

## INFORMATION REQUIREMENTS FOR RESOURCE CONSENT TAKE OR USE SURFACE WATER (FROM A RIVER, STREAM, SPRING, LAKE OR DAM)

When you submit your application to the Northland Regional Council “the council” for a resource consent to take water from a surface water body such as a river, stream, spring, lake or an impounded area behind a dam or weir structure, you need to ensure that sufficient information is supplied in support of your application.

The council has specific forms to help you supply the required information. When applying to take surface water, please ensure all the relevant questions in AEE 1 are answered fully. Supplying this information will enable the council staff to assess your application in terms of the Resource Management Act 1991, and any relevant resource management plans.

If all the necessary information is not supplied with the application, then the council may return your application or request further information (pursuant to Section 92 of the Resource Management Act 1991). This will lead to delays in the processing of your application.

**If the effects of the proposed water take are minor**, then the council is likely to process your application without public notification provided written approvals are gained from all parties that may be adversely affected by the water take. Details of the consultation required are presented later in this document.

If you are unable to supply the necessary written approvals from the affected parties, or if the effects of the take are more than minor, then the council must publicly notify the application. This can result in significant delays in the processing of your application and additional processing costs.

If you have any doubt as to who you need to provide written approvals from, or what information should be supplied with your application, then you should contact council staff to discuss the matter.

The following information relates to the questions asked in AEE 1 and is provided to assist you with answering the questions.

## A – Description of the Proposed Activity

In this section you should answer all the questions between **A.1-A.13**.

### Question A.1

If your application is a replacement of an existing consent, the easiest way to find out the name of the water body from which you take water is by checking your existing resource consent. If you are unsure of the name of the water body, please contact a council staff member who will be able to assist you.

### Question A.2

The quantity of water you are applying to take should be specified. If you are applying for a replacement consent, please check your existing consent to see if the quantity stated will meet your current (and likely future) needs, or if you now require less water.

**Note:** 1,000 litres = 1 cubic metre (m<sup>3</sup>)  
1 Gallon = 4.5 litres

### Question A.3

All applications to take water must include information and/or calculations that justify the amount of water being applied for. There are several ways that this can be done. Some examples are:

Water Use Type	Water Allowances Commonly Used
Pasture Irrigation*	30-40 cubic metres of water per day per hectare of irrigated pasture
Outdoor Horticultural Irrigation*	25 cubic metres of water per day per total hectare planted; or 30-40 cubic metres of water per day per canopy hectare
Indoor Horticultural Irrigation	5 litres per square metre of plants per day
Household Water Supply	180-220 litres per person per day
Stock:	
▪ Dairy Cows (In Milking)	70 litres per head per day
▪ Other Cattle	45 litres per head per day
▪ Nursing Ewes	9 litres per head per day
▪ Fattening Lambs	2.2 litres per head per day
▪ Pigs	22 litres per head per day

\*Note: If you are applying to take **more than 500 m<sup>3</sup>/day for irrigation purposes**, you will need to submit a water balance sheet that estimates average daily water needs for each month and estimates peak requirements. The water balance should take into account rainfall, soil types, evapotranspiration and soil moisture deficits and how these variables change over the irrigation season.

#### Question A.4

Specify the typical number of hours that you would be taking water and the maximum number of hours during the “*worst case scenario*”.

#### Question A.5

Most water takes are via a motorised pump (e.g. electric, diesel, tractor mounted), however, some utilise gravity.

#### Question A.6

The type and model of pump that you are using to take water can usually be determined by looking on the housing of the pump, or from irrigation and/or reticulation installation records.

#### Question A.7

There are several ways that the rate of taking can be measured or estimated. Many of the manufacturers can supply “pumping curves” that show the rate of pumping relative to the pressure head against which the pump is working. The rate can also be calculated by multiplying the emitter rate by the number of emitters used. In some cases the pump’s capacity can be varied and if this is the case then the maximum pumping rate should be specified. If you are unsure of the pumping capacity or how to calculate it, a council staff member can assist you.

#### Question A.8

Many existing water takes have a meter installed that can be used to measure the amount of water taken per day. If you have a water meter installed, tick the **Yes** box.

#### Question A.9

Most intakes have a screening device located on the end of the pipe that sits in the water. This screen has two main functions. Firstly, the screen reduces the likelihood of weed and debris clogging the pump. Secondly, the screen (if designed properly) will prevent fish and other aquatic organisms being sucked from the water. The easiest way to check if a screen is fitted is to lift the intake pipe out of the water and examine the end of the pipe. The screen will be obvious as it usually consists of a round or square metal or rigid structure with holes or slots in it.

#### Question A.10

If you have a screen installed, examine it as described above and make a sketch drawing of it (attach the drawing to the application on a separate sheet). Use a ruler or tape measure to work out the dimensions, paying particular attention to the size of the holes or slots and the number of these per unit area. Contact the council if you require assistance with this. If the screen is poorly designed for the purposes described in **A.9** the council will require you to replace it.

### Question A.11

Tick the appropriate boxes. You will note that two lines are given. The months in which you usually take water should be ticked along the top row, and the months in which you occasionally take water ticked along the bottom row.

### Question A.12

Indicate what time of the day you propose to take water.

### Question A.13

For this question you need to tick the box which corresponds to the use for which the water is taken and answer all the questions below that activity. This information is required as it provides justification for the volume sought and provides evidence that the water is being used efficiently.

If you require any assistance or any clarification of the questions asked, please do not hesitate to contact a council staff member.

## B – Water Resource Description

This section covers the characteristics of the water resource that you are proposing to take water from. It is important that you supply a map showing the items listed on the application form. You should then tick the box that corresponds to the type of water body from which you are proposing to take water and answer all the questions below that box. The following discussion relates to each of

the types of water bodies and will help you answer the questions.

