

2 April 2014

Reference No. 1378110270-211-LR-Rev1-2000

Manuherikia Catchment Water Strategy Group
C/- Kate Scott
BTW South Limited
P O Box 302
Cromwell 9342

MANUHERIKIA FEASIBILITY STUDY – CONSENT REVIEW – CURRENT RESOURCE CONSENTS

Dear Kate

The Manuherikia Catchment Water Strategy Group (MCWSG) is currently undertaking a feasibility level study of the Manuherikia catchment to provide water storage and distribution for irrigation. In October 2013 a group led by Golder Associates (NZ) Limited (Golder) was commissioned to undertake the following four components of the feasibility study:

- 1) Geotechnical and engineering;
- 2) Environmental investigations;
- 3) Land tenure, water allocation, planning and Resource Management Act (RMA) issues; and
- 4) Economic and commercial investigations, scheme ownership and management models

Aqualinc Research Limited (Aqualinc) who led the earlier pre-feasibility assessments was commissioned to undertake the hydrological component of the feasibility study. During the prefeasibility investigations Aqualinc assessed consented water takes for the purpose of irrigation and found that a total of 27.7 m³/s (980 heads¹) is consented in the Manuherikia catchment. The majority (77.6 % on a volume basis) of which is authorised via deemed permits (or mining privileges). Together the six irrigation schemes in the catchment (Blackstone, Galloway, Hawkdun Idaburn, Ida Valley, Manuherikia and Omakau) have entitlement to 68.7 % (on a volume basis) of the available water allocation in the catchment (Aqualinc 2012a)².

To assess the implications of potential development scenarios it is necessary to understand current allocation and current water use within the catchment. There are three components to this work:

- 1) A review of the statutory plans to determine if there are any allocation limits that apply to the catchment. This was completed and documented in Golder (2014)³.
- 2) A review of the current resource consents, including deemed permits which within this review are considered to be included in the analysis of resource consents, that authorise the take and use of water in the catchment. The review will be undertaken in two stages. Stage 1 will focus on the larger issues of volume, location, expiry date and what the water is used for. This letter⁴ documents the findings of

¹ 1 head = 1 cusec = 28.32 L/s.

² Aqualinc, 2012a. Manuherikia Catchment Study: Stage 2 (Hydrology). Report numbered C12040/2 prepared by Aqualinc Research Limited for MCWSG dated 22 September 2012.

³ Golder, 2014. MCWSG Feasibility Study – Resource Management Act 1991 and Statutory Planning Considerations. Prepared by Golder Associates (NZ) Limited for MCWSG, January 2014.

⁴ This letter is provided subject to the attached Report Limitations.



Stage 1. Stage 2 will investigate the consent conditions and particularly minimum flow, efficient water use and fish passage type conditions.

- 3) An assessment of actual water use (via resource consents, deemed permits and permitted activities) in the catchment. The prefeasibility investigations, particularly those carried out by Aqualinc (2012a), estimated water use through discussions with the various scheme managers. As part of the feasibility assessment estimated actual use will be further assessed, particularly for the private water users.

In completing the above work Golder is working with the Otago Regional Council (ORC) to ensure that a common data set of existing resource consents is analysed and there is agreement on current allocation within the catchment. To that end this draft letter and analysis will be forwarded to ORC for comment and review prior to being finalised and incorporated into the feasibility reports.

Data Sources

The ORC has a resource consent database which covers the region and contains details of all the resource consents that have been issued. ORC supplied Golder with two separate blocks of data which were derived from querying the database from both a water use and resource consent perspective.

Consent data was received in three spreadsheets⁵ on 15 November 2013 from Peter Christophers of ORC. Water take and use data was received in a zip file on 22 January 2014 from Andrew MacKay of ORC.

As part of the pre-feasibility investigations, Aqualinc (2012a) estimated the volume of water authorised to be taken and used within the catchment. Golder has requested details from the prefeasibility investigations, but at the time of preparing this letter this information has not been received.

Methodology

To create a combined data set for subsequent analysis, Golder inputted the two data sets supplied by ORC into a GIS database and then merged them using the consent number which was a variable common to both data sets. The combined data set was subsequently analysed in GIS and summary tables and maps produced. The analysis involved categorising and assessing the resource consents according to the following variables:

- Location, particularly the following nine sub-catchments which are related to those used by Aqualinc (2012b and 2013)⁶ in the Manuherikia Valley Hydrological Model. They are:
 - Above Falls Dam
 - Dunstan Creek
 - Ida Burn (includes takes from the Mt Ida Race)
 - Pool Burn (includes the Manorburn reservoir take)
 - Lauder Creek
 - Thomsons Creek
 - Upper tributaries (covers the main stem of the Manuherikia River and all tributaries between Falls Dam and Ophir which are not already included in above sub-catchments)
 - Lower tributaries (covers the main stem of the Manuherikia River and all tributaries between Ophir and the Campground monitoring site at Alexandra)
 - Below Campground (covers the main stem of the Manuherikia River and all tributaries below the Campground monitoring site at Alexandra, and Waikerikeri Creek⁷)
- Activity (i.e., irrigation, community water supply)

⁵ ManuherikiaWaterTakeConsents.xls, ManuherikiaDamDivertConsents.xls and ManuherikiaContaminatedSites.xls

⁶ Aqualinc 2012b. Manuherikia Valley: Detailed Hydrology. Report numbered C12040/3 prepared by Aqualinc Research Limited for MCWSG, dated 22 September 2012.

Aqualinc 2013. Manuherikia Valley Hydrology: 2013 update. Report numbered C14000/1 prepared by Aqualinc Research Limited for MCWSG, dated 17 September 2013.

⁷ Dairy Creek is included in the Waikerikeri Creek catchment.

- Allocation (i.e., primary or secondary as assessed by ORC)
- Consent holder (i.e., an irrigation company or private user)
- Size (i.e., consented rate of take)
- Expiry date

This approach does not assess individual resource consents, but instead looks at the group of resource consents as a whole. Particularly large water takes and resource consents for an unusual activity or which identify an unusual feature are to be investigated further during Stage 2 of the consent review.

Findings

A series of figures (attached) illustrate the sub-catchment delineation, and consented water takes according to the maximum rate of take, water use and the ORC allocation classification. Table 1 (attached) summarises the volume and number of consented takes in the Manuherikia catchment on a sub-catchment basis. Table 1 indicates:

- There are 279 current resource consents to take water within the Manuherikia Catchment (including the Waikerikeri Creek catchment), of which 236 are for surface water and 43 are for groundwater.
- Of the 236 current resource consents to take surface water in the Manuherikia Catchment, information on the maximum rate is available for 220 resource consents. The maximum rate of take associated with the remaining 16 resource consents will be investigated during Stage 2 of the consent review. Two of the 16 resource consents relate to very large takes. One (RMA13.059.01) is related to the operation of the Mt Ida Race and the other (RMA2002.725.V1) is a take from Lake Dunstan (Dairy Creek) held by the Manuherikia Irrigation Scheme which has not been exercised. Golder understands that these two resource consents authorises a maximum take of 1.92 m³/s (RMA13.059.01) and 4.53 m³/s (RMA2002.725.V1) respectively.
- The 220 current resource consents to take surface water in the Manuherikia Catchment, which have maximum rate of take information, together with resource consents RMA13.059.01 and RMA2002.725.V1, authorise a maximum abstraction of approximately 41.7 m³/s. Of which 4.0 m³/s is the non-consumptive hydro-electric take from Falls Dam, approximately 4.5 m³/s represents re-takes associated with operation of the Poolburn and Manorburn reservoirs, approximately 1.1 m³/s represents re-takes associated with operation of the Mt Ida Race, a further approximately 2.6 m³/s is classified as re-takes associated with operation of various other water races and approximately 4.5 m³/s is a take from Lake Dunstan (Dairy Creek) which has not been exercised.

Allowing for the above, the total consumptive surface water take for all takes (not just irrigation) from the Manuherikia catchment is estimated to be 24.3 m³/s. This is 3.4 m³/s (or 12 %) less than the 27.7 m³/s estimated for irrigation purposes in Aqualinc (2012a). Golder is awaiting information from the pre-feasibility investigations and has not been able to assess the reasons for the difference. However, our assessment includes all surface water takes irrespective of what the water is used for, but excludes groundwater takes, re-takes of surface water and 14 resource consents where the maximum rate of take is unknown.

- The Lower tributaries sub-catchment supports the greatest volume (approximately 6.6 m³/s) and number (55) of consumptive surface water takes. Most of the consented allocation is associated with the Manuherikia Irrigation Scheme (3.5 m³/s), other takes from the Chatto Creek catchment (1.3 m³/s) and the Galloway Irrigation Scheme (0.7 m³/s).
- The Pool Burn (including the Manorburn reservoir) sub-catchment supplies the second greatest take volume (approximately 6.3 m³/s), via 36 consented consumptive surface water takes. Most of the consented allocation is associated with the Ida Valley Irrigation Scheme (5.3 m³/s).

- Water takes for the primary purpose of irrigation constitute 99 % (24.1 m³/s) of the consented consumptive surface water take volume in the Manuherikia catchment.
- The Ida Burn, Dunstan Creek, Pool Burn, Thomsons Creek and Lower Tributaries sub-catchments all supply in excess of 99.5 % of their consented water take volume to irrigation activities.
- The 43 current resource consents to take groundwater are predominantly clustered around Alexandra and particularly in the Waikerikeri Creek catchment. Of the 43 resource consents, information on the maximum rate of take is available for 21 resource consents. Together these 21 resource consents authorise a maximum abstraction of 663.5 L/s, although 600 L/s of this is associated with the flood protection scheme around Alexandra and is not considered a consumptive use. The maximum rate of take associated with the remaining 22 resource consents will be investigated during Stage 2 of the consent review. However, Golder expects total consented groundwater abstraction for consumptive uses in the Manuherikia catchment to be in the order of 100 L/s.
- There are a further 24 resource consents to take water in the potential command area of the proposed Mt Ida Dam, which lie in the Taieri Catchment. All 24 resource consents are for surface water takes, none of which have information on the maximum rate of take. These resource consents will not be investigated as part of the feasibility study.

