To: The Chief Executive
Marlborough District Council
Seymour Square
P O Box 443
BLENHEIM 7315

RC 4020247

MARLBOROUGH DISTRICT COUNCIL

ISO 9002
Form Ref CI 265

APPLICATION FOR RESOURCE CONSENT

☐ ☐ ☐ ☐ ☐ ☐ ☐

APPLICANT:

Oakville Olives Ltd
(Mr/Mrs etc) (Full Name)

09 486 6560
(Contact phone number/s)

PO Box 33152, Takapuna, Auckland
(Postal Address)

(Fax)

(E-mail address)

AGENT DETAILS: (All correspondence regarding this application will be sent to this address)

MWH (NZ) Ltd – attn Helen Woodward

577 8203

31 George St, PO Box 57, Blenheim
(Address)

577 7485
(Fax)

helen.g.woodward@mwhglobal.com
(E-mail address)

TYPE OF CONSENT(S): (Please tick one or more boxes as appropriate)

Land Use	Subdivision	Water Permit	Discharge Permit	Coastal Permit
☐	☐	✓	☐	☐

DESCRIPTION: (Use and attach a separate sheet if necessary)

A description of the activity to which this application relates is:

To take underground water at a rate not exceeding 140 cubic metres per day from well P28w/3857, for trickle irrigation of a proposed vineyard, and for frost protection purposes between late Autumn and late-Spring.....

RECEIVED
11 MAR 2002
MARLBOROUGH DISTRICT COUNCIL

LOCATION:

Site address or description (e.g. rural number, distance from any landmark etc) New Renwick Road, east of Bells Road .....

.....

Legal Description .....Lot 2 DP 11837..... 2586168.742
(from your rates invoice) 5964186-545.

Property number.....
(from your rates invoice)

Registered owner of any land to which the application relates to (if other than the applicant)

.....
(Name)

.....
Address)

ATTACH:

- **Site plan**
- **Assessment of Environmental Effects**

Terms and Conditions:

1. *This application is made under Section 88 of the Resource Management Act 1991*
2. *The applicant and the applicant's agent are liable for all fees and charges relating to this application. Payment is due within thirty (30) days of the issue date of the invoice. Council will charge interest on overdue invoices at 15% per annum from the date of issue to the date of payment. In the event of non-payment the applicant and/or the agent will be liable for all legal and other costs of recovery.*
3. *Where this application is completed and signed by an agent the invoice for the fees will be sent to the agent and all communication regarding the application will be with the agent.*
4. *Information supplied with the application is subject to release under the Local Government Official Information and Meetings Act.*

I certify that the information provided is correct and I accept the above terms and conditions.

..... 8-3-02
Signature(s) ~~Applicant~~ / Agent (delete one) Date

If you have any queries regarding completion of this form please contact us on phone (03) 578 5249 or fax (03) 578 6866.

Applicants Name ...Oakville Olives Ltd.....

MARLBOROUGH DISTRICT COUNCIL

ISO 9002
Form Ref CI 312

INFORMATION TO SUPPORT AN APPLICATION for Water Permits (mandatory information)

This additional application form is required to be provided to supplement the Application For A Resource Consent. It is recommended you read the Council's brochures *Guidelines for Applying for a Resource Consent* and *Guidelines for Applying for a Water Permit.*
This form does not include any information necessary to support a Land Use Consent application that may also be required in association with your water permit – e.g. construction of a bore, intake structure, dam etc. Further information on these activities is available in the Council's brochure *Guidelines for Applying for a Land Use Consent.*

Please complete all sections that apply.

GENERAL:

1. Type of permit required:

Take surface water	☐	Dam water	☐
Take underground water	✓	Divert water	☐

2. Do you currently hold a water permit that is due to expire? No

If yes, please state the water permit number .....

3. Purpose for which water is required? .....
(Industrial, crop irrigation, etc)

Trickle/dripper irrigation, sprinkler frost protection .....

.....

4. Source of water Wairau Aquifer.....
(name of river, stream, aquifer, etc)

5. Maximum quantity of take .....litres per second
.....140..... cubic metres per day
.....980..... cubic metres per week

GROUNDWATER:

RECEIVED
11 MAR 2002
MARLBOROUGH DISTRICT COUNCIL

1. Well number (if existing well) ...P28w/3857.....

2. Depth from ground level to bottom of well 32.2.....metres

3. Diameter of well .....200.....millimetres

4. Has a pump test or well interference test been carried out on the well? Yes

If yes, please attach results.

6

SURFACE WATER:

1. Abstraction method .....
(e.g. intake gallery, suction hose, diversion channel, etc.)

2. Number of pumps to be used? .....

3. Rate of flow for pump .....litres per second.

4. Delivery pipe diameter .....millimetres

DAMMING OR DIVERTING WATER:

1. Please advise reason and purpose; proposed 2000 cubic metre storage pond, filled from well, to pump from for frost protection (details included in attached report). .....

