

# Guide to installing a rainwater tank

## Byron Shire Council area



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### Introduction

Rous County Council (RCC) and Byron Shire Council (BSC) are committed to providing a secure supply of high-quality water that is healthy for the region's population and the environment. RCC has developed the [Future Water Project 2060](#) to guide long-term water planning to ensure our precious water is used responsibly and efficiently. Implementing innovative water conservation measures to better manage regional demand is a foundational, ongoing component of this planning... Collectively reducing our potable water consumption will **help delay and downsize expensive new water sources**, which means we all benefit.

By installing a rainwater tank, **you will save money by reducing your water bills**. You will also be actively contributing to the long-term sustainability of the region's water supply by reducing the demand on the water supply, infrastructure, and environmental health.

### Eligibility criteria

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A rebate is available for the installation of new rainwater tank/s for a residential property and/or connection of an existing tank to internal connections, such as all toilets and laundry. To be eligible:

- Must be a residential town water customer in the Byron, B council area and connected to the Rous bulk water supply system.
- The rainwater tank must be installed and completely paid for.
- For new homes and major renovations, any tank volume or internal connection required by BASIX (Building Sustainability Index) will not be eligible for a rebate. Tank volumes or internal connections not required by BASIX may be eligible.
- The rainwater tank must have a minimum volume of 2000 litres.
- Properties that have previously received rebates from RCC may not be eligible.
- Meet all other terms and conditions listed on the rainwater tank rebate application form.

There are two parts to the RCC Residential Rainwater Tank Rebate:

1. **Tank capacity rebate.** To help with purchasing your rainwater tank, this rebate is linked to the size of your rainwater tank. To qualify for the tank capacity rebate, your tank does not need to be connected to internal plumbing. It must be used for at least one outdoor use, including but not limited to watering gardens and topping up swimming pools.

| Tank capacity rebate  | Rebate amount |
|---|---------------|
| 2,000 litres to 4,499 litres – Used for at least one outdoor use. | \$200         |
| 4,500 litres to 8,999 litres – Used for at least one outdoor use. | \$800         |
| 9,000 litres and above – Used for at least one outdoor use.       | \$1000        |

2. **Internal connection rebate.** To help with the cost of connecting your rainwater tank to all toilets and or washing machine. For internal connections to be eligible for this rebate, they must have gone through the relevant plumbing approvals explained in ‘Section 4 – Plumbing approvals’.

| Internal connections                           | Rebate amount    |
|--|------------------|
| Rainwater tank connected to all toilets.       | Additional \$620 |
| Rainwater tank connected to a washing machine. | Additional \$550 |

## Section 1 – Choosing a tank

### Choosing the type of tank

Rainwater tanks are manufactured from a variety of materials, each with their own advantages and disadvantages. Factors such as initial cost, maintenance and repair costs, environmental cost (both production and disposal), warranty length, size of the tank, and base support costs must be considered. For residential purposes, polyethylene and stainless steel are the most common. Poly tanks are cost effective, strong, and lightweight, but can let some light in, which promotes algae growth. Stainless steel is also strong, durable, and blocks out most light preventing algae growth, however, can be expensive to construct and transport. It is important that you do your research to find the tank that best suits your needs and budget.

**Note:** If your property is in a land zone identified as a potential bushfire zone, it is recommended that tanks be made out of a non-combustible material such as concrete or metal and avoid polyethylene and fibreglass.

### Choosing the size of the tank

When choosing the size of your rainwater tank you will need to consider a number of factors. The most effective and popular sizes are between 3,500 and 8,000 litres when the harvested water is used for flushing toilets, washing clothes, and watering a garden. However, you may find that a smaller or larger tank is better suited to your usage. Factors you should consider:

- Outdoor and indoor uses for the rainwater tank.
- Your current water consumption.
- Local area rainfall.
- Size of roof catchment.

## Uses for rainwater

Rainwater can be used both indoors and outdoors. Watering gardens, washing cars, topping up swimming pools, bushfire protection, and watering animals are common outdoor uses of rainwater. Rainwater can also be used indoors for flushing your toilets and washing your clothes. When rainwater from tanks is connected to internal plumbing or rainwater tanks are topped up with mains water, the appropriate plumbing approvals and installation processes need to be followed. This process is outlined in detail in 'Section 4 – Plumbing approvals' of this document. For more information about the uses of rainwater, visit [NSW Health](#).

