

FORM 9**APPLICATION FOR RESOURCE CONSENT UNDER SECTION 88 OF THE
RESOURCE MANAGEMENT ACT 1991**

**TO: Greater Wellington
Regional Council
WELLINGTON**

1. **Prime Property Group** (the Applicant) hereby applies for the following type of Consent:

Greater Wellington Regional Council Consents:

- **Transfer of Existing Permit**
- **Permit to Take Water:** Renewal of an existing Water Permit

Classification of Activity:

The renewal of a water permit to take abstract water from the Hutt River aquifer is a **Discretionary Activity** pursuant to Rules 16 of the Wellington Regional Freshwater Plan.

2. **The location to which this application relates:**

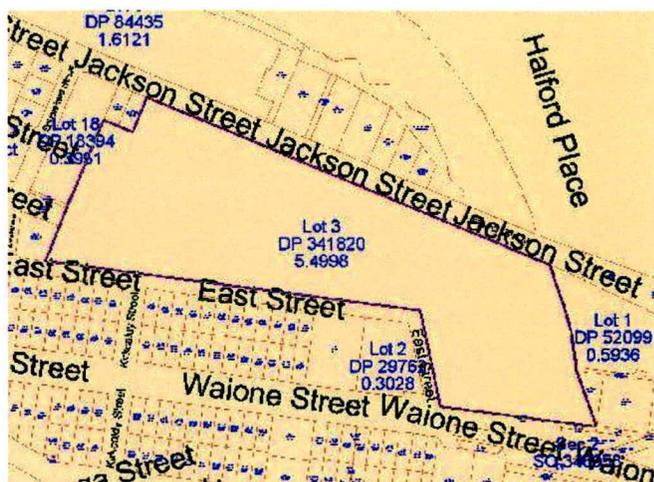
Street Address:
476-496 Jackson
Street Petone

The map reference for the bores is NZMS 260:R27 690 956

3. **The site from which the abstraction will occur is described as:**

All the land being 5.4998 hectares, as shown in Computer Register identifier 172056.

4. **The location of the site is shown on the aerial image below:**



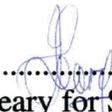
5. **Attached, in accordance with the Fourth Schedule of the Resource Management Act 1991, is an assessment of environmental effects in the detail that corresponds with the scale and significance of the effects that the proposed activity may have on the**

environment.

6. Also attached is any information required to be included in this application by the regional plan and the Resource Management Act 1991, or any regulations made under that Act.

The relevant assessment of environmental effects, proposal plans and other information required by the Greater Wellington Regional Freshwater Plan are attached.

Prime Property Group
by its duly authorised agent


.....
Ian Leary for Spencer Holmes Ltd.
Date: July 2015

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ENCLOSURES

1. Current copy of the underlying Computer Freehold Register.
2. Report by Pattle Delamore Partners *Unilever Site Groundwater Take: Technical Report to support Consent Renewal* – dated July 2015
3. Copy of pages 245 to 251 of the GWRC Draft Resources Plan
4. Copies of consultation letters

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1.0 **THE PROPOSAL**

1.1 **Background**

Prime Property Group (PPG) has purchased the land previously owned by the Unilever NZ Ltd. This property is 5.4998 ha and is still occupied by Unilever till December 2015.

Unilever commenced the manufacturing of soap on this site in 1919. Up until recently, the plant produced all Unilever laundry powders for the New Zealand and Australian markets.

The Unilever plant is one of the last big factories that operate in the Petone industrial area. During the 20th century, there was a series of employers including Gear Meat plant, a car assembly plant, the Colgate Palmolive factory and the Woburn Railway workshops.

In the 1970's the company also manufactured toothpaste, shampoo and conditioners. It produced 50,000 to 55,000 tonnes of detergent each year and at its peak, employed between 550 and 600 people.

Up until the coming into force of the RMA and the Wellington Regional Council Freshwater Plan (RFP), Unilever was authorized under the Water and Soil Conservation Act 1967, to take up to 4550m³ per day (approximately 31850m³/week).

The most recent renewal of the water permit was granted on the 29th March 2007. That permit is known as WGN070193[25890] and was granted for 10 years. It allows the abstraction of 17,800m³ of groundwater, 7 days a week. This is an average of 2,543m³/day and an annual take of 925,600m³. The permit expires on the 29th March 2017.

The existing permit contains 9 conditions. These include:

- (3) *The permit holder shall meter all abstraction and supply records of weekly total abstraction to the Manager, Environmental Regulation, Wellington Regional Council, on a monthly basis. The installed meter shall have an accuracy of +/- 5 percent.*
- (4) *If the pressure in the Waiwhetu Artesian Aquifer drops to an average, over a 24 hour period of +2.3 metres above datum, as measured by the McEwan Park (site number 1428009) water level monitoring station, or any other official Wellington Regional Council water level monitoring station in the Petone and Seaview area, the permitted holder shall comply with all abstraction restrictions and/or rostering as directed by the Manager, Environment Regulation, Wellington Regional Council.*

The Unilever plant has progressively reduced its production, concentrating primarily on export markets. In 2013, Unilever made the decision to close the plant. This will result in a loss of 58 jobs. Unilever have consequently reduced their abstraction rate over the last few years.

PPG have purchased the site with an intention to re-establish industrial activity on the land and are currently seeking tenants for the site. When the site was marketed for sale, the existing water take rights featured highly in the marketing and are an important feature for the site and attraction for industrial tenants. The site contains infrastructure including factory plant, buildings and existing bores.

The purpose of applying for the extension of the existing permit at this point, is partially already on the basis that there is a requirement to transfer the permit from Unilever to PPG which requires GWRC approval. However much more importantly, is that PPG are in the process of securing tenants for the site and the existing water permit expires in 2 years. Industrial tenants will require the certainty of the extension for a much longer period than two years before the capital investment can be made in the site. Therefore, PPG are seeking a much longer period for the consent to ensure that future tenants are willing to make that capital investment in the site for ongoing industrial/commercial activity.

1.2 Site, Locality and Existing Environment

The site from which the abstraction is taken is 476-486 Jackson Street Petone. The map reference for the bores is NZMS 260: R27;688.956.