.....

.....

2. Is the dam or diversion permanent / temporary? (circle one)

3. If temporary, give duration details .....

CONSUMPTION SCHEDULE

	CROP A	CROP B	CROP C	TOTALS
CROP TYPE *e.g. corn, olives, etc*	Grapes			
AREA *Number of hectares*	7			
APPLICATION RATE (m^3 / ha / day)	20			
QUANTITY *Cubic metres per day*	140			
IRRIGATION PERIOD *Circle months which apply*	Jan Feb Mar (Apr) / May Jun Jul Aug / Sep Oct Nov (Dec)	Jan Feb Mar Apr / May Jun Jul (Aug) / Sep Oct Nov (Dec)	Jan Feb Mar Apr / May Jun Jul Aug / Sep Oct Nov Dec	Jan Feb Mar Apr / May Jun Jul Aug / Sep Oct Nov Dec
METHOD *Trickle, spray, etc*	Trickle	Sprinkler (frost)		

Conversion formulae – 1,000 litres = 1 cubic metre (m^3) = 220 gallons 1 acre = 0.4047 hectare

MWH
MONTGOMERY WATSON HARZA

ISO 9001 SGS

Ref: 801/004511
Date: 11 March 2002

Marlborough District Council
PO Box 443
BLENHEIM

Attn: Manager, Regulatory Department

ALLOCATED TO
PEER REVIEW

Dear Sir
Oakville Olives Ltd-Application for a Water Permit

Please find enclosed an application for a water permit, submitted on behalf of Oakville Olives Ltd.

Please forward the invoice the client for Council processing costs.

Please also find enclosed a photograph of the well head, which is required in accordance with the well permit U010892. A water meter will be installed subject to obtaining the water permit.

If you have any queries regarding the application, please contact the undersigned.

Yours faithfully
MWH NZ Ltd

ALLOCATED TO
GPa
PEER REVIEW
JHe

Helen Woodward
Resource Management Consultant.

RECEIVED
11 MAR 2002

MWH New Zealand Limited
31 George Street
Blenheim
New Zealand

Telephone : 64-3-577 6592
Facsimile : 64-3-577 7485

Delivering Innovative Projects and Solutions Worldwide

MWH
MONTGOMERY WATSON HARZA

ISO 9001 SGS

Oakville Olives Limited

Application for Resource Consent

Water Permit Application to Take Underground Water

For assistance contact: Helen Woodward
MWH (NZ) Ltd
Ph (03) 577 8203
Fax (03) 577 7485
Mobile 025 619 5762
Email helen.g.woodward@mwhglobal.com

This report has been prepared solely for the benefit of Oakville Olives Limited. No liability is accepted by this company or any employee or sub-consultant of this company with respect to its use by any other person.

This disclaimer shall apply notwithstanding that the report may be made available to other persons for an application for permission or approval or to fulfil a legal requirement.

Quality Assurance Statement	
Oakville Olives Limited **Water Permit Application**	**Prepared by:** Helen Woodward **Reviewed by:** Paul Williams
Project Manager: Helen Woodward	**Approved for issue by:** March 2002 – 801/004511

MWH New Zealand Ltd
31 George Street
P O Box 57
Blenheim
Tel: 64-3-577 6592
Fax: 64-3-577 7485

Table Of Contents

Application For Resource Consent

Page No.

Background 2

Description of Site 2

Description of Proposal 3

Assessment of Alternatives 4

Statutory Requirements 4

Assessment of Effects on the Environment 6

Other Matters 7

Consultation 8

Conclusion 9

Appendices

1. Council Application Forms
2. Location Map
3. Well Location Map
4. Aquifer Map
5. Well Log
6. Pump Test Results

Background

1. Oakville Olives Limited have recently purchased a 7.9 hectare property at New Renwick Road, being Lot 2 DP 11837.

2. At the time of purchase, the property had only a domestic well serving both Lot 2, and, via an easement, the house on adjacent Lot 1 DP 11837.

3. A water permit of 20 cubic metres per day to provide the shared domestic and stock water supply to both allotments currently exists. This has since been transferred to the applicant.

4. In January 2002, the applicant installed an irrigation-supply well (P28w/3857), at the north- eastern end of the property, some 500 metres north of New Renwick Road.

5. A bore permit (U010892) to drill this well was granted in August 2001.

Description of Site

6. The subject site lies on the north side of New Renwick Road, just to the east of Bells Road. See location map in Appendix 1.

7. The property is rectangular in shape, and flat. It is currently being grazed on non-irrigated pasture.

8. A branch of Doctors Creek, an ephemeral watercourse, meanders across the top of the property from the western to the eastern boundaries.