Expiry of the approvals to take water was also assessed. In summary, of the 279 current resource consents to take water within the Manuherikia Catchment:

- 38 resource consents authorising at total maximum take of approximately 0.9 m³/s are due to expire prior to 2021.
- 162 resource consents (58 % by number) authorising at total maximum take of approximately 27.0 m³/s (65 % by volume) are due to expire in 2021 (predominantly mining privileges / deemed permits which expire on 1 October 2021).
- The remaining 79 resource consents authorising at total maximum take of approximately 13.8 m³/s are due to expire after 2021, with the latest resource consent expiry in 2047.

Table 2 (attached) summarises the volume and number of consented water takes in the Manuherikia catchment on a consent holder basis. Table 2 indicates:

- The six irrigation companies hold 68 %, by volume (16.5 m³/s), of the estimated total consumptive surface water take from the Manuherikia catchment.
- Of the 24.3 m³/s estimated total consented consumptive surface water takes, 19.3 m³/s (79 %) is authorised by deemed permits which expire in 2021.
- All the irrigation companies (with the exception of Hawkdun Idaburn) water takes are authorised by deemed permits.

Table 3 (attached) provides a list of the 279 resource consents to take water within the Manuherikia Catchment (including the Waikerikeri Creek catchment).

Next Steps

Following approval by the MCWSG, this letter and the underlying analysis will be forward to ORC for comment and review. Once agreement has been reached with ORC on current allocation within the Manuherikia Catchment, Stage 2 of the consent review will be undertaken.

Closing Remarks

We trust this letter summarises the current authorised water takes relevant to the Manuherikia Catchment water strategy. Once this letter is finalised its contents will form part of the feasibility report covering

resource consents and water allocation. If you wish to discuss the above please contact Ian Lloyd (illoyd@golder.co.nz or telephone 03 377 5696).

Yours sincerely

GOLDER ASSOCIATES (NZ) LIMITED



Sophie South
Water Management Engineer

SS/jsb

CC:

Attachments:

Report Limitations

Figure 1: Manuherikia Catchment —Resource consents, including deemed permits, to take water – maximum rate of take.

Figure 2: Manuherikia Catchment - Resource consents, including deemed permits, to take water – water use.

Figure 3: Manuherikia Catchment - Resource consents, including deemed permits, to take water - allocation classification.

Table 1: Existing surface water and groundwater takes in the Manuherikia catchment; per sub-catchment.

Table 2: Existing surface water and groundwater takes in the Manuherikia catchment; per consent holder.

Table 3: List of existing surface water and groundwater takes in the Manuherikia catchment.

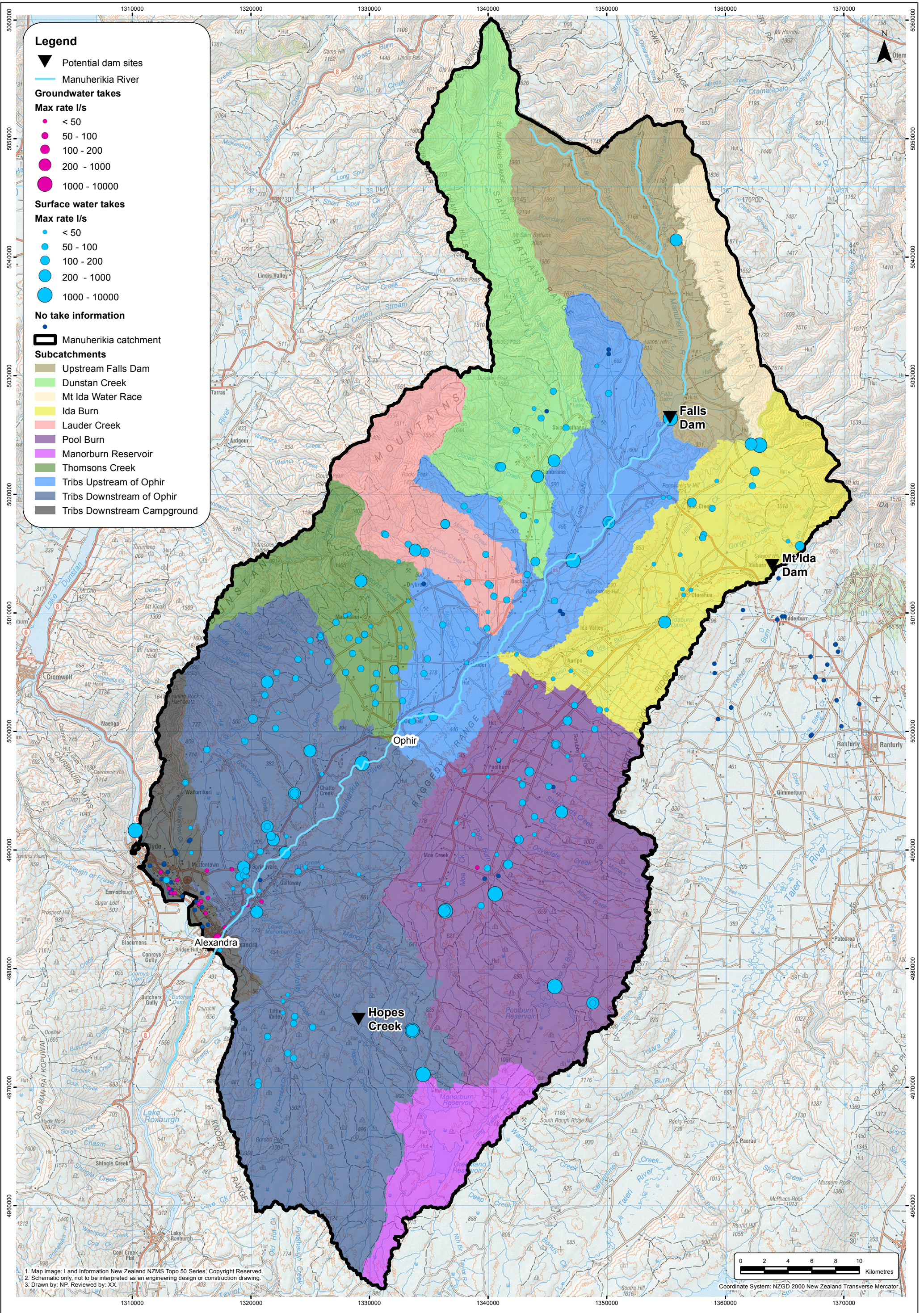


Ian Lloyd
Senior Water Resource Engineer

Report Limitations

This Report/Document has been provided by Golder Associates (NZ) Limited (“Golder”) subject to the following limitations:

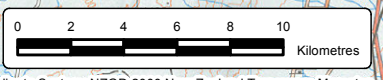
- i) This Report/Document has been prepared for the particular purpose outlined in Golder’s proposal and no responsibility is accepted for the use of this Report/Document, in whole or in part, in other contexts or for any other purpose.
- ii) The scope and the period of Golder’s Services are as described in Golder’s proposal, and are subject to restrictions and limitations. Golder did not perform a complete assessment of all possible conditions or circumstances that may exist at the site referenced in the Report/Document. If a service is not expressly indicated, do not assume it has been provided. If a matter is not addressed, do not assume that any determination has been made by Golder in regards to it.
- iii) Conditions may exist which were undetectable given the limited nature of the enquiry Golder was retained to undertake with respect to the site. Variations in conditions may occur between investigatory locations, and there may be special conditions pertaining to the site which have not been revealed by the investigation and which have not therefore been taken into account in the Report/Document. Accordingly, if information in addition to that contained in this report is sought, additional studies and actions may be required.
- iv) The passage of time affects the information and assessment provided in this Report/Document. Golder’s opinions are based upon information that existed at the time of the production of the Report/Document. The Services provided allowed Golder to form no more than an opinion of the actual conditions of the site at the time the site was visited and cannot be used to assess the effect of any subsequent changes in the quality of the site, or its surroundings, or any laws or regulations.
- v) Any assessments, designs and advice made in this Report/Document are based on the conditions indicated from published sources and the investigation described. No warranty is included, either express or implied, that the actual conditions will conform exactly to the assessments contained in this Report/Document.
- vi) Where data supplied by the client or other external sources, including previous site investigation data, have been used, it has been assumed that the information is correct unless otherwise stated. No responsibility is accepted by Golder for incomplete or inaccurate data supplied by others.
- vii) The Client acknowledges that Golder may have retained subconsultants affiliated with Golder to provide Services for the benefit of Golder. Golder will be fully responsible to the Client for the Services and work done by all of its subconsultants and subcontractors. The Client agrees that it will only assert claims against and seek to recover losses, damages or other liabilities from Golder and not Golder’s affiliated companies. To the maximum extent allowed by law, the Client acknowledges and agrees it will not have any legal recourse, and waives any expense, loss, claim, demand, or cause of action, against Golder’s affiliated companies, and their employees, officers and directors.
- viii) This Report/Document is provided for sole use by the Client and is confidential to it. No responsibility whatsoever for the contents of this Report/Document will be accepted to any person other than the Client. Any use which a third party makes of this Report/Document, or any reliance on or decisions to be made based on it, is the responsibility of such third parties. Golder accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this Report/Document.



Legend

- ▼ Potential dam sites
- Manuherikia River
- Groundwater takes**
- Max rate l/s
- < 50
- 50 - 100
- 100 - 200
- 200 - 1000
- 1000 - 10000
- Surface water takes**
- Max rate l/s
- < 50
- 50 - 100
- 100 - 200
- 200 - 1000
- 1000 - 10000
- No take information
- ▭ Manuherikia catchment
- Subcatchments**
- Upstream Falls Dam
- Dunstan Creek
- Mt Ida Water Race
- Ida Burn
- Lauder Creek
- Pool Burn
- Manorburn Reservoir
- Thomsons Creek
- Tribs Upstream of Ophir
- Tribs Downstream of Ophir
- Tribs Downstream Campground

1. Map image: Land Information New Zealand NZMS Topo 50 Series, Copyright Reserved.
 2. Schematic only, not to be interpreted as an engineering design or construction drawing.
 3. Drawn by: NP. Reviewed by: XX.