The location of the 3 bores on site is shown below in Figure 1 below:

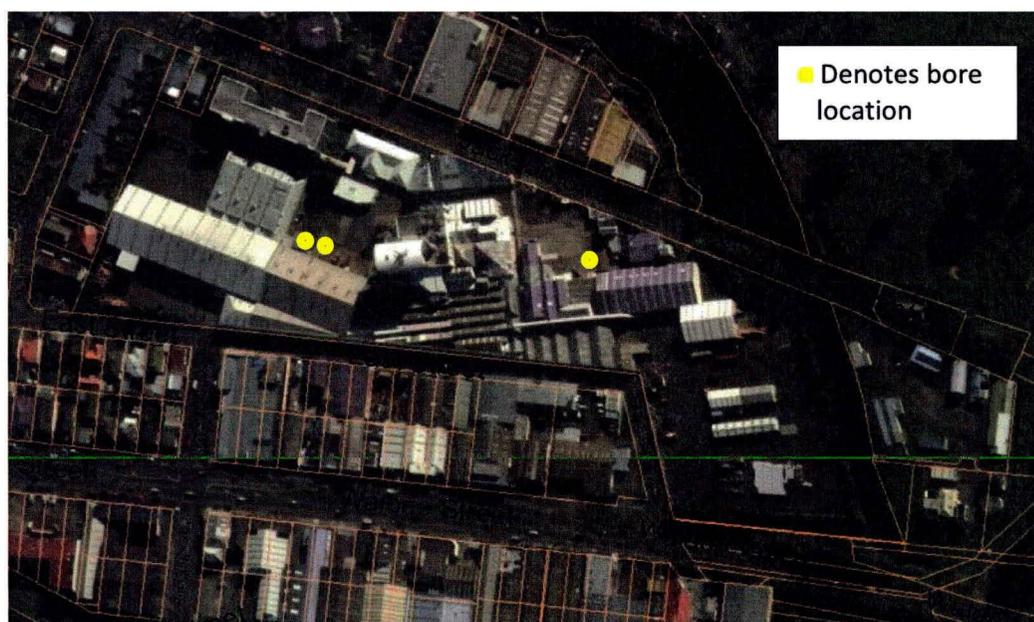


Figure 1: The Unilever Site with location of the bore locations

The Appendix of the PDP report, includes a location diagram showing other bores and consented takes in the vicinity of the Unilever site.

The abstraction is from the Hutt aquifer system which is an important water resource for the Wellington Region. Previous consent documentation for the existing water permits has indicated that the aquifer supplies approximately 40 percent of the regional demand for water supply.

It is noted that the existing environment includes the existing water permit discussed above held by Unilever NZ Ltd which expires in 2017. Section 4.0 of the Pattle Delamore Partners

(PDP) report¹ gives a detailed analysis of the current groundwater takes, including their consented takes and actual usage.

Under the current RFP, the maximum take from the Hutt Valley is 33 million cubic metres per year². PDP provide a calculation of the allocation of groundwater from the aquifer and conclude that it is 33.7 million cubic metres per year³. The aquifer is currently deemed to be over-allocated under the current RFP.

New modelling undertaken by the GWRC as part of the Draft Natural Resources Plan, proposes a new allocation limit which states that the limit to 36.5 million cubic metres per year. As discussed below, this has no legal affect as yet, however the Draft Natural Resources Plan will be proposing this, based on modelling which suggests that this is a sustainable limit for allocation of groundwater for the Wellington region. The adoption of this new limit would see the aquifer being considered to be underallocated.

1.3 Legal Description

Lot 3 DP 341820

1.4 Description of Proposal

PPG seek to extend the existing water take (17,800m³) for any seven day period for 52 weeks of the year.

PPG seek to have the permit for a period of 35 years.

PPG expects that the conditions on the permit will remain as set out in the existing permit, which we note requires the permit holder to comply with GWRC directions in terms of abstraction restrictions and rostering should the monitoring station at McEwen Park record a fall in groundwater levels to below +2.3 metres above sea level.

PPG also seek to transfer the existing permit from Unilever NZ Ltd to Prime Property Group from 1st January 2016.

2.0 **THE STATUTORY BACKGROUND**

Under Section 14(1) of the RMA, no person may take any water (other than coastal water) unless it is specifically allowed by a rule in a regional plan or has been authorized by a resource consent.

As discussed below, the quantity of the water to be abstracted from the Hutt Aquifer, exceeds the amount permitted by the Wellington Regional Freshwater Plan.

Therefore, pursuant to section 14, a water permit is required.

Section 104 of the Act, defines the matters that must be considered in the application. The relevant parts of Section 104 state:

¹ See PDP report- Section 4.0 Table 1 - pages 4 and 5

² See RCP – Policy 6.2.3, table 6.4, page 81.

³ See PDP report, Section 4.0 Table 1- page 5

- (1) When considering an application for a resource consent and any submissions received, the consent authority must, subject to [Part 2](#), have regard to—
- (a) any actual and potential effects on the environment of allowing the activity; and
 - (b) any relevant provisions of—
 - (i) a national environmental standard;
 - (ii) other regulations;
 - (iii) a national policy statement;
 - (iv) a New Zealand coastal policy statement;
 - (v) a regional policy statement or proposed regional policy statement;
 - (c) any other matter the consent authority considers relevant and reasonably necessary to determine the application.
- (2A) When considering an application affected by [section 124](#) or [165ZH\(1\)\(c\)](#), the consent authority must have regard to the value of the investment of the existing consent holder.

In the consideration of extension of this permit, there are no relevant environmental standards. However the National Policy Statement for Freshwater Management 2014 is relevant to the application. The relevant parts of that document are considered below.

It is my opinion that while the application involves the interaction between the freshwater and saline waters of the coastal marine area, the New Zealand Coastal Policy Statement 2010 (NZCPS) is not relevant to the application as it does not address matters relating to saline intrusion of freshwater aquifers. The NZCPS instead focuses on matters relating to the coastal environment rather than interactions with freshwater systems.

The Greater Wellington Regional Policy statement (WRPS) and the Regional Freshwater Plan (RFP) are both relevant to the proposal and are assessed below.

In respect to Other Matters relevant under S104(1)(c), it is my view that the GWRC Draft Natural Resources Plan should be considered as relevant to the proposal. The Draft Natural Resources Plan has been subject to consultation and informal submissions. The submissions on the document have closed. GWRC are currently considering those submissions and will shortly notify the Plan.