9. The irrigation well is situated 45 metres from Doctors Creek, at the closest point. The creek then bends sharply away to the north then swings to the eastern boundary, a distance of 60 metres away.

10. Another irrigation well, owned by the eastern neighbour, lies 300 metres to the south of the applicant's well. The well locations are shown in Appendix 3.

11. The soils on the site are comprised of silt loam, with no apparent stones in the top two metres. The well driller found sandy gravels at approximately 24 metres below ground level. The water holding and drainage capacity of the silt loam is moderate.

Description of Proposal

12. The applicant proposes to take underground water to trickle irrigate, and frost protect, by overhead sprinklers, a proposed 7 hectare vineyard on Lot 2, from a well installed in January 2002 by Texco Drilling Ltd.

13. The maximum rate of irrigation required is 20 cubic metres per hectare per day, equating to a total volume of 140 cubic metres per day. This would only be required for a few weeks at the height of a dry season, in January-February. The requirement of the grapevines in mid-late December and March-April would be slightly lower at an average of approximately 18 cubic metres per hectare per day, equating to a total volume of 126 cubic metres per day.

14. Water is also required for frost protection during the spring. As this will require a higher discharge rate, it is proposed to install a 2000 cubic metre storage facility on the property. Water will be pumped from the well into the storage facility.

15. The storage facility will take the form of a small lined in-ground pond on the property. The pond will be excavated to a maximum of 3-4 metres deep, and walls will be a maximum height of 2 metres.

16. A daily abstraction volume of 140 cubic metres per day from the well is required to enable the storage pond to be filled during the winter, over a 14 day period from empty, and topped up as it is used in the spring.

17. Water will be pumped from the storage pond at a rate of approximately 14 cubic metres per hectare per hour, a total of 98 cubic metres per hour for 7 hectares.

18. The irrigation designer has allowed for 8 hours frost protection over a 3-night period, per session. This would be required from early spring at bud burst, until flowering in early December, at worst. It is not envisaged that frost protection will be required during the irrigation season, although if a late frost occurs, irrigation will be scheduled around the frost protection.

19. The well is located in the Wairau Aquifer, as shown on the aquifer map (from the Proposed Wairau/Awatere Resource Management Plan) in Appendix 3.

20. The depth of the well is 32 metres below ground level, with a 200 mm diameter casing. The stainless steel screen is set at between 30.2 and 32.2 metres below ground level, where the water bearing gravels were found.

Assessment of Alternatives

21. The underground water source is the only viable source of water for irrigation supply in this area.

22. The branch of Doctors Creek traversing the northern end of the property will not provide a secure water supply for a vineyard that requires irrigation water right through the summer months.

23. Furthermore, there are no appropriate sites on the property for establishing a storage facility of the scale required to hold sufficient water for a whole irrigation season.

24. The applicant has considered other crops, such as olives, but to grow a crop on an economic basis in Marlborough requires irrigation water.

25. An alternative method of frost protection is use of wind machines. The groundwater resource will be used when the aquifer has recharged during the winter months, and when no irrigation is taking place.

Statutory Requirements

Resource Management Act

26. Section 14 of the RMA requires that no person may take, use, dam, or divert any water unless the take, use, damming or diversion is allowed by a rule in a regional or proposed regional plan or by a resource consent.

Transitional Regional Plan

28. The Nelson – Marlborough Regional Council Soil and Water Bylaw 1990, Section 5.1.1 requires that no person shall construct or alter or cause or allow the construction of any dam without having first obtained a permit form the Council issued pursuant to this Bylaw.

    For the purpose of the Bylaw "dam" means any device for impounding water that:

    (a) is greater than 2 metres from base to crest or,

    (b) has an upstream catchment of greater than 20 hectares or,

    (c) impounds a volume of 5000 cubic metres or greater.

29. The construction of the 2000 cubic metre capacity storage pond, with 2 metre high walls, is a **permitted activity** under this plan.

Proposed Wairau/Awatere Resource Management Plan

30. The site is zoned Rural 3 under this plan.

31. General Rule 1.2.3.1 of this plan provides for the taking of underground water from the Wairau Aquifer of between 15 and 3000 cubic metres per day as a **discretionary** activity.

32. Accordingly, a **discretionary** resource consent to take underground water for irrigation purposes is required in respect of this Plan.

33. General Rule 1.6.2 provides for the construction or alteration of a dam as a permitted activity, provided the dam wall is no more than 2 metres above ground level, is less than 20,000 cubic metres capacity, is at least 500 metres upstream of a building or public road.

34. The proposed pond would comply with the permitted activity standards for dam construction,.

35. The pond construction also complies with the land disturbance rules for the Rural zones in the Proposed Plan as it is on the flat, and the site will not be within 8 metres of a wetland, lake, or perennially flowing river.

