be inspected for cracks or defects along the external lining. The lid should be opened and the tank visually inspected along the internal lining as well. The inlet and outlet should be inspected for defects and to ensure they are fully operational. The mains top up device, including the float switch and valves should be tested and repaired where required. The tank should be drained and desludged as required (sludge build-up should not exceed 50mm) by emptying the tank with the drain outlet and washing away the sludge with the hose on high pressure.

Water Pressure Pump

Description

The Pressure pump supplies stored rainwater to the toilet cistern and outdoor uses. It is a mechanical item and must be maintained and serviced in accordance with the manufacturers specifications, to ensure a long life.

Maintenance (12 to 24 monthly):

Visually inspect the pump for any leaks. Check air pressure within pressure cell and adjust as required. Check solenoid and pressure switch for correct operation. Run pump and check for excessive bearing and impeller noise and replace if necessary. Check all electrical connections for any defects and repair as necessary.