As the plan has not been notified in accordance with [Schedule 1 of the Act](#), it does not have any legal status as a planning document. However, there are relevant issues that have been raised in that document and it can be considered under S104(1)(c). The relevant parts of that document are discussed below.

2.1 Relevant Rules

Chapter 6 of the RFP set out the Rules in respect to the taking of fresh water from aquifers in the Wellington Region. Minor abstractions are covered by Rule 7 which allows 20,000 litres a day to be drawn from the aquifer as a permitted activity. The water permit held by Unilever is 2,543m³ per day and therefore it does not meet the permitted standards to be considered under Rule 7.

Rule 16 states that:

“the taking, use, damming or diversion of any freshwater, or the transfer to another site of any water permit to take or to use water:

- *That is not specifically provided for in any other rules in this plan; and*

- Which cannot meet the requirements of those rules; and
- That, for takes of water from the Lower Hutt Groundwater Zone (Taita Alluvium/Waiwhetu aquifers), would not cause the maximum rate of takes authorised by resource consents to exceed 32.85 million cubic metres per year; and
- Which is not a non-complying activity in Rules 17,18 or 19

Is a Discretionary Activity”

As the proposed stream diversion does not meet the requirements of a permitted minor diversion set out in Rule 9 of the Regional Freshwater Plan, and is not specifically provided for in any other rules within this plan, it is therefore pursuant to Rule 16 and is assessed as a **Discretionary Activity**.

I note that while the standards of this Rule state that consents which authorize the maximum take to exceed 32.85 million cubic metres to be a non complying activity, the Regional Council have only applied this to new water permits. In this case, this is the renewal and transfer of an existing allocation which under previous interpretations of the RCP by GWRC officers, it does not result in the proposal being considered non complying.

3.0 THE POTENTIAL EFFECTS ON THE ENVIRONMENT

Pursuant to s104(1) of the RMA, when considering an application for consent, the first matter than must be considered is the potential adverse effects.

I am guided in my assessment of the potential adverse effects on the environment, by the attached report from PDP. I address the adverse effects in the same order as they are listed in the PDP report.

In assessing the potential adverse effects of granting the renewal and transfer of the water permit, I am cognizant of the importance of the Hutt Aquifer for the Wellington Region. The Aquifer provides 40% of the regions freshwater supply.

It also however provides freshwater for a number of industrial users in the local area. Without a suitable supply of freshwater, those industrial/commercial businesses cannot operate, thereby resulting in a loss of employment and economic activity in the Hutt Valley and overall region.

3.1 Saline Intrusion

There is a risk of saline intrusion on any aquifer that has a hydraulic connection with the ocean. That risk is increased when abstraction rates are too high and effectively there is backflow from the sea into the aquifer.

The saline intrusion risk is fully evaluated in section 5.2 of the PDP report. This is the most significant matter to be considered. The sustainability of this aquifer is dependent on it being an ongoing source of freshwater and saline intrusion will result in the effective loss of that resource.

PDP note that the consent currently has a ‘standby’ trigger level and a condition which enables the regulatory section of the GWRC to impose restrictions on the existing permit, during drought. This would allow GWRC bulk water supply to continue to draw down at the time when this groundwater supply is most needed.

However it is noted that the current and proposed Unilever abstraction is only 3% of the consented GWRC bulk water supply take. Any effects caused by the Unilever consent are therefore minor in comparison to Bulk water supplies effects on the aquifer.

PDP reach their conclusions on the saline intrusion risk in section 5.2, page 15 and state:

Based on analysis of the historic data, it is considered unlikely that given current conditions, the minimum or alter levels would be breached. This could change with sea level rise or during an exceptional drought. In comparison to the GWRC take at the Waterloo wellfield, this take is relatively small, and effects on the hydraulic gradient and saline intrusion monitoring wells are expect to be similarly minor. Hence, the proposed triggers are considered sufficient to protect against saline intrusion.

I therefore conclude that the risks of saline intrusion will be suitably managed and monitored and are therefore less than minor.

3.2 Drawdown Effects on Neighbouring Bores

PDP again consider the effects of extending the permit on neighbouring bores in section 5.3, page 15 of their report.

I note that the transfer of the permit, which going from Unilever to PPG, will not move from the existing site. Therefore there are no effects of the transfer of ownership in itself.

The closest bore to the PPG site, is Shandon Golf Club. PDP conclude in their report that:

This drawdown interference effect is minimal, and will not affect the ability of Shandon Golf Club to abstract groundwater. Effects on other neighbouring bores are expected to be much less and, as such, neighbouring groundwater users will not be affected.

3.3 Stream Depletion Effects

The Hutt river is identified as the nearest surface water body from the existing abstraction bores and with its closest bank some 460 metres away to the east.

PDP consider these effects in section 5.4 on page 15 and 16 of their report and conclude:

In summary, stream depletion affects will be below the level requiring an abstraction restriction, and any long-term depletion effects are most appropriately managed by groundwater allocation limits already set (or proposed) for the area... ..and effects on the surface water bodies are expected to be less than minor.

3.4 Subsidence

PDP briefly consider subsidence in section 5.5 of their report and conclude:

Due to the high transmissivity of the aquifer, drawdown is not expected to be significant, and consequently subsidence will not occur.

3.5 Effects from a 35 year term for the Water Permit

GWRC have just completed a remodeling of the saline intrusion risk as part of the Draft Natural Resources Plan and have consequently recommended an increase in the total take from

the aquifer. While this at the moment has not statutory standing, it does become a relevant matter when considered the potential adverse effects of this application for renewal and transfer.

PPG are not seeking an increase in the quantity of the water to be drawn from the aquifer. They are seeking only to maintain that existing consented take volume. The RFP was originally developed and notified in the early 1990's. That was over 20 years ago. The consent period sought for the renewal is 35 years.

This latest analysis is likely not be undertaken again for a period of at least another 20 years and therefore this is not inconsistent with the granting of a permit for 35 years.

Should sustained drought occur, the GWRC has the ability to order PPG to cease drawing water from the aquifer under the conditions of that permit.

In return for a permit for 35 years, PPG are able to give certainty to the industrial/commercial users that will encourage economic investment and allow benefits to accrue from the allocation of the resource to the wider community.

The GWRC are still able to apply an appropriate s128 to the conditions of consent to manage any unforeseen circumstance that may arise in the 35 year term of the permit. This period is specifically provided for under the Act and is the normal amount of time allocated throughout many of the regions of New Zealand for these types of assets.