36. Accordingly, no consent is required for the dam construction, and no further assessment of this aspect will be made.

Assessment of Effects on the Environment

37. The source of supply for this proposal is the Wairau Aquifer.

38. The Proposed Wairau/Awatere Resource Management Plan allows for 346,000 cubic metres per day of Class A Wairau Aquifer water to be allocated. Although this theoretical figure has probably been exceeded, only a percentage of the water is being utilised by irrigators. The Council monitoring wells have not shown a significant reduction in aquifer water levels over the last 5 years, which has included two drought years. There is also no evidence that the freshwater/saltwater interface has moved inland.

39. Although there has been anecdotal observation of some spring-fed stream levels in the Springlands area possibly receding over the last few years, two of these years coincided with the 1997/98 and 2000/01 drought summers, and there is no evidence to date to suggest that these levels will continue to fall.

40. The Wairau Aquifer is recharged by the Wairau River, which has a very large mountain catchment. When the river is at elevated flows, the aquifer and therefore the spring system will recharge accordingly.

41. It is considered that this proposal will not in itself cause adverse effects on the spring system, or the aquifer levels. The rate of take proposed in this application is considered to be of a relatively small scale, particularly when compared to the water takes from the well 180 m to the north which are taking approximately ten times the abstraction for dairy pasture irrigation.

42. The Doctors Creek channel is 45 metres at its closest point at the bend to the east of the well. The creek then turns sharply to the north, and swings back to the eastern boundary approximately 60 metres to the north of the well.

43. The distance between the creek and the well is considered adequate to be outside the influence of the creek. Further, the well is significantly deeper than the creek bed, and creek flows will not be affected by the proposed take.

44. The closest neighbouring well is approximately 180 metres to the north. This distance is considered more than adequate to prevent interference effects. The minimum separation distances of irrigation wells in the Wairau Aquifer is required to be 50 metres, as set out in General Rule 1.4 of the Proposed Plan. The subject well is therefore well in excess of this requirement. Furthermore, it would be difficult to separate interference effects from normal aquifer fluctuations on a well 180 metres away, at the proposed relatively small abstraction rate.

45. The well was pump tested immediately after drilling during the summer. It was tested at two pumping rates, until the drawdown stabilised. The test rates were 32.4 cubic metres per hour, and 44.5 cubic metres per hour.

46. The drawdown of water level was recorded at 12 metres and 21.7 metres respectively, from the static level (0.9 metres).

47. The maximum abstraction rate being applied for is only 5.8 cubic metres per hour. This would equate to a drawdown significantly lower than the test rate, envisaged to be in the order of 2 metres, which is insignificant given the considerable distance available between the static water level and the screen for pumping.

48. Although the 2001/2002 summer was by no means a drought summer, the well capacity is considered to be well in excess of the relatively small abstraction rate proposed.

49. The effects of pumping during the winter and spring months to fill the pond for frost protection will be insignificant given that the aquifer will have recharged from summer levels, and no other pumping will be taking place from other irrigation wells.

50. A water meter will be installed once the pump and pipe-work are installed. This, of course, is dependent on securing a water permit.

51. The well is currently capped, with the casing 500 mm above ground level to avoid the potential for aquifer contamination.

Other Matters

Rules

52. General Rule 1.2.3.3 sets out the criteria that resource consent conditions may cover, in addition to those matters contained in section 108 of the Act. These criteria include permit volumes, and abstraction rate, permit terms and review periods, monitoring, rationing, and revocation of permits.

53. Given that the source of water supply is the Wairau Aquifer, and the fact that the applicant will be investing in a vineyard with a productive life of 30 years plus, the applicant is applying for a consent term reflecting this timeframe. This is in accordance with Policy 1.2 of Objective 6.3.1 in Volume 1 of the Proposed Wairau/Awatere Resource Management Plan. This policy states "*To increase certainty for water users by issuing water permits for 30 year terms, subject to reviews of the resource every 5 or 10 years to ensure ongoing sustainable management of the water resource...*"

54. The applicant considers that a 5 yearly review of the abstraction rate is appropriate, given that the Regional Plan should be made operative within this time. This would give Council the opportunity also to bring the consent conditions in line with any relevant policy, or rule changes, which may be adopted by the Plan.

55. It is recognised that a condition requiring installation of a water meter, with associated meter reading conditions will be required conditions of consent.

Proposed Plan Objectives and Policies

56. Objective 6.3.1-Fresh Water is to achieve equitable allocation and use of surface water and groundwater resources.

57. The supporting Policy 1.4 is to encourage use of groundwater in preference to surface water resources, where groundwater is of sufficient quantity.

58. The applicant is utilising the groundwater resource, rather than low yielding surface water resource of Doctors Creek. The well is considered to be of an adequate distance from the creek so as not to affect creek flows.