## Drinking rainwater

In urban areas, the public water supply remains the most reliable source of good quality drinking water for the community. NSW Health recommends that people use the public water supply for drinking and cooking because it is filtered and disinfected. For more information read the NSW Health Publication: [Rainwater Tanks Where a Public Water Supply is Available – Use of](#).

## Current water consumption

Your current water consumption can be found on your water bill. The bathroom and laundry are responsible for 40-60% of water consumption of a typical household; however, this varies based on the number of people, size of toilets, length of showers, and top loader vs front loading washing machines. Using a 'home water calculator' can also help you identify areas of high consumption and areas where you can save water. Reducing your water consumption will reduce the need for an unnecessarily large tank, further reducing expenditure.

## Local area rainfall

The BSC area on average receives 1,735mm of rain a year, with March being the wettest month and September being the driest, based on data from the [Bureau of Meteorology](#).

## Size of roof catchment

The area of your roof determines how much of this rainfall is captured. For every millimetre of rain that falls on one square metre of roof, one litre of water is captured. For example, a roof with an area of 100m<sup>2</sup> will capture 100 litres of water for every 1mm of rain. The average area of a small house is 100m<sup>2</sup> – 150m<sup>2</sup>, 150m<sup>2</sup> – 200m<sup>2</sup> for a medium house, and greater than 200m<sup>2</sup> for a large house. If you are unsure of your roof area, there are online tools available to help you estimate your roof area. Search for 'roof area calculator'. There are also online tools to help you estimate the size of tank you need. Search for 'rainwater tank calculator'.

## Pumps vs gravity fed

You will need to determine if the tank will use gravity to supply water, otherwise it will require a pump. Some appliances such as washing machines will require a minimum pressure to work. Discuss with your tank / pump supplier or plumber. It is a legislative requirement that pumps be sound proofed or located and operated in a manner as not to cause an offensive noise. A licensed electrician must install electric pumps.

## Section 2 – Choosing the tank location

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The location of the tank on your property is governed by several physical and legislative factors. Physical factors relate to how your property is laid out, the position of the house, and investigating the most efficient way to harvest rainwater.

Consider the following when selecting your tank location:

- **Slope of the property.** The most suitable will be an area on level ground. The tank will need to be mounted on an appropriate base or stand so that it is safe and sturdy. Full rainwater tanks are very heavy, with one litre of water weighing one kilogram, e.g., a 5,000-litre tank will hold 5,000 kilograms of water, and then add on the weight of the tank itself. Check with the tank manufacturer for what the most appropriate base is for your type and size of tank. Common bases include sand, concrete slabs and metal frame stands. For large tanks or tank stands, consult the manufacturer, a builder, or an engineer for structural support advice. If you need to excavate an area, you may require a 'Development Application'.
- **Physical space.** A rainwater tank can be quite large and require an adequate amount of space. Be sure to measure the anticipated location before purchasing, and the space required for delivery. If the delivery truck cannot fit into your property, you may require a crane or other method to install your tank. Remember to account for space for any guttering, pumps, and plumbing connections, such as mains water top up and connecting overflow to an existing stormwater drainage system. If you require a stand or concrete base for your tank, they will add extra height and may require more ground space.

**Note:** If you need to remove or prune trees or vegetation, ensure you have the correct council approval beforehand. A 'Development Application' is required for the removal of native vegetation. Contact BSC on (02) 6626 7000 for more information.

- **Downpipe location.** You should aim to connect as many downpipes to feed your tank as practical to maximise the water collected and reduce lost water. If downpipes need to be diverted or extended it will increase installation costs.
- **Proximity to uses.** The closer the tank is to its intended uses, such as flushing toilets or the laundry, the cheaper the installation costs will be.
- **Aesthetics.** Modern tanks come in a variety of colours and shapes, which can add a nice design element to your property. Large tanks or highly visible tanks may obstruct your own or your neighbour's views. Consider your surroundings when choosing a site for your tank. If your tank has a height greater than 2.4m, including any stand, you will require a 'Development Application'.

Legislative factors deal with the positioning of the tank related to property boundaries, easements, and other buildings. These requirements are mandatory for the development to be lawful. There are some general requirements from the [State Environmental Planning Policy Subdivision 32 Rainwater tanks \(above ground\)](#) (simply referred to as 'SEPP' in this document) that must be adhered to.