Therefore, I conclude that the granting of the permit for a period of 35 years is consistent with the Act and will not have any perceivable adverse effect on the resource, particularly as the allocation is less than 3% of the total safe allocation level.

4.0 PLANNING PROVISIONS

4.1 National Policy Statement for Freshwater Management 2014 (NPSFM)

This national policy statement sets out objectives and policies for the sustainable management of freshwater in New Zealand while providing for economic growth. The policy statement states:

As a demand for fresh water increases, it is vital to account for all freshwater takes and sources of relevant contaminants. This national policy statement provides a National Objectives Framework to assist regional councils and communities to more consistently and transparently plan for freshwater objectives. The New Zealand Coastal Policy Statement 2010 issues with water quality in the coastal environment. The management of coastal water and fresh water requires an integrated and consistent approach.

The NPSFM is primarily aimed at Regional and Unitary Councils in terms of directing them to look at the freshwater management.

The Hutt Aquifer is a regionally important water source. The management of takes from the aquifer needs to be controlled to ensure that effects such as potential saline intrusion are avoided. In that respect, I note the following Objectives and Policies of the NPSFM are relevant.

Objective A2

The overall quality of fresh water within a region is maintained or improved while:

a) protecting the significant values of outstanding freshwater bodies;

- b) *protecting the significant values of wetlands; and*
- c) *improving the quality of fresh water in water bodies that have been degraded by human activities to the point of being over-allocated*

The granting of the renewal will not be inconsistent with this objective as the quality of freshwater will be maintained.

Policy A1

By every regional council making or changing regional plans to the extent needed to ensure the plans:

- a) *establish freshwater objectives in accordance with policies CA1 –CA4 and set freshwater quality limits for all freshwater management units in their regions to give effect to the objectives in national policy statement, having regard to at least the following:*
 - I. *the reasonably foreseeable impacts of climate changes;*
 - II. *the connection between water bodies; and*
 - III. *the connections between freshwater bodies and coastal water; and*
- b) *Establish methods (including rules) to avoid over-allocation.*

GWRC is in the process of renewing its natural resources management plan and is recommending an increase in the allocation of ground water for the relevant aquifer. This will further reduce the percentage of the subject take relative to the safe allocation. The proposal could not therefore be considered inconsistent with this Policy.

Objective B1

To safeguard the life - supporting capacity, ecosystem process and indigenous species including their associated ecosystems of fresh water, in sustainably managing the taking, using, damming, or diverting of fresh water.

The proposal is consistent with this Objective for reasons set out above.

Objective B2

To avoid any further over- allocation of fresh water and phase out existing over- allocation.

The ‘over allocation’ of fresh water in this aquifer is being addressed in the Draft Natural resources plan and therefore, effectively this Objective is not challenged by the proposal.

Objective B3

To improve and maximise the efficient allocation and efficient use of water.

This objective is primarily aimed again at the Regional/Unitary Authorities not to an individual application, however the allocation of this permit will be efficient in terms of providing a supply for industrial/commercial activity.

Policy B2

By every regional council making or changing regional plans to the extent needed to ensure the plans state criteria by which applications for approval of transfers of water take permits are to be decided, including to improve and maximise the efficient allocation of water.

Policy B4

By every regional council identifying methods in regional plans to encourage the efficient use of water.

Policy B5

By every regional council ensuring that no decision will likely result in future over- allocation – including managing fresh water so that the aggregate of all amounts of fresh water in a freshwater management unit that are authorised to be taken, used, dammed or diverted does not over- allocate the

water in the freshwater management unit.

Policy B6

By every regional council setting a defined timeframe and methods in regional plans by which over-allocation must be phased out, including by reviewing water permits and consents to help ensure the total amount of water allocated in the freshwater management unit is reduced to the level set to give effect to policy B1.

Objective C1

To improve integrated management of fresh water and the use and development of land in whole catchments, including the interactions between fresh water, land, associated ecosystems and coastal environment.

Policy C1

By every regional council managing fresh water and land use and development in catchments in an integrated and sustainable way, so as to avoid, remedy or mitigate adverse effects, including cumulative effects.

Policy C2

By every regional council making or changing regional policy statements to the extent needed to provide for the integrated management of the effects of the use and development of:

- a) Land on fresh water, including encouraging the co-ordination and sequencing of regional and/or urban growth, land use and development and the provision of infrastructure; and
- b) Land and fresh water on coastal water.

Objective CB1

To provide for an approach to the monitoring of progress towards, and the achievement of freshwater objectives.

- a) Establishes methods for monitoring progress towards, and the achievement of freshwater objectives established under policies CA1 –CA4;
- b) Identifies a site or sites at which monitoring will be undertaken that are representative for each freshwater management unit; and
- c) Recognises the importance of long-term trends in monitoring results.

Objective OC1

To improve information on freshwater takes and sources of freshwater contaminants, in order to:

- a) Ensure the necessary information is available for freshwater objective and limit setting and freshwater management under this national policy statement; and
- b) Ensure information on resource availability is available for current and potential resource users.

Policy CC1

By every regional council:

- a) Establishing and operating a freshwater quality accounting system and a freshwater quantity accounting system for those freshwater management units where they are setting or reviewing freshwater objectives and limits in accordance with Policy A1, Policy B1, and Policies CA1-CA4; and
- b) Maintaining a freshwater quality accounting system and a freshwater quantity accounting system at levels of detail that are commensurate with the significance of the freshwater quality and freshwater quantity issues, respectively, in each freshwater management unit.

Objectives and Policies B2, B4, B5, C1, C2, CB1, OC1 and CC1 are potentially relevant but

are primarily aimed at the Regional/Unitary Authorities and are not challenged in this circumstance by the application to renew this permit. GWRC have demonstrated that they are addressing the allocation of ground water in this aquifer and are re-establishing the sustainable level of allocation and formalizing that in the plan change process.

Objective D1

To provide for the involvement of iwi and hapu, and to ensure that tangata whenua values and interests are identified and reflected in the management of fresh water including associated ecosystems, and decision making regarding freshwater planning, including on how all other objectives of this national policy statement are given effect to.