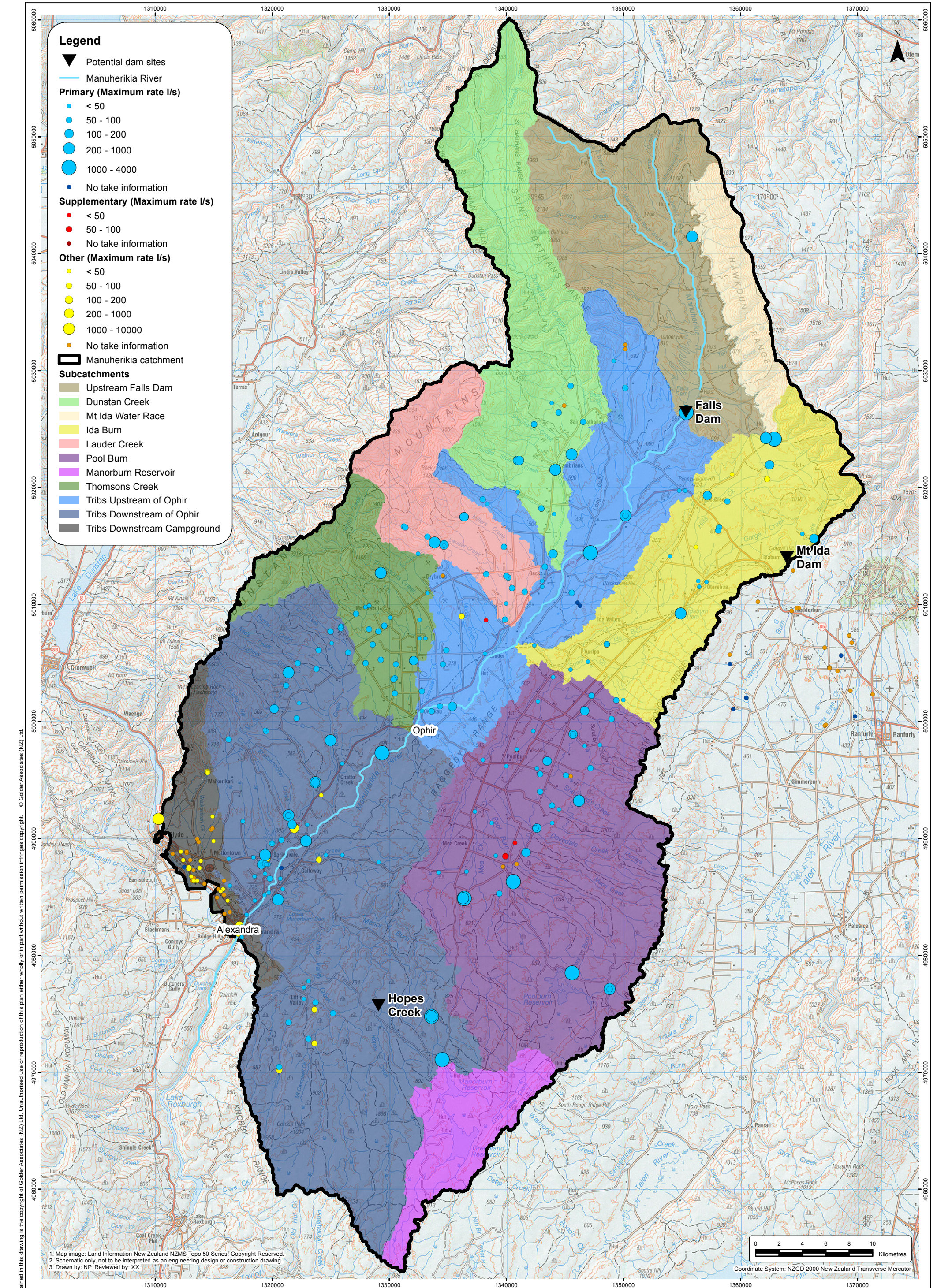
Coordinate System: NZGD 2000 New Zealand Transverse Mercator



DRAFT

Information contained in this drawing is the copyright of Golder Associates (NZ) Ltd. Unauthorised use or reproduction of this plan either wholly or in part without written permission infringes copyright. © Golder Associates (NZ) Ltd.

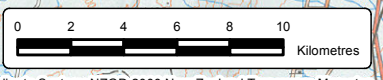
S:\GIS\Projects-Numbered\2013\1378110\1378110_270_CODC_MCWSG\MapDocuments\2000 Water and Planning\ConsentReview\Fig01_ExistingWaterTakeConsentsTotalModelCatchments_A3P_GIS.mxd



Legend

- ▼ Potential dam sites
- Manuherikia River
- Primary (Maximum rate l/s)**
 - < 50
 - 50 - 100
 - 100 - 200
 - 200 - 1000
 - 1000 - 4000
 - No take information
- Supplementary (Maximum rate l/s)**
 - < 50
 - 50 - 100
 - No take information
- Other (Maximum rate l/s)**
 - < 50
 - 50 - 100
 - 100 - 200
 - 200 - 1000
 - 1000 - 10000
 - No take information
- ▭ Manuherikia catchment
- Subcatchments**
 - Upstream Falls Dam
 - Dunstan Creek
 - Mt Ida Water Race
 - Ida Burn
 - Lauder Creek
 - Pool Burn
 - Manorburn Reservoir
 - Thomsons Creek
 - Tribs Upstream of Ophir
 - Tribs Downstream of Ophir
 - Tribs Downstream Campground

1. Map image: Land Information New Zealand NZMS Topo 50 Series, Copyright Reserved.
 2. Schematic only, not to be interpreted as an engineering design or construction drawing.
 3. Drawn by: NP. Reviewed by: XX.



Coordinate System: NZGD 2000 New Zealand Transverse Mercator

Information contained in this drawing is the copyright of Golder Associates (NZ) Ltd. Unauthorised use or reproduction of this plan either wholly or in part without written permission infringes copyright. © Golder Associates (NZ) Ltd.



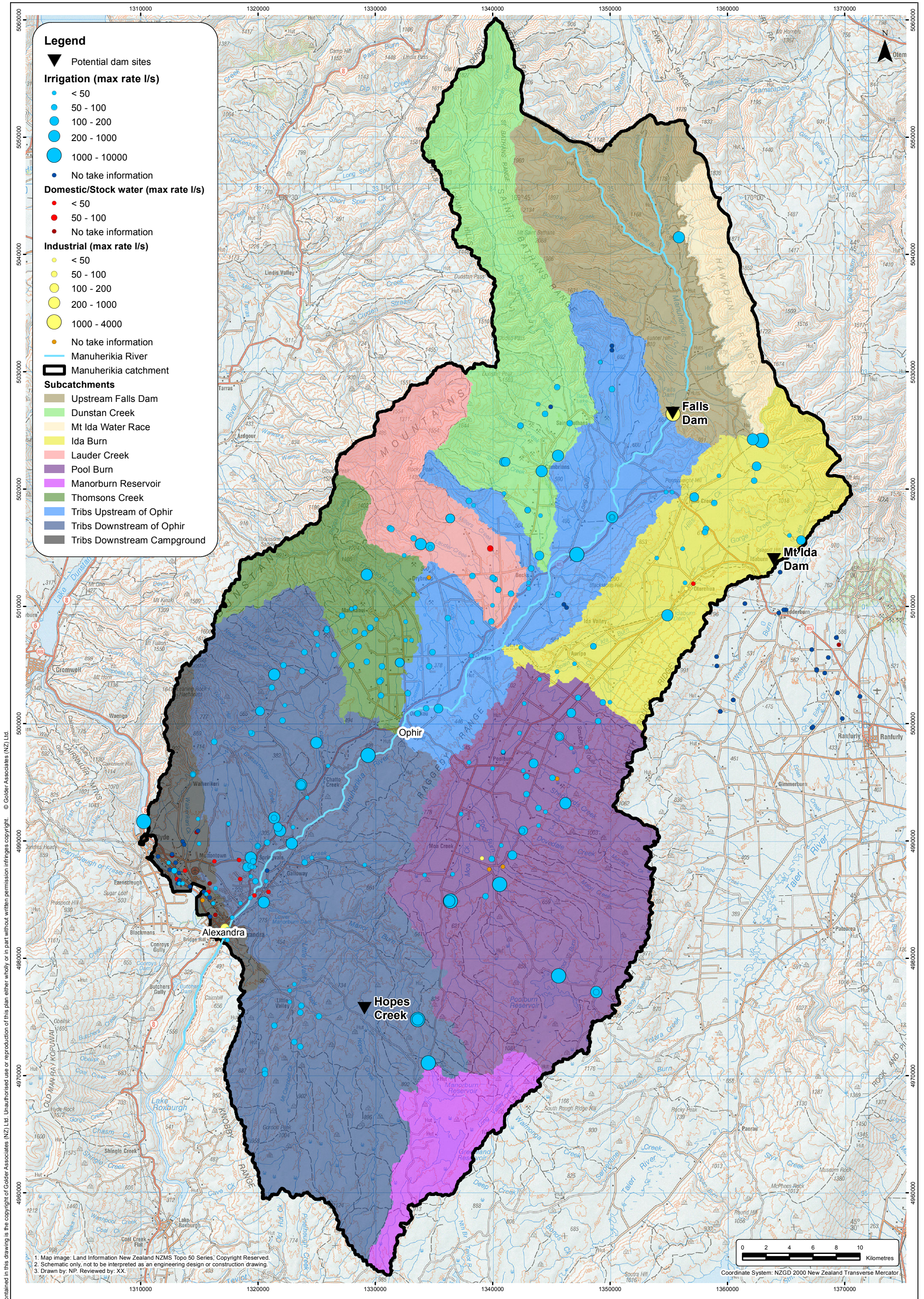
DRAFT

TITLE | **EXISTING WATER TAKES - ALLOCATION - MANUHERIKIA SUBCATCHMENTS**

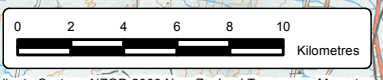
MARCH 2014

PROJECT | 1378110270

3



1. Map image: Land Information New Zealand NZMS Topo 50 Series, Copyright Reserved.
 2. Schematic only, not to be interpreted as an engineering design or construction drawing.
 3. Drawn by: NP. Reviewed by: XX.



Coordinate System: NZGD 2000 New Zealand Transverse Mercator

Table 1: Existing surface water and groundwater takes in the Manuherikia catchment; per sub-catchment.

