

Water Demand Management Declaration of Compliance



This form is to be submitted with all applications for a Project Information Memorandum/Building Consent for new or relocated dwellings on land zoned residential.

Address: _____

Number of dwellings: _____
Building Consent Number: _____
(Office Use Only)

Water Demand Management solution

1. All dwellings the subject of this development will use one of the following water demand management solutions in accordance with the District Plan (please tick one box):

- Rainwater storage tanks with a total storage volume of not less than 10,000 litres (does not include air cavity between the lid and overflow), for each house in the development
- Rainwater storage tanks with a total storage volume of not less than 4,000 litres (does not include air cavity between the lid and overflow), for each house in the development, and a complying greywater diversion device
- The application is made with an alternative solution (note that resource consent will be required)
- The application is made without provision for water demand management (note that resource consent will be required)

2. For all applications where Water Demand Management will be provided:

a. Volume of rainwater storage tanks:

b. I confirm all the following:

- That the rain water tank volume complies with selected water demand management option and have provided a **certificate from the manufacturer** demonstrating the tank volume
- That there will be no direct connection from the reticulated water supply to any outside taps
- That there will be a direct connection from the rainwater storage tanks to all internal toilet cisterns and any external taps
- That there will be no direct connection from the reticulated water supply to any toilet cistern
- I understand that the toby or manifold may have to be modified at my expense

- I have completed KCDC Form 159: "Water Supply Connection / Alteration Application Form". *An applicant is required to submit this form to KCDC Water & Wastewater Team if a new water connection or alteration of existing connection is required.*

3. For applications where a Greywater Diversion Device is to be installed

a. Size of disposal field:

(Note that this needs to be marked on the site plan or the plumbing and drainage plan submitted to Council).

b. I confirm the following:

- That greywater will be collected from all laundry and bathroom drains (excluding toilets) and channelled to a greywater diversion device for use in outdoor irrigation.
- The greywater worksheet is attached and confirms that greywater diversion is suitable on the lot.
- That the device will be installed by an approved installer and that a certificate demonstrating this will be available to Council on request after installation.

Name:	_____
Signed:	_____
Date::	_____

Greywater Irrigation Calculation Sheet

This sheet will help determine whether there is sufficient area available to reuse greywater for irrigation. Remember that greywater should be diverted to sewer and only used for garden irrigation when needed.

This will help avoid any ponding nuisance in winter months.

Greywater irrigation will not be suitable for your proposed dwelling, if it is in area where:

- soils are too slow draining,
- are too steep,
- have high water tables less than a meter below the surface, or
- is within 20m of a drain, wetland, pond, river or other water body.

If greywater is unsuitable, you will need to install a minimum of 10 000 litre of rainwater storage.

The following will help establish if your site is suitable for greywater irrigation.

Greywater Diversion Device

Model

Irrigation method

1. Is the area being irrigated at least 20m away from a waterbody?

2. Area available for irrigation.

Calculate the area you have available for outdoor irrigation.

3. Greywater volume

Calculate how much water your home could generate. As the number of people will vary over the life of the house, use the following calculation to estimate greywater volume.

40 litres	+	60 litres	=	100 litres	*	<input type="text"/>	*	7 days	=	litres
Laundry usage		Bathroom usage		Total daily usage		Occupancy (depends on number of bedrooms)		Days per week		The amount of greywater produced each week

Bedroom numbers in home	Occupancy for design purposes
1	2
2	4
3	5
4	6
5	8
6	9

4. Calculate the area needed to irrigate greywater generated each week

Litres produced each week	÷ Soil irrigation rate	= area needed for irrigation
litres/week	mm/day	m ²

Match the soil on your site to the soil irrigation rates below.

Soil Category	Soil Texture	Irrigation rate for greywater	Indicative drainage class
1	Gravel and sands – structure-less	245 mm/week	Rapid draining
2	Coarse to medium sand	175 mm/week	Free draining
3	Medium-fine and loamy sand (dune sands)	105 mm/week	Good drainage
4	Sandy loam, loam and silt loam	35 mm/week	Moderately well drained
5	Sandy clay loam, clay loams, silt clay loam, peaty loam	28 mm/week	Moderate to slow drainage
6	Sandy clay, non-swelling clay and silty clay, peat	21 mm/week	Slowly draining
7	Swelling clay, grey clay, hardpan	14 mm/day	Poorly or non-drained

5. Does area available = area needed?

If the **area available** is greater than the **area needed**, the proposed application area is sufficient to cope with the volume of greywater that is likely to be generated and approval may be granted if all other conditions are met.

Enter the area available on the compliance sheet and mark out on the site plan or plumbing and drainage plan the area to be irrigated with greywater.

6. There isn't enough area for greywater irrigation

If the **area available** is less than the **area needed**, the proposed application area is insufficient to cope with the volume of greywater that is likely to be generated.

If you want greywater irrigation but the area available does not appear to be sufficient, you can:

- select a system that limits greywater to be suitable to your site conditions
- apply for an alternative solution that will only use greywater from the bathroom or laundry
- use a suitably qualified person to design a greywater system suited to your site (please attach their report with the compliance sheet)

Worked Example

Elise and Brian Thornton are building a 3 bedroom home on a 700m² lot in Waikanae Beach. They have selected the 4,000 litre rainwater tank storage and greywater diversion device. They will be using the water to irrigate garden and tree areas.