SEPP requirements:

- The tank must be located at least 450mm from each boundary.

- The tank must be located behind the building setback.
- The tank must be at least 1m from any easement, sewer, or water main.

## Section 3 – Local planning and development application regulations

### Development applications

Many types of home renovations and minor building projects do not require a 'Development Application' to be lodged with BSC. These projects are referred to as exempt developments, and as a rule, rainwater tanks are considered an exempt development. However, there are situations where installing a rainwater tank will require a 'Development Application'. To determine if you require a 'Development Application', use the checklist below or contact Byron Shire Council (BSC) on (02) 6626 7025.

#### Development Application – Checklist 1

| <b>SEPP 2008 – Exempt and complying development requirements subdivision 32 rainwater tanks (above ground)</b> |   | <b>Yes</b> | <b>No</b> |
|--|---|------------|-----------|
| 1.   | Is your property in a land zone <b>other than</b> RU1, RU2,R5R5, C2, C3 OR C4?<br><b>Note:</b> To find your property land zone refer to the <a href="#">Byron Shire Council Local Environment Plan 2014</a> or visit the <a href="#">Electronic Housing Code</a> website. |            |           |
| 2.   | Is the tank's capacity less than 10,000 litres?   |            |           |
| 3.   | The tank must be at least 450mm from each boundary of the property.   |            |           |
| 4.   | If your property is in land zones RU1, RU2, R5R5, C2, C3 or C4, the tank must be located more than 10m from each boundary.  |            |           |
| 5.   | The tank must be located behind the building line of any road frontage.   |            |           |
| 6.   | The tank must not rest on the footings of an existing building, including retaining walls for support.  |            |           |
| 7.   | The installation of the tank must not require the cut and fill of more than 1m below or above the existing ground level.  |            |           |
| 8.   | The tank must be fitted with a first flush diverter.  |            |           |
| 9.   | The tank must have a have sign attached stating that the water in the tank is rainwater.  |            |           |
| 10.  | The tank must be constructed and installed to prevent mosquitoes entering and breeding.   |            |           |
| 11.  | The tank must have its overflow connected to an existing stormwater drainage system that does not discharge to an adjoining property or cause a nuisance to adjoining owners.   |            |           |
| 12.  | The tank must be at least 1m from any registered easement, sewer main, or water main.   |            |           |

|     |  |  |  |
|-----|--|--|--|
| 13. | If your property land zone is a heritage item or a draft heritage item, the tank must be located in the rear yard.   |  |  |
| 14. | Any pumps attached to the tank must be housed in a soundproof enclosure so as to not create an offensive noise, and in the case of an electric pump, be installed by a licensed electrician. |  |  |
| 15. | The tank must be installed above ground.   |  |  |

### **Development applications**

- If you have answered 'No' to any of the items on the checklist above, you may require a 'Development Application'.
- If your tank meets all of the requirements, except its capacity is greater than 10,000 litres, you will require a 'Development Application'.
- If you are unsure about any checklist item, or if your tank requires a 'Development Application', contact BSC for more information on (02) 6626 7025.

### **Development application costs**

If a 'Development Application' is required, you will have to pay some fees and charges associated with your rainwater tank installation. The amount you pay varies depending on the cost of the development. All fees and charges are in accordance with the council's adopted 'Fees and charges' policy for that particular financial year.

Although your rainwater tank may not require a 'Development Application', you may still require plumbing approval.

## **Section 4 – Plumbing approvals**

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### **Activity(s) approval application form**

An [Activity\(s\) approval application form](#) (called a section 68) is required for any plumbing works associated with your rainwater tank in the following situations:

- Connecting your tank to internal plumbing such as toilets or laundry.
- Having the rainwater tank topped up from mains water.
- If there is any cross-connection between rainwater and mains water.

The online form is to be completed before the commencement of any work. Plans outlining where the tank will be connected to the house must be submitted, and the required fee paid. For more information on BSC's costs associated with plumbing approvals, see the [Fees and charges](#) for the current financial year, section 3 – Sustainable Environment and Economy, section 68 (Part B) Water supply and sewerage.

No section 68 application or fees and charges are required if the rainwater tank is a standalone installation for outdoor use only and complies with all requirements in the State Environmental Planning Policy 2008 (Exempt and Complying Development Codes) (see Checklist 1).