59. Policy 1.6 is to ensure that new bores, intakes and dams are located and operated to avoid, remedy or mitigate interference effects on other water users.

60. As assessed previously, the subject well has been located to minimise interference effects on other water users, being at least 180 metres away.

Consultation

61. No consultation has been undertaken with neighbours, as the effects on them are considered to be minor, given the considerable separation distances to their wells.

62. Consultation is currently being carried out with Te Runanga A Rangitane O Wairau. Any correspondence will be submitted to Council when received. The applicant will carry out any further consultation as required by Council.

Conclusions

63. Oakville Olives Ltd propose to take underground water, for irrigation and frost protection purposes, for a proposed 7 hectare vineyard, on New Renwick Road.

64. The potential adverse effects of the proposal have been assessed as minor. The separation distances from Doctors Creek, the Wairau Aquifer, and the existing neighbouring wells are envisaged to be minor.

65. The proposal has been assessed to be consistent with the objectives, policies, and rules of the Proposed Wairau/Awatere Resource Management Plan.

66. There is no justification under the Resource Management Act for refusing consent and the applicant accordingly requests that resource consent be granted.

Recommended Conditions

Suggested conditions of consent are as follows:

1. That the abstraction authorised by this consent for irrigation and frost protection purposes shall not exceed 140 cubic metres per day, on Lot 2 DP 11837.

2. That this consent shall expire 30 years from date of issue.

3. That the consent holder shall install a water meter at the pump. The meter shall record all water taken pursuant to this consent with an accuracy of $\pm$ 5% after installation.

4. That the consent holder shall keep records of water use, as measured by the water meter and shall forward any water use records to Council as requested.

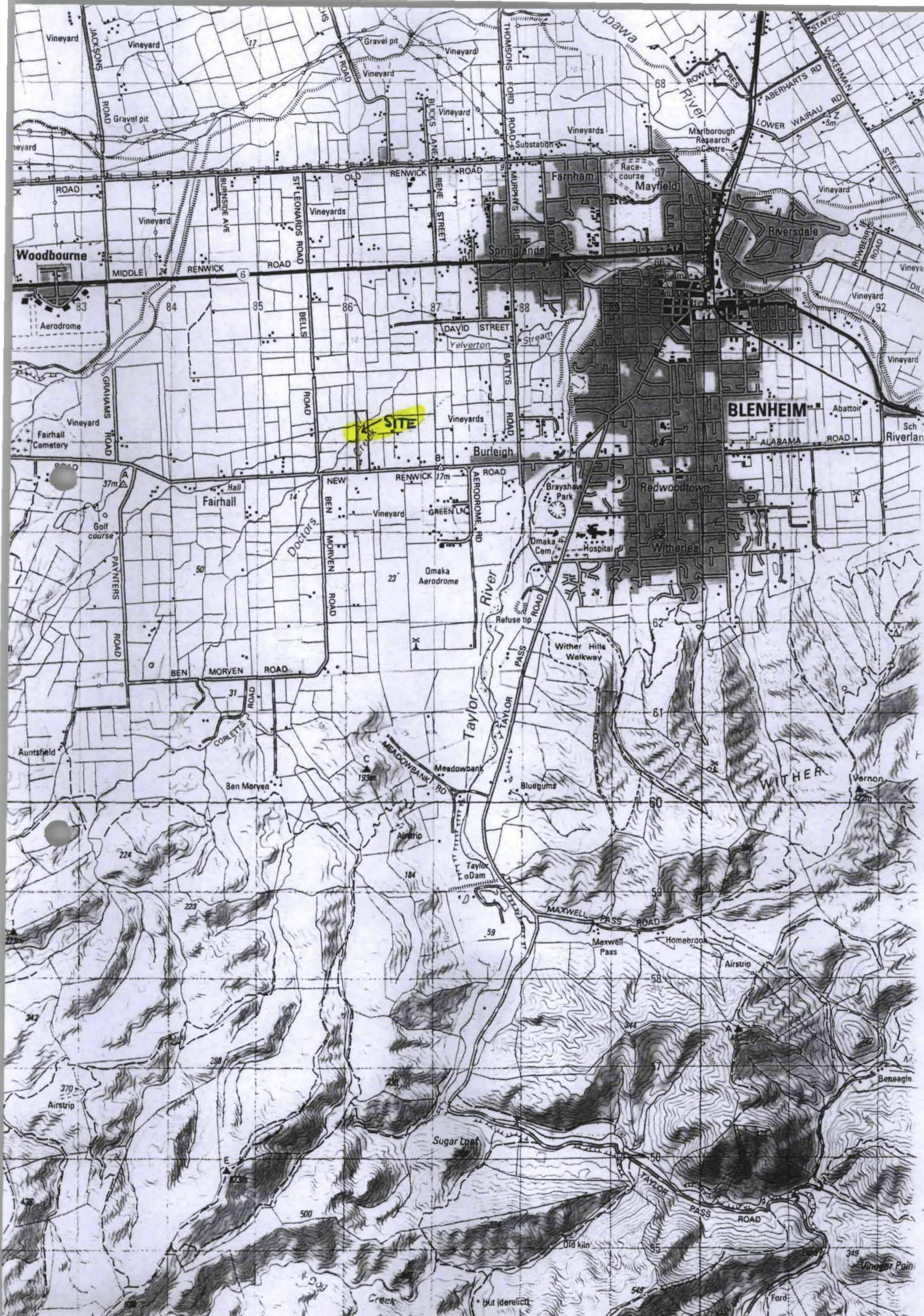
5. That in accordance with Section 128 of the Resource Management Act 1991, from the date of consent, the Marlborough District Council may review the conditions of consent every five years, for the following:
   - For the purposes of reviewing the abstraction rate in condition 1
   - To bring the consent conditions in line with any Regional Plan which is made operative and which sets any rules relevant to the abstraction, if in the Marlborough District Council's opinion, it is appropriate to review the conditions of consent, to enable the standards set by such rules to be met.