Sub-catchment	Total		Irrigation				Community/Domestic Supply				Industry				
			Primary		Secondary ¹		Primary		Secondary ¹		Primary		Secondary ¹		
	No.	L/s	No.	L/s	No.	L/s	No.	L/s	No.	L/s	No.	L/s	No.	L/s	
Above Falls Dam	1	4,000 ²										1	4,000 ²		
Dunstan Creek	16	1,654	15	1,654	(1)	(-)									
Ida Burn ³	25	4,053 ⁴	20	3,916 ⁵	(3)	(127 ⁶)	1	5				1	5		
Pool Burn ⁷	49	11,547 ⁸	41	11,425 ⁸	3 (1)	112 (-)						1	10	(3)	(-)
Upper tributaries	32	3,588 ⁹	21	3,359 ¹⁰	1 (5)	40 (84)	3 ¹¹	105				1 ¹²	-	(1)	(-)
Lauder Creek	17	1,503	16	1,447			1	56							
Thomsons Creek	25	1,618 ¹³	25	1,618 ¹³											
Lower tributaries	72	8,344 ¹⁴	58	7,686 ¹⁵	(8)	(645 ¹⁶)	5	12	(1)	(-)					
Below Campground	42	5388 ¹⁷	4	41	(26)	(4,735 ¹⁸)			(7)	(11)				(5)	(601 ¹⁹)
Total	279	41,694	200	31,146	48	5,743	10	178	8	11	4	4,015	9	601	
Total consumptive takes	242	24,357	174	23,306	43	888	9	136	8	11	2	15	6	1	

Notes: 'No.' refers to the total number of resource consents within the sub-catchment.

¹ 'L/s' refers to the total maximum allocated flow in L/s, rounded to nearest L/s. Some takes do not have volume information; these will be investigated further during Stage 2 of the consent review.

² Includes takes classified as "supplementary allocation" or are unclassified. The unclassified takes are shown in brackets and will be investigated further during Stage 2 of the consent review.

³ Represents the non-consumptive hydro-electric take from Falls Dam. During the irrigation season most of this water is reused for downstream irrigation and not included in the consumptive total.

⁴ The Ida Burn sub-catchment includes the Mt Ida Race.

⁵ Includes 1,119 L/s (9 resource consents) which is considered a re-take and not included in the consumptive total.

⁶ Includes 1,105 L/s (8 resource consents) which is considered a re-take and not included in the consumptive total.

⁷ Includes 14 L/s (1 resource consent) which is considered a re-take and not included in the consumptive total.

⁸ The Pool Burn sub-catchment includes the Ida Valley Irrigation Scheme takes from the Manorburn Reservoir and Manor Burn.

⁹ Includes 5,236 L/s (9 resource consents) which is considered a re-take and not included in the consumptive total.

¹⁰ Includes 70 L/s (3 resource consents) which is considered a re-take and not included in the consumptive total.

¹¹ Includes 28 L/s (1 resource consent) which is considered a re-take and not included in the consumptive total.

¹² Includes 42 L/s (1 resource consent) which is considered a re-take and not included in the consumptive total.

¹³ The resource consent has no maximum rate and considered a re-take and not included in the consumptive total.

¹⁴ Includes 56 L/s (1 resource consent) which is considered a re-take and not included in the consumptive total.

¹⁵ Includes 1,726 L/s (10 resource consents) which is considered a re-take and not included in the consumptive total.

¹⁶ Includes 1,415 L/s (7 resource consents) which is considered a re-take and not included in the consumptive total.

¹⁷ Includes 311 L/s (3 resource consents) which is considered a re-take and not included in the consumptive total.

¹⁸ Includes 600 L/s (3 resource consents) of groundwater which is associated with the flood protection scheme around Alexandra and 4,530 L/s (1 consent) from Lake Dunstan which has not been exercised none of which are included in the consumptive total.

¹⁹ Includes 4,530 L/s (1 consent) from Lake Dunstan which has not been exercised and is not included in the consumptive total.

²⁰ Includes 600 L/s (3 resource consents) of groundwater which is associated with the flood protection scheme around Alexandra and is not included in the consumptive total.

Table 2: Existing surface water and groundwater takes in the Manuherikia catchment; per consent holder.

Holder	Total		Deemed Permits ¹		Main sub-catchment(s)
	No.	L/s	No.	L/s	
Private	203 ²	12,585 ³	89	5,543 ⁴	-
Blackstone Irrigation Scheme	3	536	2	508	Upper Tributaries
Galloway Irrigation Scheme	3	730	3	730	Lower Tributaries
Hawkdun Idaburn Irrigation Scheme	17 ⁵	3,714 ⁶	-	-	Ida Burn
Ida Valley Irrigation Scheme	21	10,570 ⁷	21	10,570 ⁷	Pool Burn
Manuherikia Irrigation Scheme	17	9,708 ⁸	16	5,178 ⁸	Lower Tributaries
Omakau Irrigation Scheme	15	3,850 ⁹	15	3,850 ⁹	Upper Tributaries, Dunstan Creek, Lauder Creek, Thomsons Creek
Total	279	41,694	146	26,379	
Total consumptive takes	242	24,357	124	19,334	

Notes: ¹ Assumed to be all resource consents that expire on 10 January 2021.

² An additional 13 takes are located in Taieri catchment within the potential command area of the proposed Mt Ida Dam.

³ Includes the 4,000 L/s non-consumptive hydro- electric take from Falls Dam, 600 L/s (3 consents) of groundwater which is associated with the flood protection scheme around Alexandra and 154 L/s (4 resource consents) which is considered a re-take, all of which are not included in the consumptive total.

⁴ Includes 112 L/s (3 resource consents) which is considered a re-take and not included in the consumptive total.

⁵ An additional 11 takes are located in Taieri catchment within the potential command area of the proposed Mt Ida Dam.

⁶ Includes 1,119 L/s (9 resource consents) which is considered a re-take and not included in the consumptive total.

⁷ Includes 5,236 L/s (9 resource consents) which is considered a re-take and not included in the total. Most of which is associated with operation of the Poolburn and Manorburn reservoirs.

⁸ Includes 6,228 L/s (9 resource consents) which is considered a re-take or a take from Lake Dunstan which has not been exercised neither of which are included in the consumptive total.

⁹ Includes two resource consents with no maximum rate attached which are considered re-takes and are not included in the consumptive total.

Table 3: List of existing surface water and groundwater takes in the Manuherikia catchment.