Policy D1

Local authorities shall take reasonable steps to:

- a) *Involve iwi and hapu in the management of fresh water and freshwater ecosystems in the region;*
- b) *Work with iwi and hapu to identify tangata whenua values and interests in fresh water and freshwater ecosystems in the region; and*
- c) *Reflect tangata whenua values and interests in the management of, and decision-making regarding, fresh water and freshwater ecosystems in the region.*

While these objectives and policy re-iterate the requirement for Regional Authorities to consult during plan development, the applicant has consulted with tangata whenua and provided an opportunity for them to express their views on the renewal. In my view, this is consistent with the relevant objectives and policies of the National Policy Statement.

4.2 Wellington Regional Policy Statement

The Wellington Regional Policy Statement (WRPS) is relevant to the application. The WRPS is the main regional planning document that encompasses the wider Wellington area. In respect to the WRPS the following provisions are relevant to this application for renewal.

Objective 12

The quantity and quality of fresh water:

- a) *Meet the range of users and values for which water is required;*
- b) *Safeguard the life supporting capacity of water bodies; and*
- c) *To meet the reasonably foreseeable needs of future generations.*

Objective 14

- d) *Fresh water available for use and development is allocated and used efficiently*

Policy 13: Allocating water – regional plans

Regional plans shall include policies and/ or rules that:

- a) *Establish allocation limits for the total amount of water that can be taken from rivers and lakes, taking into account aquatic ecosystem health; and*
- b) *Establish allocation limits for the total amount of water that can be taken from groundwater, taking into account the aquatic ecosystem health of rivers, lakes and wetlands, and preventing saltwater intrusion.*

Policy 17 - Water allocation and use for the health needs of people – regional plans.

Regional plans shall include policies, rules, and/ or methods to ensure the allocation and use of water from any river or groundwater source provides sufficiently for the health needs of people including:

- a) *The taking of water by any statutory authority that has a duty for public water supply under any Act of Parliament;*
- b) *The taking of water for reticulation into a public water supply network; and*
- c) *The taking of water for community supplies.*

Policy 44: Managing water takes to ensure efficient use – consideration

When considering an application for resource consent to take water, particular regard shall be given to:

- a) *Whether the applicant has demonstrated that the volume of water sought is reasonable and justifiable for the intended use, including consideration of soil and crop type when water is taken for irrigation purposes;*
- b) *Requiring the consent holder to measure and report the actual amount of water taken;*
- c) *Requiring the consent holder to adopt water conservation and demand management measures and demonstrate how water will be used efficiently.*

Freshwater

Objectives 12 and 14 (Freshwater) are relevant to the application. These objectives effectively implement the National Policy statement on freshwater by requiring the safeguarding of the life supporting capacity of water bodies and achieving healthy functioning ecosystems.

As is discussed throughout the application, the outcomes sought by the objectives and policies of the WRPS are achieved by the proposal. Objective 14 states that fresh water should be allocated efficiently. It is acknowledged that the allocation to Unilever has not been efficiently allocated in recent years as they company has been steadily reducing production and is now ceasing it altogether. PPG have invested in the site and the existing infrastructure with the intent of using the permit for commercial activity. Therefore the transfer and renewal of the permit will see the existing infrastructure in the site used for economic benefit of the region and effectively, increase the efficiency of the allocation and resource use.

Policy 17 and 44 are directives to the GWRC and policy support for rules in the RFP and any upcoming revisions of the RFP. The rules are in place and are discussed below. The proposed renewal is not inconsistent with those provisions.

Policy 17 supports the rights of GWRC Bulk water services to abstract water from the aquifer for public supply. As the proposal does not adversely affect that right, the renewal of the permit is not inconsistent with Policy 17.

Tangata Whenua

The WRPS has objectives and policies to ensure treaty obligations are met. In this case, consultation with Wellington 10s and Ngati Toa was undertaken and their management requests specifically incorporated into the design.

4.3 Regional Freshwater Plan (RFP):

The relevant objectives and policies of the Regional Freshwater Plan to consider for this proposal include:

- 4.1.1** *The relationship of tangata whenua and their culture and traditions with fresh water, and with ancestral sites, waahi tapu and other taonga within the beds of rivers and lakes, is recognised and provided for.*

Appropriate opportunity for consultation has been provided to ensure the treaty obligations are met and this policy is met.

4.1.5 The life-supporting capacity of water and aquatic ecosystems is safeguarded from the adverse effects of any subdivision, use and development.

The proposal will not adversely affect the quality of the aquatic ecosystem therefore the policy is met.

4.1.11 People and communities are able to use and develop freshwater resources to provide for their social, economic, and cultural well-being and for their health and safety.

The granting of the renewal of the water permit will be entirely consistent with this. This is further discussed in the Part II analysis below.

4.1.12 The adverse effects of the use and development of freshwater resources are avoided, remedied, or mitigated.

The conditions on the existing water permit are expected to be re-imposed on any renewal, therefore potential adverse effects are avoided by the proposal and this policy is met.

4.1.17 Conditions places on resource consents are used as a means of avoiding, remedying or mitigating adverse effects.

As discussed above.

4.2.2 To encourage applicants to consult directly with affected tangata whenua when making an application for a resource consent which is for an activity within, upstream or immediately downstream of any identified site of special value to the tangata whenua. As part of this consultation the applicant should determine:

- (1) Whether granting the resource consent could have any adverse effects on the special values of the site.*
- (2) How any potential adverse effects that might result from the activity could be avoided or remedied.*

The applicant has consulted direction with tangata whenua and this policy is met.

4.2.24 To have regard to the effects on other established activities when considering any proposal for the use of water bodies.

The water permit is a renewal and the abstraction of water from the aquifer has been undertaken from the site for nearly a 100 years. The proposal to renew that permit will not adversely affect adjoining activities.

4.2.29 To recognise the needs of existing lawful users of fresh water by;

- Allowing existing users to upgrade progressively their environmental performance where improvements are needed to meet the provisions of the plan; and/or*
- Giving priority to existing users over new users at locations where the demand for the use of water is greater than the resource can sustain.*

As already discussed, the abstraction from this site has been in place for many years. PPG have bought the land and have a reasonable expectation to be able to use those existing water rights.

While under the operative RFP, the aquifer is overallocated, the most recent draft Natural Resources plan has Council proposing to increase the amount of water that can be safely allocated. While the draft natural resources plan is not in effect, it does indicate that the GWRC having proposed the increase in the overall allocation, have done so based on appropriate investigation.