### Question B.1

#### River or Stream Take

The first four questions are self-explanatory, but the measurements should reflect the conditions of the water body during the summer months (i.e. when flows and depths are at their lowest). The flow velocity can be estimated by measuring the time it takes a stick or other floating object to travel a set distance downstream.

The design minimum flow (DMF) of the river or stream is the flow considered necessary to be maintained downstream of your take point to allow the aquatic organisms (e.g. fish and insects) to survive. In many cases the DMF will be equivalent to the flow in the river during a drought that occurs every 5 years (i.e. a 1 in 5 year drought event). In other cases the DMF may be the mean annual low flow in the stream. The type of river or stream that you are proposing to take water from will dictate which figure needs to be calculated. Council staff can assist you with making this determination.

If your application is a replacement application, the DMF may well have already been calculated and if so, will be recorded on your file. You will need to contact the council to find out whether it has been calculated. If your application is for a new consent, you will need to calculate the DMF. There are a few ways that the DMF can be calculated, and this may involve manual

flow measurements at the point of taking. You may need to hire a consultant for this, please contact the council for advice.

### Spring Take

An estimate of the minimum flow from the spring needs to be given. This can be estimated a few ways. The time taken to fill a bucket of a known capacity (e.g. 10 litre) is called a volumetric estimate. If this method is to be used, then the measurement should be done a few times and the average used. The council may be able to measure the flow accurately using either a portable v-notch weir or a current meter.

You must also supply details on how you are proposing to “tap” the spring flow and distribute the water to its point of use.

### Natural Lake Take

The first question is self-explanatory. If you know how deep the lake is, then write it down. If you are unsure of the depth of the lake, then contact the council as there may have been studies done on the lake you are proposing to take from. You need to note whether or not the lake has a natural outlet. Some lakes (e.g. many of the dune lakes) do not have a natural outlet, whereas others have a stream flowing from them. You also need to describe the main mechanism by which the lake is

filled. Again, some lakes have streams flowing into them whereas others are filled up mainly from rain falling directly on the lake’s surface or through runoff from surrounding land.

### Man-made Reservoir behind a Dam or Weir

This section relates to water being taken from an impounded area behind a dam structure (including weirs).

The volume of impounded water behind the dam structure needs to be stated. If you are taking water from behind a minor weir, then you will still need to estimate the impounded area during summer months.

See the section on River or Stream Takes (above) regarding the design minimum flow (DMF). You need to state how the water from the dam or weir is released to maintain flows downstream. This may be via a pipe or over the structure.

In many cases the dam or weir will have a separate resource consent. If yours does have one you should tick the yes box. If you do not have a resource consent for the structure, you will need to contact the council to determine if one is actually required.

Some dam and weir structures are required to be constructed so that they specifically allow for the migration of certain fish species (these structures are called “fish passes”).

## Question B.2

Tick the boxes that characterise the land use in the area of your proposed water take. You may wish to also include a description of the land uses on the map that needs to be supplied with your application.

## C – Assessment of Effects on the Environment

In this section you need to consider what the effects of your proposed take will have on the environment. For the purposes of this section, you need to consider the effects of your proposed take under the “*worst case scenario*”. For most water takes, the worst case scenario is when the quantity of water being taken is greatest and this coincides with flows in the river, stream or spring being the lowest (or for lakes when the lake level is at its lowest).

If you are proposing to take water from a river or stream and you wish to reduce the flow downstream of your point of taking to below the design minimum flow (DMF), then you will need to contact the council as there are additional information requirements that need to be provided with your application.

The word “*environment*” includes the water body itself, downstream water users, and local iwi. The information below will help you answer the questions of this section.

## Question C.1

You need to consider whether your proposed water take will have any effect on the availability of water for other users. This will depend on the volume of water you propose to take relative to the size of the water body and the distance downstream to the next inflow of water (i.e. where the next stream or tributary joins the water body you propose to take from).

If written approvals are obtained from all parties that may be affected by the water take and the effects of your proposed water take are minor, then the council may decide to process your application on a non-notified basis.

## Question C.2

The items listed in this question are those that are commonly affected by water takes. You need to consider if any of these are present in the vicinity of your proposed take and if they are, then you will need to discuss how your proposed take will affect them.

Some water takes can lower the water levels of the water body (e.g. the taking may reduce the depth of water in a stream downstream of the point of taking). This will depend on the type of water body from which you are taking and the amount of water you are proposing to take, as well as the actual pumping rate.

### Question C.3

The Resource Management Act 1991 requires applicants to consider “alternatives” and discuss why they have made the choice they have made. Alternative water sources include:

- Groundwater
- Water storage dams that collect water during winter to be used during the summer months
- Rainfall runoff collection systems

### Question C.4

The council promotes the use of technologies and water management techniques that minimise water wastage. Indicate what measures you propose to implement or use that will ensure efficient water use.

### Question C.5

There are a number of possible “positive” effects that water takes can result in. These can include economic benefits to the community (e.g. jobs), secure water supplies to households, and many others.

### Question C.6

The amount of monitoring likely to be required will depend on a number of factors such as the quantity of water you are proposing to take, the size of the water resource, and the pressure on the resource. A consent holder will commonly be required to measure the quantity of water they take on a daily basis and submit “water use records”. In other cases, downstream flow measurement recording, water quality and/or biological monitoring may be required.

### Question C.7

Tick the boxes that correspond to the parties with whom you have consulted regarding your proposed water take. The council can advise you of those parties considered to be “affected” and can also supply you with a list of appropriate iwi contacts.

***If you have any queries relating to information requirements, please contact a Duty Planner at the Northland Regional Council.***

**Northland Regional Council offices:**

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