Consent Holder	Consent Number	Activity	Max Rate (L/s)	Max Daily Volume (m3)	Max Annual Volume (m3)	ORC Allocation category	Sub-catchment ¹	Consumptive Yes/No ²	Expiry Date	Type
Alan Russell Williamson and Annette Elizabeth Williamson	RM11.198.01	Irrigation	0	0	0		Pool Burn	Yes	08/01/2046	RMA
Alan Russell Williamson and Annette Elizabeth Williamson	RM11.279.01	Irrigation	0	0	0	Supplementary	Pool Burn	Yes	01/23/2047	RMA
Alan William Gillespie, Janice Ann Gillespie and Iain Grant Fyfe	2009.432.V1	Irrigation , Single Household/Stockwater	56	4800	572500	Primary	Tribs Upstream of Ophir	Yes	10/01/2026	RMA
Alistair Eckhoff	RM12.126.01	Irrigation, Dairy Shed/Stockwater	22	0	36263	Supplementary Block 1	Pool Burn	Yes	12/07/2022	RMA
Almondell Farms Limited	95A04	Irrigation	49	0	0	Primary	Pool Burn	Yes	10/01/2021	Deemed
Armstrong N A Armstrong G L Armstrong W M	98358	Irrigation , Single Household/Stockwater	7	0	0	Primary	Pool Burn	Yes	08/06/2028	RMA
Armstrong N A Armstrong G L Armstrong W M	98360	Irrigation , Single Household/Stockwater	7	0	0	Primary	Pool Burn	Yes	08/06/2028	RMA
Armstrong W A Armstrong J B Armstrong J W A	WR2212N	Irrigation	56	4800	1752000	Primary	Lauder Creek	Yes	10/01/2021	Deemed
Barry John Drake	2002.681.V1	Irrigation	28	2420	0	Primary	Tribs Downstream of Ophir	No	10/01/2021	Deemed
Beckers Transport Limited	2010.150.V1	Commercial/Industrial	5	144	8640	Primary	Ida Burn	Yes	12/01/2037	RMA
Bernard William Kane, Mary Yvonne Kane and Practice Management Tr	2002.408	Irrigation	56	4800	0	Primary	Tribs Upstream of Ophir	Yes	02/01/2023	RMA
Blackstone Irrigation Company Limited	2000.516.V1	Irrigation , Single Household/Stockwater,	438	0	0	Primary	Tribs Upstream of Ophir	Yes	10/01/2021	Deemed
Blackstone Irrigation Company Limited	2000.517.V1	Irrigation , Single Household/Stockwater, Amenity/Environment Enhancement	70	6048	0	Primary	Tribs Upstream of Ophir	Yes	10/01/2021	Deemed
Blackstone Irrigation Company Limited	RM12.410.01	Irrigation	28	0	0		Tribs Upstream of Ophir	Yes	06/02/2015	RMA
Brian Kitchener Thurlow, Lynne Mary Thurlow and Cook Allan Gibson	95371	Irrigation	28	0	0	Primary	Ida Burn	Yes	10/01/2021	Deemed
Brian Michael Smith, Karen Kelsey Smith and MacDonald and Associa	2001.773	Irrigation , Single Household/Stockwater	31	0	0	Primary	Thomsons Creek	Yes	10/01/2021	Deemed
Brian Michael Smith, Karen Kelsey Smith and MacDonald and Associa	2001.774	Irrigation	2	200	45000	Primary	Thomsons Creek	Yes	03/15/2019	RMA
Brian Michael Smith, Karen Kelsey Smith and MacDonald and Associa	95892	Irrigation , Single Household/Stockwater	31	0	0	Primary	Thomsons Creek	Yes	10/01/2021	Deemed
Brian Michael Smith, Karen Kelsey Smith and MacDonald and Associa	99468	Irrigation , Single Household/Stockwater	31	0	0	Primary	Thomsons Creek	Yes	10/01/2021	Deemed
Brian Richard Brown and Glenda Joy Brown	2003.370.V1	Irrigation , Single Household/Stockwater	13	1100	54000	Primary	Tribs Downstream of Ophir	Yes	03/02/2014	RMA
Cairnhill Limited	RM10.449.01	Irrigation	0	0	0	Primary	Tribs Upstream of Ophir	Yes	01/15/2046	RMA
Cairnhill Limited	RM10.449.02	Irrigation	0	0	0	Primary	Tribs Upstream of Ophir	Yes	01/15/2046	RMA
Calder Farming Company Limited	97844	Irrigation	167	0	0	Primary	Dunstan Creek	Yes	10/01/2021	Deemed
Calder Farming Company Limited	WR1434N	Irrigation	28	2400	876000	Primary	Dunstan Creek	Yes	10/01/2021	Deemed
Central Otago District Council	99169	Water Supply Town Supply	35	1000	0	Primary	Tribs Upstream of Ophir	Yes	07/01/2035	RMA
Central Otago District Council	WR736B	Domestic Communal, Water Supply Town Supply	28	2400	876000	Primary	Tribs Upstream of Ophir	Yes	10/01/2021	Deemed
Chris Allan Robinson and Rewa Elizabeth Robinson	RM11.049.01	Irrigation	50	0	36225	Primary	Tribs Downstream of Ophir	Yes	08/30/2046	RMA
Clare Allen Booth and Elizabeth Claire Booth	93447	Irrigation	83	0	0	Primary	Lauder Creek	Yes	10/01/2021	Deemed
Colin Gordon McKnight	94532	Irrigation	28	2400	0	Primary	Tribs Upstream of Ophir	Yes	10/01/2021	Deemed
Coolavin Farms Limited	2000.675	Irrigation	56	0	0	Primary	Thomsons Creek	Yes	04/01/2021	RMA
David Alexander Pattillo, Bridget Hope Henry and Cook Allan Gibs	4157B	Irrigation , Water Supply Domestic Communal	56	0	0	Primary	Dunstan Creek	Yes	10/01/2021	Deemed
David Bruce Naylor and Gillian Christine Naylor	2000.644.V2	Single Household/ Stockwater, Mining	56	0	0	Primary	Lauder Creek	Yes	10/01/2021	Deemed
David Bruce Naylor and Gillian Christine Naylor	99654.V1	Irrigation	83	0	0	Primary	Tribs Upstream of Ophir	Yes	10/01/2021	Deemed
David James Hutton and Nicola Anne Hutton	2002.257	Irrigation	14	605	18749	Primary	Pool Burn	Yes	06/30/2022	RMA
Donald Edward MacLean	2000.608	Irrigation	56	0	0	Primary	Thomsons Creek	Yes	03/31/2021	RMA
Donald Mark Maclean	2000.606	Irrigation	56	0	0	Primary	Thomsons Creek	Yes	03/31/2021	RMA
Edward James Mulholland and John Edward Mulholland	3925B	Irrigation	83	0	0	Primary	Ida Burn	Yes	10/01/2021	Deemed
Evans W L Evans N L as Trustees of the Thyme Heritage Trust	2000.238	Irrigation	14	0	0		Tribs D/S Campground	Yes	08/01/2020	RMA
Evans W L Evans N L as Trustees of the Thyme Heritage Trust	97430	Irrigation	14	0	0	Primary	Tribs D/S Campground	Yes	10/01/2021	Deemed
Falls Dam Company Limited	98305	Power Generation	4000	0	0	Primary	Falls Dam	No	09/30/2033	RMA
Frederick Gemmel McKnight and Patricia Margaret McKnight	99460	Irrigation	278	0	0	Primary	Pool Burn	Yes	10/01/2021	Deemed
Galloway Irrigation Society Incorporated	2001.220	Irrigation	425	36677	0	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Galloway Irrigation Society Incorporated	2001.975	Irrigation	222	19200	7008000	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Galloway Irrigation Society Incorporated	2001.976	Irrigation	83	0	0		Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Geoffrey David McAtamney, Nicola Jane McAtamney and Tarbert Trust	2009.434	Irrigation	56	0	829150	Primary	Tribs Upstream of Ophir	Yes	10/01/2046	RMA
Geoffrey Thomas Clouston	2004.788	Irrigation	22	1900	360000	Primary	Lauder Creek	Yes	05/01/2025	RMA
Geoffrey Thomas Clouston	98122	Irrigation	56	0	0	Primary	Lauder Creek	Yes	10/01/2021	Deemed
Geoffrey Thomas Clouston	99525	Irrigation	56	0	0	Primary	Lauder Creek	Yes	01/01/2020	RMA
George Anthony Kelliher	2000.243	Irrigation , Mining	83	0	0	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
George Anthony Kelliher	2000.265	Irrigation , Mining	28	0	0	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
George Frederick Tucker, Helen Ruth Tucker and GCA Legal Trustee	98572	Irrigation	111	0	0	Primary	Lauder Creek	Yes	10/01/2021	Deemed
George Frederick Tucker, Helen Ruth Tucker and Roger Norman Macas	98488	Irrigation	111	0	0	Primary	Lauder Creek	Yes	10/01/2021	Deemed
German Creek Holdings Limited	WR4892N	Irrigation, Single Household/Stockwater	278	24000	8760000	Primary	Dunstan Creek	Yes	10/01/2021	Deemed
Greenfield Rural Opportunities Limited	94675	Irrigation	28	0	0	Primary	Tribs Upstream of Ophir	Yes	10/01/2021	Deemed
Greenfield Rural Opportunities Limited	99281	Irrigation	42	0	0	Primary	Tribs Upstream of Ophir	Yes	10/01/2021	Deemed