   - In accordance with Section 129 of the Resource Management Act 1991, the consent holder shall be notified of any change to the conditions.

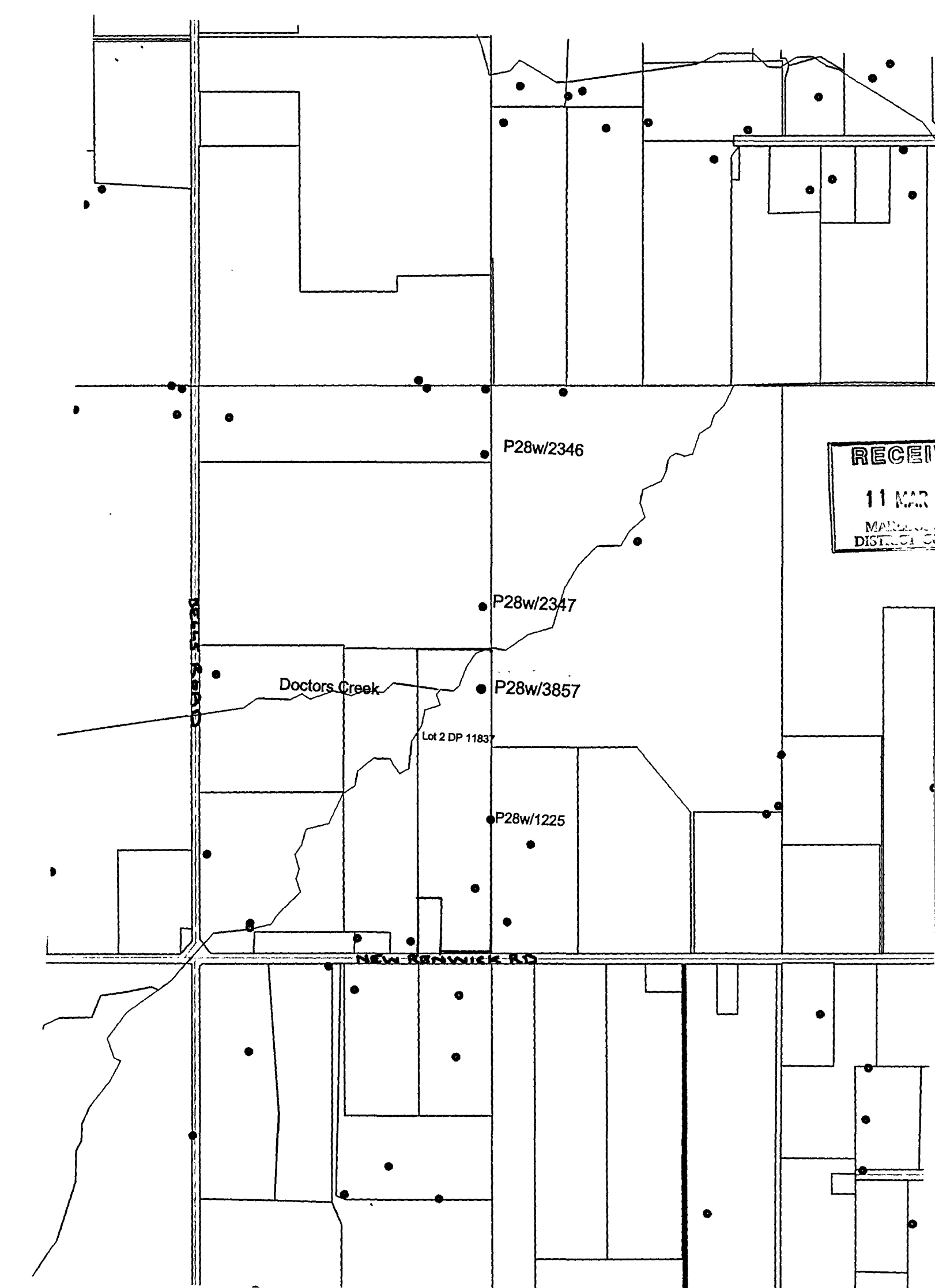
HELEN WOODWARD
RESOURCE MANAGEMENT CONSULTANT
MWH (NZ) Ltd

Appendix 1: Council Application Forms

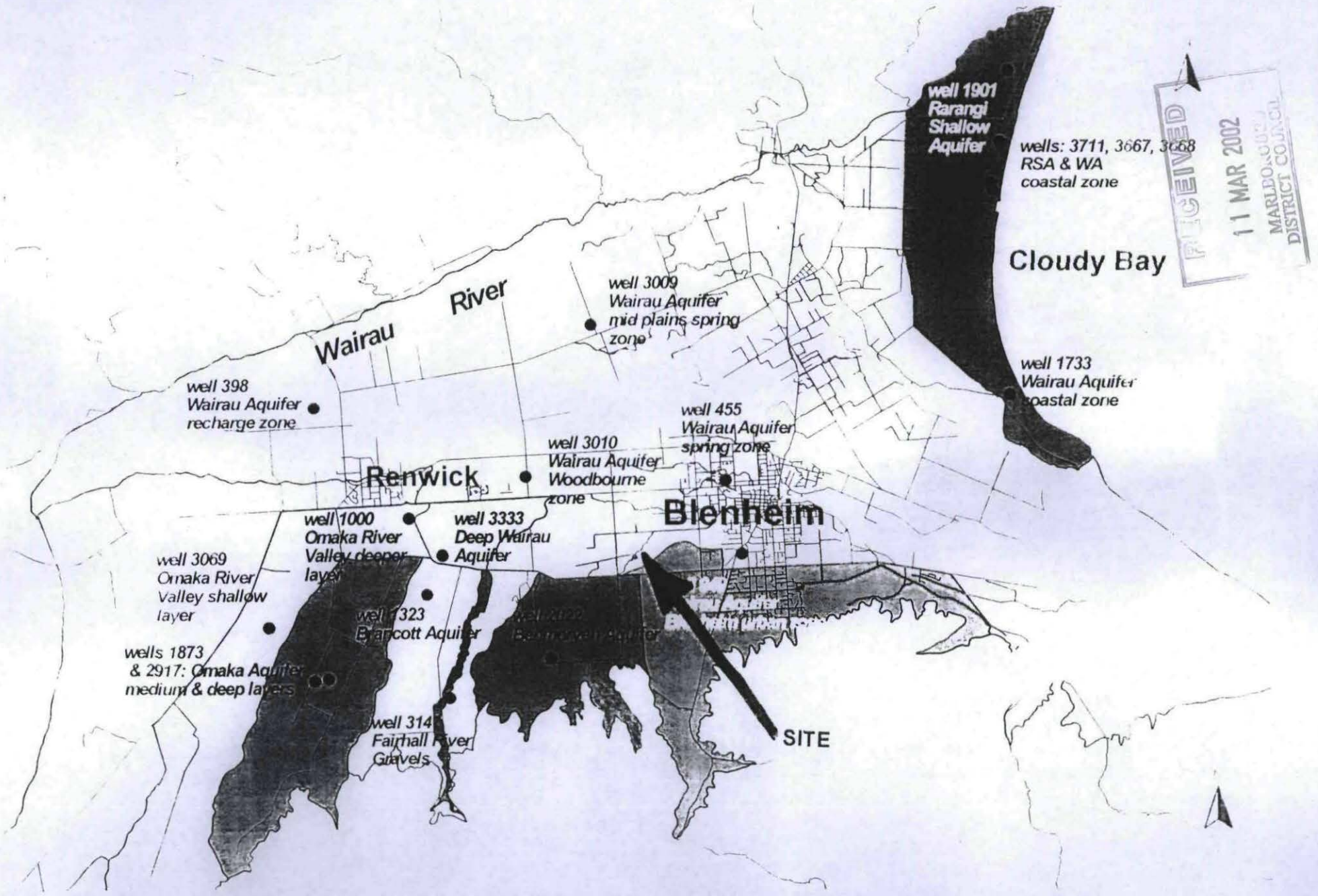
Appendix 2: Location Map


SITE
BLENHEIM
Woodbourne
Aerodrome
Fairhall
Fairhall Cemetery
Golf course
Springlands
Farnham
Mayfield
Riversdale
Redwoodtown
Witherlea
Burleigh
Brayshaw Park
Omaka Cem
Hospital
Omaka Aerodrome
Refuse tip
Wither Hills Walkway
Taylor River
Doctors Creek
Meadowbank
Bluegums
Ben Morven
Auntsfield
Airstrip
Taylor Dam
Maxwell Pass
Homebrook
Sugar Loaf
Old kiln
Hut (derelict)
Vernon
Benmore
Marlborough Research Centre
Racecourse
Substation
Gravel pit
Vineyard
Vineyards
Abattoir
Riverlands
WITHER
Opawa River
Yelverton Stream
JACKSONS ROAD
MIDDLE RENWICK ROAD
OLD RENWICK ROAD
NEW RENWICK ROAD
BURNSIDE AVE
ST LEONARDS ROAD
BELLS ROAD
BLICKS LANE
RENE STREET
THOMSONS FORD ROAD
MURPHYS RD
DAVID STREET
BATTYS ROAD
GRAHAMS ROAD
PAYNTERS ROAD
BEN MORVEN ROAD
NEW BEN MORVEN ROAD
GREEN LN
AERODROME RD
ALABAMA ROAD
TAYLOR PASS ROAD
MAXWELL PASS ROAD
MEADOWBANK RD
CORLETTS ROAD
ROWLEY CRES
ABERHARTS RD
LOWER WAIRAU RD