Water Demand Management Declaration of Compliance

To be submitted with all applications for a Property Information Memorandum for new or relocated dwellings on land zoned residential.

Address:	<u>12 Anon Street</u>
	<u>Waikanae Beach</u>
Number of dwellings:	<u>1</u>
Building Consent Number:	<u>BC000234</u>
	(Office Use Only)

Water Demand Management solution

1. All dwellings the subject of this development will use one of the following water demand management solutions in accordance with the District Plan (please tick one box):

- Rainwater storage tanks with a total storage volume of not less than 10,000 litres (does not include air cavity between the lid and overflow), for each house in the development
- Rainwater storage tanks with a total storage volume of not less than 4,000 litres (does not include air cavity between the lid and overflow), for each house in the development, and a complying greywater diversion device
- The application is made with an alternative solution (note that resource consent will be required)
- The application is made without provision for water demand management (note that resource consent will be required)

2. For all applications where Water Demand Management will be provided:

a. Volume of rainwater storage tanks:

6000 litres

b. I confirm all the following:

- That the rain water tank volume complies with selected water demand management option and have provided a **certificate from the manufacturer** demonstrating the tank volume
- That there will be no direct connection from the reticulated water supply to any outside taps
- That there will be a direct connection from the rainwater storage tanks to all internal toilet cisterns and any external taps

- That there will be no direct connection from the reticulated water supply to any toilet cistern
- I understand that the toby or manifold may have to be modified at my expense
- I have completed KCDC Form 159: "Water Supply Connection / Alteration Application Form". *An applicant is required to submit this form to KCDC Water & Wastewater Team if a new water connection or alteration of existing connection is required.*

3. For applications where a Greywater Diversion Device is to be installed

a. **Size of disposal field:**

40 m²

(Note that this needs to be marked on the site plan or the plumbing and drainage plan submitted to Council).

b. **I confirm the following:**

- That greywater will be collected from all laundry and bathroom drains (excluding toilets) and channelled to a greywater diversion device for use in outdoor irrigation.
- The greywater worksheet is attached and confirms that greywater diversion is suitable on the lot.
- That the device will be installed by an approved installer and that a certificate demonstrating this will be available to Council on request after installation.

Name: **Brian Thornton**

Signed: 

Date: **25/01/08**

Worked Example

Elise and Brian Thornton are building a 3 bedroom home on a 700m² lot in Waikanae Beach. They have selected the 4,000 litre rainwater storage and greywater diversion device. They will be using the water irrigate garden and tree areas.

Greywater Irrigation Calculation Sheet

This sheet will help determine whether there is enough area available to reuse greywater for irrigation. Remember that greywater should be diverted to sewer and only used for garden irrigation when needed. This will help avoid any ponding nuisance in winter months.

Greywater irrigation will not be suitable for your proposed dwelling, if it is in area where:

- Soils are too slow draining,
- Are too steep,
- Have high water tables less than a meter below the surface, or
- Is within 20m of a drain, wetland, pond, river or other water body.

If greywater is unsuitable, you will need to install a minimum of 10,000 litre of rainwater storage.

The following will help establish if your site is suitable for greywater irrigation.

Greywater Diversion Device

Model

Watersmart greywater gully

Irrigation method

1pod/m²

1. Is the area being irrigated at least 20m away from a waterbody?

No

2. Area available for irrigation.

Calculate the area you have available for outdoor irrigation.

300 m²

3. Greywater volume

Calculate how much water your home could generate. As the number of people will vary over the life of the house, use the following calculation to estimate greywater volume.

40 litres	+	60 litres	=	100 litres	*	5	*	7 days	=	3500 litres
Laundry usage		Bathroom usage		Total daily usage		Occupancy (depends on number of bedrooms)		Days per week		The amount of greywater produced each week

Bedroom numbers in home	Occupancy for design purposes
1	2
2	4
3	5
4	6
5	8
6	9

4. Calculate the area needed to irrigate greywater generated each week

Litres produced each week	÷ Soil irrigation rate	= area needed for irrigation
3500litres/week	105 mm/day	33 m ²

Match the soil on your site to the soil irrigation rates below.

Soil Category	Soil Texture	Irrigation rate for greywater	Indicative drainage class
1	Gravel and sands – structure-less	245 mm/week	Rapid draining
2	Coarse to medium sand	175 mm/week	Free draining
3	Medium-fine and loamy sand (dune sands)	105 mm/week	Good drainage
4	Sandy loam, loam and silt loam	35 mm/week	Moderately well drained
5	Sandy clay loam, clay loams, silt clay loam, peaty loam	28 mm/week	Moderate to slow drainage
6	Sandy clay, non-swelling clay and silty clay, peat	21 mm/week	Slowly draining
7	Swelling clay, grey clay, hardpan	14 mm/day	Poorly or non-drained

5. Does area available = area needed?

Yes

If the **area available** is greater than the **area needed**, the proposed application area is sufficient to cope with the volume of greywater that is likely to be generated and approval may be granted if all other conditions are met.

Enter the area available on the compliance sheet and mark out on the site plan or plumbing and drainage plan the area to be irrigated with greywater.

6. There isn't enough area for greywater irrigation

If the **area available** is less than the **area needed**, the proposed application area is insufficient to cope with the volume of greywater that is likely to be generated.

If you want greywater irrigation but area available does not appear to be sufficient, you can get a suitably qualified person to design a greywater system suited to your site. (Please attach their report with the compliance sheet)