Consent Holder	Consent Number	Activity	Max Rate (L/s)	Max Daily Volume (m3)	Max Annual Volume (m3)	ORC Allocation category	Sub-catchment ¹	Consumptive Yes/No ²	Expiry Date	Type
Grenaby Farm Limited	RM11.055.02.V1	Irrigation	14	1200	144000	Primary	Ida Burn	Yes	04/18/2041	RMA
Hamish Brent McLellan being trustee of the Clutha Water Trust	2004.823	Irrigation	0	0	0	Primary	Tribs D/S Campground	Yes	05/30/2030	RMA
Hawkdun Idaburn Irrigation Company Limited	2001.293	Irrigation , Water Supply Domestic Communal	170	14688	0	Primary	Ida Burn	No	12/01/2037	RMA
Hawkdun Idaburn Irrigation Company Limited	2001.294	Irrigation	28	0	0		Ida Burn	Yes	12/01/2037	RMA
Hawkdun Idaburn Irrigation Company Limited	2001.297	Irrigation , Water Supply Domestic Communal	283	24451	0	Primary	Mt Ida Water Race	No	12/01/2037	RMA
Hawkdun Idaburn Irrigation Company Limited	2001.298	Irrigation , Water Supply Domestic Communal	425	36720	0	Primary	Ida Burn	No	12/01/2037	RMA
Hawkdun Idaburn Irrigation Company Limited	2001.299	Irrigation	14	0	0		Ida Burn	No	12/01/2037	RMA
Hawkdun Idaburn Irrigation Company Limited	2001.300	Irrigation , Water Supply Domestic Communal	57	4925	0	Primary	Ida Burn	No	12/01/2037	RMA
Hawkdun Idaburn Irrigation Company Limited	2001.301	Irrigation , Water Supply Domestic Communal	57	4925	0	Primary	Ida Burn	No	12/01/2037	RMA
Hawkdun Idaburn Irrigation Company Limited	2001.302	Irrigation , Water Supply Domestic Communal	57	4925	0	Primary	Ida Burn	No	12/01/2037	RMA
Hawkdun Idaburn Irrigation Company Limited	2001.303	Irrigation , Water Supply Domestic Communal	28	2419	0	Primary	Ida Burn	No	12/01/2037	RMA
Hawkdun Idaburn Irrigation Company Limited	2001.304	Irrigation , Water Supply Domestic Communal	28	2419	0	Primary	Ida Burn	No	12/01/2037	RMA
Hawkdun Idaburn Irrigation Company Limited	2001.288.V1	Irrigation , Water Supply Domestic Communal	165	14256	0	Primary	Ida Burn	Yes	12/01/2037	RMA
Hawkdun Idaburn Irrigation Company Limited	2001.289.V1	Irrigation	85	0	0		Ida Burn	Yes	12/01/2037	RMA
Hawkdun Idaburn Irrigation Company Limited	2001.290.V1	Irrigation , Water Supply Domestic Communal	28	2419	0	Primary	Ida Burn	Yes	12/01/2037	RMA
Hawkdun Idaburn Irrigation Company Limited	2001.291.V2	Irrigation , Water Supply Domestic Communal	137	11837	0	Primary	Ida Burn	Yes	12/01/2037	RMA
Hawkdun Idaburn Irrigation Company Limited	2001.295.V1	Irrigation , Water Supply Domestic Communal	227	19613	0	Primary	Ida Burn	Yes	12/01/2037	RMA
Hawkdun Idaburn Irrigation Company Limited	2006.283.V1	Single Household/Stockwater, Water Supply Domestic Communal	5	432	157248	Primary	Ida Burn	Yes	12/01/2037	RMA
Hawkdun Idaburn Irrigation Company Limited	RM13.059.01	Irrigation	1920	0	0	Primary	Ida Burn	Yes	12/01/2037	RMA
Hawkdun Pastoral Limited	96208	Irrigation	56	4800	0	Primary	Tribs Upstream of Ophir	Yes	10/01/2021	Deemed
Highland Springs Water Company Limited	2007.241	Irrigation	0	0	0		Tribs D/S Campground	Yes	05/10/2027	RMA
Hill D R Hill S A	97374	Irrigation	28	0	0	Primary	Thomsons Creek	Yes	01/20/2018	RMA
Hill D R Hill S A	97375	Irrigation	28	0	0	Primary	Thomsons Creek	Yes	01/20/2018	RMA
Ian Robert Brown	WR432B	Single Household/ Stockwater, Irrigation	167	14400	5256000	Primary	Lauder Creek	Yes	10/01/2021	Deemed
Ida Valley Irrigation Company Limited	2001.593	Irrigation	142	0	0	Primary	Pool Burn	No	10/01/2021	Deemed
Ida Valley Irrigation Company Limited	2001.594	Irrigation	57	0	0	Primary	Pool Burn	Yes	10/01/2021	Deemed
Ida Valley Irrigation Company Limited	2001.595	Irrigation	170	0	0	Primary	Pool Burn	Yes	10/01/2021	Deemed
Ida Valley Irrigation Company Limited	2001.597	Irrigation	566	0	0	Primary	Pool Burn	No	10/01/2021	Deemed
Ida Valley Irrigation Company Limited	2001.606	Irrigation	566	0	0	Primary	Pool Burn	No	10/01/2021	Deemed
Ida Valley Irrigation Company Limited	2001.607	Irrigation	85	0	0	Primary	Pool Burn	No	10/01/2021	Deemed
Ida Valley Irrigation Company Limited	2001.608	Irrigation	113	0	0	Primary	Pool Burn	No	10/01/2021	Deemed
Ida Valley Irrigation Company Limited	2001.613	Irrigation	57	0	0	Primary	Pool Burn	Yes	10/01/2021	Deemed
Ida Valley Irrigation Company Limited	2001.614	Irrigation	57	0	0	Primary	Pool Burn	Yes	10/01/2021	Deemed
Ida Valley Irrigation Company Limited	2001.616	Irrigation	57	0	0	Primary	Pool Burn	Yes	10/01/2021	Deemed
Ida Valley Irrigation Company Limited	2001.579.V1	Irrigation	2151	0	0	Primary	Manorburn Reservoir	No	10/01/2021	Deemed
Ida Valley Irrigation Company Limited	2001.581.V1	Irrigation	1132	0	0	Primary	Pool Burn	No	10/01/2021	Deemed
Ida Valley Irrigation Company Limited	2001.589.V1	Irrigation	142	12226	0	Primary	Pool Burn	Yes	10/01/2021	Deemed
Ida Valley Irrigation Company Limited	2001.590.V1	Irrigation	142	12226	0	Primary	Pool Burn	Yes	10/01/2021	Deemed
Ida Valley Irrigation Company Limited	2001.591.V1	Irrigation	85	7335	0	Primary	Pool Burn	Yes	10/01/2021	Deemed
Ida Valley Irrigation Company Limited	2001.596.V1	Irrigation	57	4890	0	Primary	Pool Burn	No	10/01/2021	Deemed
Ida Valley Irrigation Company Limited	2001.598.V1	Irrigation	1415	122256	0	Primary	Pool Burn	Yes	10/01/2021	Deemed
Ida Valley Irrigation Company Limited	2001.599.V1	Irrigation	425	0	0	Primary	Pool Burn	No	10/01/2021	Deemed
Ida Valley Irrigation Company Limited	2001.600.V1	Irrigation	1132	97805	0	Primary	Pool Burn	Yes	10/01/2021	Deemed
Ida Valley Irrigation Company Limited	2001.604.V1	Irrigation	1981	171158	62472816	Primary	Pool Burn	Yes	10/01/2021	Deemed
Ida Valley Irrigation Company Limited	2001.611.V1	Irrigation	42	3668	0	Primary	Pool Burn	Yes	10/01/2021	Deemed
Ida Valley Station Limited	97288	Irrigation	28	0	0	Primary	Pool Burn	Yes	10/01/2021	Deemed
James Sinclair Veitch Lynne Kathleen Fauchelle and Ian Lawrence	4157	Irrigation , Water Supply Domestic Communal	56	0	0	Primary	Dunstan Creek	Yes	10/01/2021	Deemed
James William Alexander Armstrong	2002.399	Irrigation	56	0	0	Primary	Lauder Creek	Yes	09/01/2022	RMA
James William Alexander Armstrong	3707	Irrigation	56	0	0	Primary	Lauder Creek	Yes	10/01/2021	Deemed
John Francis Anderson, Elizabeth Anne Anderson and William Thomas	RM12.544.01	Irrigation	3	276	36225	Primary	Tribs Downstream of Ophir	Yes	01/24/2043	RMA
John Henry McNally, Rayleen Janet McNally and Anderson Lloyd Trus	2004.955.V1	Irrigation	28	2400	294000	Primary	Ida Burn	Yes	10/02/2015	RMA
John Henry McNally, Rayleen Janet McNally and Anderson Lloyd Trus	3925.V1	Irrigation	83	0	0	Primary	Ida Burn	Yes	10/01/2021	Deemed
John Kinaston McArthur	2000.093	Single Household/ Stockwater, Irrigation	56	0	0	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
John Pieter Hoppen, Christina Marie Thian, Selwyn David Pemberton and Barbara Ann Pemberton	2005.389.V1	Irrigation	0	0	0	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Karratha Downs Limited	99279	Irrigation	28	0	0	Primary	Pool Burn	Yes	10/01/2021	Deemed
Karratha Downs Limited	99280	Irrigation	56	0	0	Primary	Pool Burn	Yes	10/01/2021	Deemed
Kenneth Donald Edgar	2000.437	Irrigation	28	0	0	Primary	Pool Burn	Yes	03/01/2021	RMA
Larkhall Limited	2002.187	Irrigation	139	0	0	Primary	Tribs Upstream of Ophir	Yes	10/01/2021	Deemed
Larkhall Limited	99477	Irrigation , Single Household/Stockwater	83	0	0	Primary	Tribs Upstream of Ophir	Yes	10/01/2021	Deemed
Lionel Vivian Sinnamon	2001.138	Irrigation	7	0	0	Primary	Pool Burn	Yes	03/31/2021	RMA