5.2.7 To manage groundwater in the Wellington Region so that there are no net adverse effects on its quality as a result of discharges to surface water or groundwater (subject to policy 5.2.10)

Explanation: *This policy is to manage groundwater so that there is no deterioration in its present quality. "No net adverse affects" in this context means that the existing quality of water in an aquifer will not be reduced to the extent that adverse effects occur, after reasonable mixing as a result of any discharge. This policy refers only to discharges directly to surface water or an aquifer. Discharges to land are addressed in the Regional Plan for Discharges to land.*

There are no discharges directly to an aquifer therefore this policy is not directly relevant, however the intent is that there is no net adverse effect to the quality of groundwater and the extension of the water permit is consistent with this policy.

6.1.1 People and communities are able to take, use, dam, or divert surface water, and take and use groundwater, while ensuring that the flows in rivers, and water levels in lakes and wetlands, are sufficient to maintain the natural and amenity values of water bodies.

The Unilever allocation has been in place for many years and has not directly led to issues on the amenity of waterbodies. The total volume of the take is small in comparison to others in the aquifer therefore this policy is met by the renewal.

6.1.2 People and communities are able to take and use groundwater while ensuring that the construction of bores and abstractions do not:

- *Exceed the safe yields of aquifers; or*
- *Adversely affect the yields of nearby bores through interface, inefficient borehole construction, or excessive drawdowns; or*
- *Adversely affect water quality*

Safe yields, effects on nearby bores and effects on water quality have been discussed above in the AEE. This policy is met.

6.1.3 Water abstracted from rivers, streams, lakes and aquifers is used efficiently and water conservation is promoted.

Unilever were required to keep records of abstraction. This confirms that while water takes have reduced in recent years, this also corresponded to a reduction in production, indicating that water from the aquifer was not wasted.

The new users on the site \ can demonstrate an efficient use of the water resource and will continue to have to record their use and this can be monitored by GWRC.

6.2.7 *To encourage users to take groundwater as an alternative to surface water resources where:*

- *The groundwater is of sufficient quality and quantity for the prospective use; and*
- *There are no significant environmental, technical, or financial constraints associated with abstracting groundwater.*

The granting of the renewal will be encourage water take from ground water. Maintaining the quality of the groundwater is in the best interest of PPG and its tenants.

We are not aware of any environmental, technical or financial constraints associated with abstracting groundwater. Therefore, this policy is met.

6.2.8 *To ensure that the water permits to take groundwater:*

- *Consider excessive reductions in the yields of nearby bores (including excessive interface drawdowns); and*
- *Avoid significant adverse effects on surface water bodies.*

The effects on nearby bores have been fully considered and so has the effects on surface water bodies. Both effects were found to be less than minor and therefore this policy is met.

Transferable Water Permits

6.2.10 *to allow water permits to be transferred where there will be net benefits to the community and where there will be no additional adverse effects caused by the change in location of a water take.*

The transfer of the water permit is from the existing owner of the land where the abstraction occurs to the new owner. This has no additional adverse effects as there is no change of location.

Water Conservation

6.2.18 *to have regard to the following when considering an application for resource consent to take water:*

1. *The amount of water required is reasonable, considering the intended use of the water; and*
2. *The need for accurate measurement of the take from any river listed in Table 6.1 or method 8.5.5; and*
3. *For any applicant taking water for public supply, the extent of any:*
 - *Demand management programmes; or*
 - *Drought management plans.*

The amount of water sought to be taken by PPG is entirely consistent with or less, than the historical allocation provided to Unilever. This abstraction has been demonstrated to not cause any effect on the aquifer. The amount sought will allow the establishment of an export industry.

6.0 MITIGATION MEASURES

No specific mitigation measures are considered necessary, beyond the imposition of the conditions discussed above.

7.0 ALTERNATIVES CONSIDERED

Section 1(b) of the fourth schedule states that:

where it is likely that an activity will result in any significant adverse effect on the environment, a description of any possible alternative locations or methods for undertaking the activity

8.0 CONSULTATION

The applicant has carried out pre-application consultation with both Wellington 10th Trust and Ngati Toa. Emails were sent to both these Iwi groups seeking comments on the proposal by PPG to extend the water permit. At the time of lodging the application, no response has been received from the Iwi representatives.

The nearest bore to the subject site is the Shandon Golf Club. I note that the PDP report concludes that there are no effects on the Shandon Golf club bore. A letter was sent to the club and the application was discussed with the greenkeeper who advised that there was no issue. They have not however responded to the letter.

The biggest user of the Hutt Aquifer is GWRC Bulk Water. Discussions were had with Geoff Williams of Wellington Water. A full copy of the application has been provided to them. Again in respect to GWRC Bulk water services, the PDP report clearly identifies the fact that the PPG water take is 3% of the take of GWRC. In normal circumstances, there are no effects by the PPG take on the ability of GWRC to abstract water for supply.

It is also clear that the level of abstraction by GWRC has by far the greatest effect on the aquifer. Nonetheless, it is PPG who have the conditions imposed which limit the ability for it to abstract water when the trigger level at the McEwen Park monitoring station is breached. With the condition imposed, it is my view that there is no adverse effect on GWRC bulk water services and their ability to abstract water supply for Wellington.

The applicant has also consulted with the Hutt City Council. The Hutt City Council development liaison officer has advised Unilever and myself, that they support the ongoing commercial/industrial use of the site and therefore indirectly support the renewal of the water permit.

9.0 PART II

The purpose and principles of the Act is set out in section 5 of the Act. The Act promotes the sustainable use and management of resources. In this case, the resource is the important Hutt Aquifer. The maintenance of the quality of this asset is an important outcome for all parties living in the city.

The RFP has rules which restrict the ability of parties to abstract water from the aquifer and the all existing permit holders are required to keep records of their abstractions.

The aquifer is monitored by "real time" monitoring to ensure that water is not abstracted at a rate that would allow saline intrusion to occur.

By far the main “user” of the aquifer is GWRC bulk water services who use the resource to provide freshwater to the city.

The aquifer is also however an important water source for existing and future industrial users of the city. While GWRC uses the water to supply Wellington, that demand is only created if there are people in the city. People require employment and the generation of economic activity within Wellington City to provide for their economic and social wellbeing.

The Petone area/Seaview area is one of the two most important industrial areas in Wellington (the other is in Porirua). The Unilever site remains one of the largest factory sites in the Petone area. With the gradual reduction for a number of years and now total cessation of production by Unilever’s, there remains an opportunity for new industrial/commercial activity to occur in the area to once again stimulate jobs and economic activity.