VICKERMAN STREET
STAFFORD

Appendix 3: Well Location Map


P28w/2346
P28w/2347
Doctors Creek
P28w/3857
Lot 2 DP 11837
P28w/1225
NEW BRUNSWICK RD

Appendix 4: Aquifer Map



MDC WAIRAU PLAIN REGIONAL GROUNDWATER MONITORING NETWORK : 2001

Appendix 5: Well Log

WATER WELL BORE LOG

TEXCO DRILLING LTD

Texco

Well Owner: Oakville Olives Limited

Property Address: New Renwick Road, Blenheim

Drilling Method: 8" Tubex

Driller: R.Sugrue

Bore No.: P28w/3857

Drilling Date: 8th January, 2002

Consent No.: 10892

	Strata	Details of Aquifers		
Depth from Surface (m)	Description	Depth from Surface (m)		Static Water Level (m)
Top GL		Top	Bottom	
0.00	Top soil			
0.20	Yellow clay			
				2.00
18.00	Very clay bound gravels - moist - traces of water			
24.00	Olive clay			
24.00	Sandy gravels - some water	24.00		
32.20	Sandy gravels - increasing water		32.20	

Casing Diameter (mm)	200mm	Screen Length (m)	2m
Well Depth (m)	32.2m	Slot Size (mm)	2.5mm
Final Water Level (m)	2m	Leader & Diameter (mm)	7" x 500mm
Screen Type	Johnson Stainless Steel	Screen Set At (m)	30.2 - 32.2m

CC:

CLIENT:	Y
REGIONAL COUNCIL:	Y
OFFICE X TWO:	Y

FILE No.:

OFFICE:

DATE RECD 01 FEB 2002

Phone (03) 384 1255 - Fax (03) 384 1386 - eMail dig@texco.co.nz