Consent Holder	Consent Number	Activity	Max Rate (L/s)	Max Daily Volume (m3)	Max Annual Volume (m3)	ORC Allocation category	Sub-catchment ¹	Consumptive Yes/No ²	Expiry Date	Type
Little Valley Station Limited	97222	Irrigation	31	0	0	Primary	Tribs Downstream of Ophir	Yes	06/30/2018	RMA
Long Gully Rural Water Scheme Incorporated	96020	Domestic Communal	2	140	51100	Primary	Tribs Downstream of Ophir	Yes	12/31/2017	RMA
Manuherikia Irrigation Co-operative Society Limited	2001.510	Irrigation	226	19561	4440338	Primary	Tribs Downstream of Ophir	No	10/01/2021	Deemed
Manuherikia Irrigation Co-operative Society Limited	2001.513	Irrigation	170	14671	3330253	Primary	Tribs Downstream of Ophir	No	10/01/2021	Deemed
Manuherikia Irrigation Co-operative Society Limited	2001.514	Irrigation	226	0	0		Tribs Downstream of Ophir	No	10/01/2021	Deemed
Manuherikia Irrigation Co-operative Society Limited	2001.515	Irrigation	85	7335	1665127	Primary	Tribs Downstream of Ophir	No	10/01/2021	Deemed
Manuherikia Irrigation Co-operative Society Limited	2001.516	Irrigation	283	24451	5550422	Primary	Tribs Downstream of Ophir	No	10/01/2021	Deemed
Manuherikia Irrigation Co-operative Society Limited	2001.517	Irrigation	85	0	0		Tribs Downstream of Ophir	No	10/01/2021	Deemed
Manuherikia Irrigation Co-operative Society Limited	2001.518	Irrigation	85	7335	1665127	Primary	Tribs Downstream of Ophir	No	10/01/2021	Deemed
Manuherikia Irrigation Co-operative Society Limited	2003.905	Irrigation	538	46457	1054580 2	Primary	Tribs Downstream of Ophir	No	10/01/2021	Deemed
Manuherikia Irrigation Co-operative Society Limited	2001.505.V1	Irrigation	2830	24451 2	0	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Manuherikia Irrigation Co-operative Society Limited	2001.507.V1	Irrigation	283	24451	0	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Manuherikia Irrigation Co-operative Society Limited	2001.508.V1	Irrigation	142	12226	0	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Manuherikia Irrigation Co-operative Society Limited	2001.511.V1	Irrigation	57	4890	0	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Manuherikia Irrigation Co-operative Society Limited	2001.568.V1	Irrigation	113	9781	0	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Manuherikia Irrigation Co-operative Society Limited	2001.569.V1	Irrigation	14	0	0		Tribs D/S Campground	Yes	10/01/2021	Deemed
Manuherikia Irrigation Co-operative Society Limited	2002.725.V1	Irrigation	4530	0	0		Tribs D/S Campground	No	04/01/2038	RMA
Manuherikia Irrigation Co-operative Society Limited	23284/121	Irrigation	28	2400	876000	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Manuherikia Irrigation Co-operative Society Limited	23284/123	Irrigation	14	1200	438000	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Martin Kim Heaney and Mary Vaughan Heaney	95978	Irrigation	42	0	0	Primary	Ida Burn	Yes	10/01/2021	Deemed
Martin Kim Heaney and Mary Vaughan Heaney	96062	Irrigation	56	4800	1752000	Primary	Ida Burn	Yes	10/01/2021	Deemed
Mary Therese Flannery and Wesley John Flannery	2002.585	Irrigation	28	2376	504000	Primary	Pool Burn	Yes	10/01/2021	Deemed
Matakanui Station Limited	4005	Irrigation	56	0	0	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Matakanui Station Limited	4006	Irrigation	56	0	0	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Matangi Station Limited	96167	Irrigation	56	4800	0	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Matangi Station Limited	96519	Irrigation	56	0	0		Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Matangi Station Limited	97124	Irrigation	28	0	0	Primary	Tribs Downstream of Ophir	Yes	05/01/2017	RMA
Matangi Station Limited	97141	Irrigation	28	0	0	Primary	Tribs Downstream of Ophir	Yes	05/01/2017	RMA
McKnight Farming Limited	2007.224	Irrigation , Single Household/Stockwater	56	4800	1752000	Primary	Pool Burn	Yes	10/01/2021	Deemed
McLellan S McLellan G	99481	Irrigation	2	0	0		Tribs D/S Campground	Yes	10/22/2019	RMA
Morris Samuel Leask and Irene Margaret Leask	2010.191.V1	Irrigation	56	4800	644000	Primary	Tribs Upstream of Ophir	Yes	07/06/2031	RMA
Mount Campbell Station Limited	97761	Irrigation	83	0	0	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Mount Campbell Station Limited	97762	Irrigation	83	0	0		Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Mount Campbell Station Limited	97763	Irrigation	56	4800	1752000	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Mount Campbell Station Limited	97764	Irrigation	56	4800	1752000	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Mount Campbell Station Limited	97765	Irrigation	83	0	0	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Mount Campbell Station Limited	97832	Irrigation	83	0	0		Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Moutere Station Limited	2001.087	Irrigation , Single Household/Stockwater	7	0	0	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Moutere Station Limited	2001.088	Irrigation	56	0	0	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Moutere Station Limited	2003.019	Irrigation	56	0	0	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Moutere Station Limited	2003.024	Irrigation , Irrigation	28	2445	0	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Mt St Bathans Company Limited	RM11.129.01	Irrigation, Dairy Shed/Stockwater	83	0	0	Primary	Dunstan Creek	Yes	06/21/2046	RMA
Murray Ashton	2000.654	Irrigation	111	9600	0	Primary	Tribs Downstream of Ophir	Yes	05/01/2021	RMA
Murray Ashton	97398	Irrigation	83	0	0	Primary	Tribs Downstream of Ophir	Yes	01/20/2018	RMA
Murray Ashton	WR1001A	Irrigation	389	33600	1226400 0	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Murray David Allen and Sandra Joy Allen	2005.131.V1	Irrigation , Single Household/Stockwater	3	192	31644	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Murray John Heckler	94548	Irrigation	56	0	0	Primary	Lauder Creek	Yes	10/01/2021	Deemed
Murray John Heckler and Annette Esther Heckler	96779	Irrigation	28	2400	876000	Primary	Lauder Creek	Yes	10/01/2021	Deemed
Murray John Heckler and Annette Esther Heckler	RM11.207.01	Irrigation	56	0	275650	Primary	Tribs Upstream of Ophir	Yes	09/01/2046	RMA
N S & E N Hinton Limited	2002.768	Irrigation	28	2420	0	Primary	Tribs Upstream of Ophir	No	10/01/2021	Deemed
Nicholas Andrew Loughnan and Faith Annette Gray	2003.298	Irrigation	42	3600	50400	Primary	Tribs Downstream of Ophir	Yes	06/28/2014	RMA
Nicolson Farms Limited	97116	Irrigation	7	600	0	Primary	Pool Burn	Yes	10/01/2021	Deemed
Nicolson Farms Limited	97117	Irrigation	21	0	0	Primary	Pool Burn	Yes	10/01/2021	Deemed
Noone J T Noone R J	96567	Irrigation	21	0	0	Primary	Pool Burn	Yes	07/31/2017	RMA
O'Brien J R O'Brien J A	2000.531	Irrigation	14	0	0	Primary	Tribs Downstream of Ophir	Yes	01/31/2021	RMA
Omakau Area Irrigation Company Limited	2001.702	Irrigation	1981	0	0	Primary	Tribs Upstream of Ophir	Yes	10/01/2021	Deemed
Omakau Area Irrigation Company Limited	2001.706	Irrigation	426	0	0	Primary	Thomsons Creek	Yes	10/01/2021	Deemed
Omakau Area Irrigation Company Limited	2001.708	Irrigation	425	0	0	Primary	Dunstan Creek	Yes	10/01/2021	Deemed
Omakau Area Irrigation Company Limited	2001.710	Irrigation	425	0	0	Primary	Lauder Creek	Yes	10/01/2021	Deemed
Omakau Area Irrigation Company Limited	2001.711	Irrigation	28	0	0	Primary	Thomsons Creek	Yes	10/01/2021	Deemed
Omakau Area Irrigation Company Limited	2001.703.V1	Commercial/Industrial	0	0	0	Primary	Tribs Upstream of Ophir	No	10/01/2021	Deemed
Omakau Area Irrigation Company Limited	2001.712.V1	Irrigation	85	0	0	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Omakau Area Irrigation Company Limited	2001.713.V2	Irrigation	0	0	0	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Omakau Area Irrigation Company Limited	2001.714.V1	Irrigation	28	0	0	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Omakau Area Irrigation Company Limited	2001.715.V1	Irrigation	57	0	0	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Omakau Area Irrigation Company Limited	2001.716.V1	Irrigation	28	0	0	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Omakau Area Irrigation Company Limited	2001.717.V2	Irrigation	0	0	0		Tribs Downstream of Ophir	No	10/01/2021	Deemed
Omakau Area Irrigation Company Limited	2001.718.V2	Irrigation	85	7335	1782492	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Omakau Area Irrigation Company Limited	2001.719.V1	Irrigation	113	0	0	Primary	Thomsons Creek	Yes	10/01/2021	Deemed
Omakau Area Irrigation Company Limited	2001.720.V2	Irrigation	170	14671	3565053	Primary	Thomsons Creek	Yes	10/01/2021	Deemed
Ottrey Farms Limited	97839	Irrigation	167	0	0	Primary	Dunstan Creek	Yes	10/01/2021	Deemed
Pamela May Harrex and Thomas Earl Harrex	4222	Irrigation	28	0	0	Primary	Tribs Upstream of Ophir	Yes	10/01/2021	Deemed
Peter Lincoln Grieve and Lloyd & Associates Limited being Trustee	2004.315	Irrigation	6	180	64800	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Peter Thomas McLeod, Robyn Louise McLeod and William Arthur Craig	2001.136.V1	Irrigation	56	4800	0	Primary	Thomsons Creek	Yes	10/01/2021	Deemed
Phada Industries Limited	RM11.383.08	Irrigation, Dairy Shed/Stockwater	40	1728	19440	Supplementary	Tribs Upstream of Ophir	Yes	03/14/2042	RMA

Consent Holder	Consent Number	Activity	Max Rate (L/s)	Max Daily Volume (m3)	Max Annual Volume (m3)	ORC Allocation category	Sub-catchment ¹	Consumptive Yes/No ²	Expiry Date	Type
						Block 1				
Richard James Graham Parsons and Jacqueline Patricia Parsons	2000.247	Irrigation	56	0	0		Tribs D/S Campground	Yes	10/01/2021	Deemed
Richard James Morgan	2000.688	Irrigation	56	4800	0	Primary	Thomsons Creek	Yes	10/01/2021	Deemed
Richard James Morgan and Harris Inglis Hunter	93385	Irrigation	28	0	0	Primary	Thomsons Creek	Yes	02/01/2021	RMA
Richard James Morgan and Harris Inglis Hunter	2002.292.V1	Irrigation	56	0	0	Primary	Thomsons Creek	No	10/01/2021	Deemed
Richard James Morgan and Harris Inglis Hunter	93522A	Irrigation	56	0	0	Primary	Thomsons Creek	Yes	02/01/2021	RMA
Richard James Morgan and Harris Inglis Hunter being Trustees of t	93385B	Irrigation	28	0	0	Primary	Thomsons Creek	Yes	02/01/2021	RMA
Richard James Morgan and Harris Inglis Hunter being Trustees of t	93522B	Irrigation	56	0	0	Primary	Thomsons Creek	Yes	02/01/2021	RMA
Richard Rae Simpson, Julie Marie Simpson and Amberley Trustees Li	2005.404.V1	Irrigation	38	3280	482630	Primary	Tribs Downstream of Ophir	Yes	12/01/2025	RMA
Robert James Stewart Rutherford	2000.033	Irrigation , Single Household/Stockwater	83	0	0	Primary	Pool Burn	Yes	10/01/2021	Deemed
Ross William Naylor and Andrea Jane Naylor	93320	Irrigation	83	0	0	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Ross William Naylor and Andrea Jane Naylor	95585	Irrigation	56	0	0	Primary	Thomsons Creek	Yes	10/01/2021	Deemed
Ross William Naylor and David James Gibson being trustees o	97086	Irrigation	56	0	0	Primary	Thomsons Creek	Yes	07/01/2017	RMA
Ross William Naylor and David James Gibson being trustees o	98245	Irrigation	83	0	0	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Russell Dean Nevill	RM11.243.01.V1	Irrigation	90	0	226548	Supplementary Block 1	Pool Burn	Yes	09/01/2036	RMA
Scott Lindsay Vaughan, Scott Lindsay Clayton and Scott Alexander	2002.375	Irrigation	28	2400	0	Primary	Pool Burn	Yes	10/01/2021	Deemed
Scott Lindsay Vaughan, Scott Lindsay Clayton and Scott Alexander	93321	Irrigation	56	0	0	Primary	Pool Burn	Yes	10/01/2021	Deemed
Scrubby Gully Company Limited	2004.305.V1	Irrigation	11	960	57600	Primary	Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Shaky Bridge Enterprises Limited	2000.211	Irrigation	7	0	0	Primary	Tribs D/S Campground	Yes	06/30/2020	RMA
Shane William McBreen and Deborah Anne McBreen	2001.941	Irrigation	28	0	0	Primary	Pool Burn	Yes	10/01/2021	Deemed
Shirley Roylance Gordon-Glassford and Brian James Gordon-Glassfor	WR378B	Mining, Irrigation	28	2400	0	Primary	Lauder Creek	Yes	10/01/2021	Deemed
Shirley Roylance Gordon-Glassford and Brian James Gordon-Glassfor	WR380B	Irrigation	83	7200	2628000	Primary	Lauder Creek	Yes	10/01/2021	Deemed
Shirley Roylance Gordon-Glassford and Brian James Gordon-Glassfor	WR382B	Irrigation	56	4800	1752000	Primary	Lauder Creek	Yes	10/01/2021	Deemed
Southern Lakes Holdings Limited	94711	Irrigation	83	0	0	Primary	Dunstan Creek	Yes	12/01/2018	RMA
Southern Lakes Holdings Limited	97692	Irrigation	56	0	0	Primary	Dunstan Creek	Yes	01/20/2018	RMA
Southern Lakes Holdings Limited	97693	Irrigation	28	0	0	Primary	Dunstan Creek	Yes	01/20/2018	RMA
Southern Lakes Holdings Limited	98498	Irrigation , Single Household/Stockwater	56	0	0	Primary	Dunstan Creek	Yes	10/01/2021	Deemed
Southern Lakes Holdings Limited	99156	Irrigation	56	0	0	Primary	Dunstan Creek	Yes	10/01/2021	Deemed
Southern Lakes Holdings Limited	RM11.013.01	Irrigation	0	0	0		Dunstan Creek	Yes	10/01/2021	Deemed
Southern Lakes Holdings Limited	RM11.013.02	Irrigation	0	0	0		Tribs Upstream of Ophir	Yes	02/01/2046	RMA
St Bathans Water Board Incorporated	2002.503.V1	Irrigation	0	0	0		Tribs Upstream of Ophir	Yes	12/31/2023	RMA
St Bathans Water Board Incorporated	2002.504.V1	Irrigation	0	0	0		Tribs Upstream of Ophir	Yes	12/31/2023	RMA
St Bathans Water Board Incorporated	2003.917.V1	Domestic Communal, Water Supply Rural Scheme, Irrigation	42	3600	105957	Primary	Tribs Upstream of Ophir	No	12/31/2023	RMA
Stephanie Rethwisch	2004.715	Irrigation , Single Household/Stockwater	42	3600	18166	Primary	Tribs Downstream of Ophir	Yes	08/11/2014	RMA
Sutton J W Sutton A E	2001.041	Irrigation	60	0	0		Tribs D/S Campground	Yes	03/01/2021	RMA
Sydney Earl Attfield	97073	Irrigation	28	0	0		Tribs D/S Campground	Yes	10/01/2021	Deemed
Thomas Hugh Mee	2004.A35	Single Household/ Stockwater, Irrigation	7	600	180000	Primary	Dunstan Creek	Yes	09/01/2015	RMA
Thomas James Arthur and Noeline Mary Arthur	2004.651.V1	Irrigation	28	2000	420000	Primary	Pool Burn	Yes	10/01/2021	Deemed
Thomas Matthew Moran and Joanne Elizabeth Moran	2002.071.V1	Irrigation	56	0	0		Tribs Upstream of Ophir	Yes	09/01/2022	RMA
Tiger Hill Farm Limited	2000.607	Irrigation	56	0	0	Primary	Thomsons Creek	Yes	04/01/2021	RMA
Tiger Hill Farm Limited	2001.694	Irrigation	56	4800	0	Primary	Thomsons Creek	Yes	10/01/2021	Deemed
Trustees of the Colin G McKnight Trust	2002.026	Irrigation	56	4800	576000	Primary	Tribs Upstream of Ophir	Yes	10/01/2021	Deemed
Trustees of the Colin McKnight Trust	99268	Irrigation	111	0	0	Primary	Dunstan Creek	Yes	10/29/2019	RMA
Trustees of the Longslope Farm Trust	97109	Irrigation	28	0	0		Tribs Downstream of Ophir	Yes	10/01/2021	Deemed
Trustees of the Waldron Family Trust	98334	Irrigation	56	0	0	Primary	Tribs Downstream of Ophir	Yes	11/01/2018	RMA
William James Clouston	96613	Irrigation	21	0	0	Primary	Tribs Upstream of Ophir	Yes	01/20/2017	RMA
Wilson B W Wilson R A	97379	Irrigation	9	0	0	Primary	Thomsons Creek	Yes	07/31/2017	RMA
Total surface water (236 consents)			41003	1292959	151687365					
Alexandra Golf Club Incorporated	2004.389	Commercial/Industrial	0	0	0		Tribs D/S Campground	Yes	05/01/2024	RMA
Alexandra Holiday Park Limited	99497	Irrigation	4	363	32670	Primary	Tribs Downstream of Ophir	Yes	11/17/2029	RMA
Barry Kavanagh Badman and Esther Muriel Badman	2002.821.V1	Irrigation	4	0	0		Tribs D/S Campground	Yes	01/31/2028	RMA
Bell G Bell J	2000.322	Irrigation	6	0	0		Tribs D/S Campground	Yes	09/01/2020	RMA
Brian Douglas Seymour and Glennes Ellen Seymour	2003.294.V1	Water Supply Domestic Communal	0	0	0		Tribs D/S Campground	Yes	08/01/2028	RMA
Bruce's Hill Water Scheme Incorporated	2006.268.V1	Water Supply Domestic Communal	3	502	55860	Primary	Tribs Downstream of Ophir	Yes	07/01/2031	RMA
Carey John Weaver Elizabeth Ann Weaver and John Richard Whitehead	2002.751.V1	Irrigation	13	0	0		Tribs D/S Campground	Yes	12/03/2027	RMA
Central Otago District Council	2001.228.V1	Irrigation	20	300	27000	Primary	Tribs D/S Campground	Yes	09/01/2036	RMA
Central Otago District Council	2003.111.V2	Water Supply Domestic Communal	0	0	0		Tribs D/S Campground	Yes	07/24/2028	RMA
Central Otago District Council	RM13.194.01	Irrigation	0	0	0		Tribs D/S Campground	Yes	07/18/2038	RMA
Christopher John van der Werff	RM13.277.01	Irrigation	0	0	0		Tribs D/S Campground	Yes	07/24/2038	RMA
Director General, Department of Conservation -Use for Consents	2000.268	Irrigation	1	0	0		Tribs D/S Campground	Yes	08/01/2020	RMA
Divine International Limited	2001.148	Irrigation	4	0	0		Tribs D/S Campground	Yes	06/30/2036	RMA