The Unilever site already has a large amount of plant, buildings and bores which would be underutilized if the water permit is not used. The existing infrastructure and long established history of operation on this site is a relevant matter under S104(2A) of the Act.

The renewal of the water permit for a period of 35 years will encourage commercial and industrial activity to make new investment in the site and provide the required economic benefit for the area.

At this time, PPG have identified an offshore water bottling company who wishes to establish in the Petone area and secure water rights. The company will provide local jobs and export revenue for the Wellington Region. The certainty of having secure water rights is required before these benefits can be confirmed and quantified. However, it is clear that they will be “real” and significant.

The extension of the water permit for the period proposed, will therefore unquestionably provide for the economic welfare of the region.

At the same time, the potential adverse effects are already well understood and appropriate conditions will ensure that the effects on the aquifer are avoided.

On that basis I conclude that the granting of the renewal of the water permit for 35 years will be consistent with the Act and a sustainable allocation of the resource.

Despite the importance of the aquifer, there are no matters of national importance to consider in the application.

In respect to “other matters” listed in s7 of the Act, s7(b) the efficient use and development of natural resources is relevant. The aquifer is an important asset and must be managed appropriately.

The applicant has considered their responsibilities under the Treaty of Waitangi and has consulted with Tangata Whenua and the proposal reflects the response from the local Iwi.

10.0 CONCLUSION

The proposal is the transfer and renewal of a water permit for a period of 35 years.

The renewal of that permit is associated with a site that has seen continuous abstraction for a period of nearly 100 years.

The transfer and renewal of the water permit is a discretionary activity under the RFP. The applicant has provided a full and in depth report of the potential adverse effects of granting the permit. The conclusions are that the effects will be less than minor.

The existing permit has a number of conditions. The existing conditions are considered to be reasonable and will ensure that future potential adverse effects are mitigated.

The proposal is therefore considered to be a sustainable allocation and use of a natural resource. It will allow for economic activity in the city, while ensuring that adverse effects are adequately avoided.

Pursuant to S104B of the Act, it is my view that consent should be granted.

Attachments



**COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952**



Search Copy

Identifier 172056
Land Registration District Wellington
Date Issued 25 November 2004

Prior References
WN542/292

Estate Fee Simple
Area 5.4998 hectares more or less
Legal Description Lot 3 Deposited Plan 341820

Proprietors
Unilever New Zealand Trading Limited

Interests

Appurtenant hereto are tramway rights created by Transfer 109845 (affects part formerly Lot 1 DP 13037)
Appurtenant hereto are drainage rights created by Transfer 136876 (affects land formerly in DP 3821)
Subject to drainage rights over part created by Transfer 136876
286068 Encumbrance to Her Majesty the Queen - 15.12.1948 at 12:05 pm (affects part formerly Lot 1 DP 13037)
Subject to rights (in gross) to maintain a gas regulator over part marked A on Plan 341820 in favour of (now) Powerco Limited created by Transfer 717211.2 - 24.9.1985 at 10.19 am
Subject to a right to overhang eaves over part marked B on DP 341820 created by Easement Instrument 6229489.4 - 25.11.2004 at 11:39 am
Appurtenant hereto is a right to discharge Industrial effects and other rights created by Easement Instrument 6229489.5 - 25.11.2004 at 11:39 am
Land Covenant in Easement Instrument 6229489.5 - 25.11.2004 at 11:39 am

808 000 mN

LT 341820 (Title Plan)

Copy - 01/01/09 - 20/12/08/04/03/25



Date: 01/11/2012



FOR DIMENSIONS OF EXISTING EASEMENT A SEE DP 56277

Approvals

I HEREBY CERTIFY THAT THIS PLAN WAS APPROVED BY THE HUTT CITY COUNCIL PURSUANT TO SECTION 223 OF THE RESOURCE MANAGEMENT ACT 1991 ON THE 31 DAY OF August 2004

[Signature]
AUTHORISED OFFICER

PURSUANT TO SECTION 224(C) OF THE RESOURCE MANAGEMENT ACT 1991, I HEREBY CERTIFY THAT ALL THE CONDITIONS OF THE SUBDIVISION CONSENT HAVE BEEN COMPLIED WITH TO THE SATISFACTION OF THE HUTT CITY COUNCIL.

DATED THIS DAY OF 2004

AUTHORISED OFFICER

SCHEDULE OF EXISTING EASEMENT IN GROSS

| PURPOSE | SHOWN | SERV.TEN. | CREATED BY |
|-----------------------------------|-------|-----------|-------------|
| RIGHT TO MAINTAIN A GAS REGULATOR | A | LOT 3 | T. 717211.2 |

SCHEDULE OF EASEMENT

| PURPOSE | SHOWN | SERV.TEN. | DDM.TEN. |
|-------------------------|-------|-----------|----------|
| RIGHT TO OVERHANG EAVES | B | LOT 3 | LOT 2 |

NEW CT's ALLOCATED

| LOT No. | C.T. ISSUED |
|---------|-------------|
| LOT 1 | 172054 |
| LOT 2 | 172055 |
| LOT 3 | 172056 |

NOTE:

LOTS 1 & 2 ARE SUBJECT TO A RESTRICTIVE COVENANT
LOT 3 SUBJECT TO DRAINAGE RIGHTS OVER PART CREATED BY T.136876 (AFFECTS LAND IN DP 3821)

CLASS I SURVEY

Total Area 5,5871 ha

Comprised in CT.WN542/292 (A11)

I, Mark Collingwood Goodin

being a person entitled to practise as a licensed cadastral surveyor, certify that:
(a) The surveys to which this dataset relates are accurate, and were undertaken by me or under my direction in accordance with the Cadastral Survey Act 2002 and the Surveyor-General's Rules for Cadastral Survey 2002;
(b) This dataset is accurate, and has been created in accordance with that Act and those Rules.