### **Inspections**

Once the council has received your 'Activities approval form', they will review it and organise a site inspection. The inspector will require internal access to your property as well as where the tank will be connecting to your property. If the proposal is acceptable, an approval will be

granted by Council in 3-6 weeks. The approval will detail what inspections are required during installation of the rainwater tank. .

For tanks not previously inspected as part of development applications or 'Activities approval', BSC will inspect the rainwater tank when the rebate application is received. If you have not followed all instructions, it may cause a delay in the processing, as retrospective approvals may be required. Fees and charges for this may also apply.

For rainwater tanks installed for outdoor use only, with no internal plumbing, mains top up or any cross-connections, an inspection will still be undertaken, however there is no inspection fee.

### Notice of work

The [Notice of work form](#) is to be completed by the same licensed plumber and submitted to council at least two days prior to commencing the work. Once that is received, a 'Plumbing Permit' will be issued, and the works can start.

## Section 5 – Installing your tank and connections

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### Plumbing requirements

- Ensure that you have followed the correct planning approvals before your tank is installed. For more information, see 'Section 4 – Plumbing approvals'.
- All plumbing works must be carried out in accordance with Plumbing Code of Australia and AS/NZS 3500 by a licensed plumber. For more information, visit the [NSW Fair Trading](#) website.
- Ensure the appropriate backflow prevention devices are installed if your tank is connected to internal plumbing, is topped up from mains water or if there are any cross-connections between mains water and tank water. A backflow prevention device prevents rainwater from the tank mixing with the mains water supply. Your plumber will know the appropriate device to install.
- Ensure that the tanks overflow is connected to an existing stormwater drainage system.
- Ensure that a 'Rainwater in use' sign is affixed to your tank and clearly visible.

### **First flush diverters**

All rainwater tanks should be fitted with first flush diverters. A first flush diverter is a device that is connected to your downpipes just before the entrance to the rainwater tank that prevents the initial rainfall off the roof from entering the tank. They are beneficial because they stop contaminants such as animal droppings, sediment, insects, and debris from entering the rainwater tank. First flush diverters are easy to install, can be cheaply purchased from hardware stores, and are an essential part of protecting your rainwater supply. NSW Health recommends a first flush diverter for the first 20-25 litres to ensure all debris, bird droppings and other contaminants are prevented from entering the rainwater tank.

### **Mosquito and vermin proofing**

It is a legislative requirement that your rainwater tank be constructed and installed to prevent mosquitoes entering and breeding. All access points, excluding the inlet and any overflows, should be kept shut with close fitting lids to prevent mosquitoes from entering. Inlets and overflows should be covered with closely fitting, removable insect-proof screens.

## Section 6 – Finalising your tank installation

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### Certificate of Compliance

If your rainwater tank installation did not require a section 68, no 'Certificate of Compliance' is required.

If your rainwater tank installation did require an 'Activities approval application' (section 68), the licenced plumber is required to complete and submit a 'Certificate of Compliance'. The plumber must also submit a 'Sewer Services Diagram' showing the tank connection to the property and organise the final inspection. Once the final inspection is completed, the final 'Plumbing Certificate' will be issued to the licensed plumber and a copy to the applicant.

Congratulations, your rainwater tank is now lawfully installed and fully functional. Remember to keep copies of all of your paperwork as they will be required if you wish to apply for any rebates. For more information on rebates, see 'Section 7 – Applying for a rainwater tank rebate'.

## Section 7 – Applying for a rainwater tank rebate

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### How to apply for the rebate

You apply for the rebate after your tank has been installed and any plumbing work is completed. You will need to do the following:

- Download the '[Residential rainwater tank rebate application](#)' form from the RCC website.
- Read and understand the terms and conditions of the rebate offer as listed on the form.
- Complete all relevant information and sign the form.
- Attach receipts demonstrating proof of purchase and installation indicating payment has been made in full.
- Where your tank installation has required a development approval from your local council, attach a copy of your 'Development Application'. Where your tank installation is part of a BASIX requirement, attach a copy of your BASIX certificate.
- Where the rainwater tank is connected to internal plumbing, attach a copy of your 'Certificate of Compliance', ensure it is completed and signed by the licensed installing plumber.

### When will I receive the rebate?

As a BSC customer, Council will post you a cheque for the rebate following a satisfactory site inspection.