Consent Holder	Consent Number	Activity	Max Rate (L/s)	Max Daily Volume (m3)	Max Annual Volume (m3)	ORC Allocation category	Sub-catchment ¹	Consumptive Yes/No ²	Expiry Date	Type
Doctors Point Limited	2003.296	Irrigation	0	0	0		Tribs D/S Campground	Yes	05/23/2028	RMA
Drumsara Wines Limited	2004.277.V1	Water Supply Domestic Communal	0	0	0		Tribs Downstream of Ophir	Yes	05/24/2029	RMA
Dunstan Golf Club Incorporated	2006.547	Irrigation	0	0	0		Tribs D/S Campground	Yes	09/07/2021	RMA
Glass Earth (New Zealand) Limited	2009.169	Mining	0	0	0		Pool Burn	Yes	10/20/2014	RMA
Glass Earth (New Zealand) Limited	2009.416	Mining	10	36	9000	Primary	Pool Burn	Yes	02/10/2015	RMA
Glass Earth (New Zealand) Limited	RM12.136.02.V1	Mining	0	0	0		Tribs Upstream of Ophir	Yes	07/25/2016	RMA
Highland Springs Water Company Limited	2004.463	Water Supply Domestic Communal	0	0	0		Tribs D/S Campground	Yes	08/24/2019	RMA
James Millar Love	96753	Irrigation, Commercial/Industrial	2	43	4458	Primary	Tribs Downstream of Ophir	Yes	07/31/2022	RMA
John Charles Robert Loudon	2005.016.V1	Irrigation	0	0	0		Tribs D/S Campground	Yes	02/01/2030	RMA
John Stewart Feron and Denise June Feron	2005.576	Water Supply Domestic Communal	0	0	0		Tribs D/S Campground	Yes	05/01/2031	RMA
John Walter Holdom and Checketts Mckay Trustees Limited as Truste	2005.238.V1	Irrigation	0	0	0		Tribs D/S Campground	Yes	11/01/2025	RMA
Julie Maree Davie and Aquarius Trustees Number 923300 Limited	2002.684.V1	Irrigation	3	0	0		Tribs D/S Campground	Yes	02/01/2023	RMA
Kenneth James Higgie	2003.820.V1	Irrigation	0	0	0		Tribs D/S Campground	Yes	12/15/2028	RMA
Lindsay Ian Bain and Shona Helen Bain being Trustees of the LI an	2006.535.V1	Water Supply Domestic Communal	2	0	9600	Primary	Tribs Downstream of Ophir	Yes	02/01/2032	RMA
McArthur Ridge Trustee Limited and Carla Jane Cunningham and Rona	2004.888.V1	Single Household/ Stockwater, Water Supply Domestic Communal	5	219	79935	Primary	Tribs Downstream of Ophir	Yes	02/14/2030	RMA
Minister for the Treasury	97461	Commercial/Industrial	1	0	0		Tribs D/S Campground	Yes	09/01/2017	RMA
Otago Regional Council, Director of Engineering	2000.532	Commercial/Industrial	200	0	0		Tribs D/S Campground	No	01/01/2036	RMA
Otago Regional Council, Director of Engineering	2000.662	Commercial/Industrial	200	0	0		Tribs D/S Campground	No	04/01/2036	RMA
Otago Regional Council, Director of Engineering	2000.666	Commercial/Industrial	200	0	0		Tribs D/S Campground	No	04/01/2036	RMA
Peter Gilmore Young and Kirsty Eunice Young	2006.257.V1	Irrigation	0	0	0		Tribs D/S Campground	Yes	04/01/2021	RMA
Pyle E A G & D M Family Trust	99680	Water Supply Domestic Communal	3	0	0		Tribs D/S Campground	Yes	06/01/2020	RMA
Riverview Contracting Limited	RM12.426.03	Mining	0	0	0		Pool Burn	Yes	11/17/2021	RMA
S Morris-Liley, John Benjamin Liley, Geoffrey Gordon Weller, Vivi	2000.445	Water Supply Domestic Communal	2	0	0		Tribs D/S Campground	Yes	11/01/2020	RMA
Simon Peter Curtin and Christina Helen Curtin	2005.531	Irrigation	0	0	0		Tribs D/S Campground	Yes	11/01/2025	RMA
Southern Earthworks Limited	2008.114	Mining	0	0	0		Pool Burn	Yes	11/01/2022	RMA
Springvale Central Water Co Limited	2005.718.V2	Irrigation	0	0	0		Tribs D/S Campground	Yes	01/18/2031	RMA
Springvale Water Supply Company Limited	2006.195	Water Supply Domestic Communal	1	20	6552	Primary	Tribs Downstream of Ophir	Yes	10/01/2031	RMA
Sweet Koura Enterprises Limited	99687	Water Supply Domestic Communal	7	0	0		Tribs D/S Campground	Yes	03/01/2020	RMA
Sydney Earl Attfield	2003.800	Irrigation	0	0	0		Tribs D/S Campground	Yes	08/16/2019	RMA
Trevor John Watt and Donna Lea Callaghan	2007.633.V1	Irrigation	0	0	0		Tribs D/S Campground	Yes	02/29/2028	RMA
Total Groundwater (43 consents)			691	1483	225075					
Total (279 consents)			41694	1294441	151912440					

Notes: ¹ Sub-catchments as assessed by Golder and represent the nine sub-catchments which are related to those used in the Manuherikia Valley Hydrological Model.
² Consumptive use as assessed by Golder.