PO Box 19641, Woolston, Christchurch 8006 - Office & Yard, 25 Francella Place, Bromley, Christchurch

Appendix 6: Pump Test Results

4010892

TEXCO DRILLING LTD

21 January 2002

The Directors
Oakville Olives Limited
P O Box 33-152
Takapuna
AUCKLAND

FAXED

Attn: Colin Evans

FAX (09) 486-6560

Dear Colin

RE: WELL AT NEW RENWICK ROAD, BLENHEIM

We are pleased to outline the results of the test pump as follows.

Description of Well

Depth of Well - 32.2 metres.

Diameter of Well - 200mm.

Test Pump Results

Date of Test Pump - 12 January 2001

Static Water Level - 0.9 metres.

9.02 litres per second at 13.0 metre drawdown from top of casing (12.1 DD).

Drawdown held at a static level for 0.5 hours.

12.35 litres per second at 22.6 metre drawdown from top of casing (21.7 DD).

Drawdown held at a static level for 0.5 hours.

Please note the test pump results are only valid for the day of the test pump.

Should you have any queries please do not hesitate to contact our Office.

RECEIVED
11 MAR 2002
MARLBOROUGH DISTRICT COUNCIL

Yours faithfully,
TEXCO DRILLING LIMITED

Bert Bounk
DRILLING MANAGER

cc: Peter James

Phone (03) 384 1255 · Fax (03) 384 1386 · eMail dlg@texco.co.nz
PO Box 19641, Woolston, Christchurch 8006 · Office & Yard, 28 Francella Place, Bromley, Christchurch