Signature *[Signature]*
Date 18/8/04

Field Book p. Traverse Book p.
Reference Plans DP's 3821, 13037, 18394, 52099, 56277, 68133, 10788, 70414, 84435, S0 23707, 32443, 34639, 35854.
Examined Correct

Approved as to Survey by Land Information NZ on

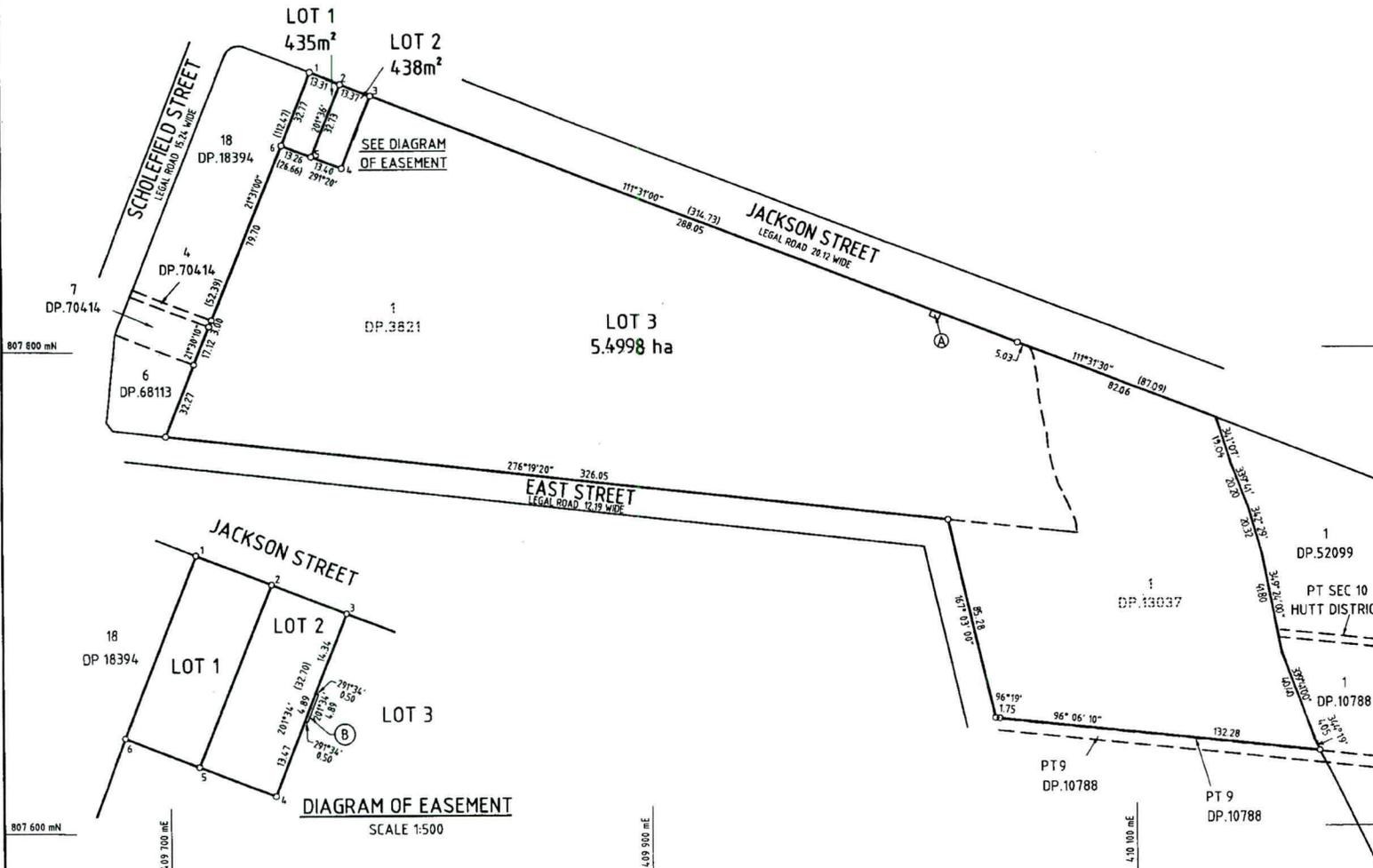
29/10/2004

Deposited by Land Information NZ on

25/11/2004

File NUMBER/DATE/TITLE
Received 21-9-04
Instructions

341820



LAND DISTRICT WELLINGTON

LOTS 1 - 3 BEING A SUBDIVISION OF LOT 1 DP.3821 & LOT 1 DP.13037

TERRITORIAL AUTHORITY HUTT CITY
Surveyed by Connell Wagner Limited
Scale 1:1250 Date JULY 2004

Consent No. WGN070193 [25890]

Category: Water Permit

Pursuant to sections 104B and 108, and subject to all the relevant provisions of the Resource Management Act 1991 and any regulations made thereunder, a consent in respect of a natural resource is hereby granted to:

| | | |
|---|---|------------------------|
| Name | Unilever New Zealand Trading Limited | |
| Address | Private Bag 39809, Wellington Mail Centre, Lower Hutt 5045 | |
| Term of consent | Effective: 29 March 2007 | Expires: 29 March 2017 |
| Purpose for which right is granted | To take and use groundwater from an existing bore located in the Waiwhetu Artesian Aquifer. | |
| Location | 486 Jackson Street, Petone, Lower Hutt at or about map reference NZMS 260: R27;688.956 | |
| Legal description of land | Lot 3 DP 341820 | |
| Volume/Quantity/Rate | To take up to 915,600m ³ /year and up to 17,800m ³ /week. | |
| Conditions | 1-9 as attached | |

For and on behalf of
WELLINGTON REGIONAL COUNCIL

Manager, Environmental Regulation

Date:

Conditions to Resource Consent

WGN070193 [25890]

- (1) The location, design, implementation and operation of the take shall be in accordance with the consent application and its associated plans and documents, lodged with the Wellington Regional Council on 7 March 2007.

Note: Where information in the application conflicts with the conditions of this permit, then the conditions shall prevail.

- (2¹) The rate of abstraction shall not exceed 17,800 cubic metres over any seven day period and 915,600m³ per year.
- (3) The permit holder shall meter all abstraction and supply records of weekly total abstraction to the Manager, Environmental Regulation, Wellington Regional Council, on a monthly basis. The installed meter shall have an accuracy of +/- 5 percent.
- (4) If the pressure in the Waiwhetu Artesian Aquifer drops to an average, over a 24 hour period, of +2.3 metres above datum, as measured by the McEwan Park (site number 1428009) water level monitoring station, or any other official Wellington Regional Council water level monitoring station in the Petone and Seaview area, the permit holder shall comply with all abstraction restrictions and/or rostering as directed by the Manager, Environmental Regulation, Wellington Regional Council.
- (5) The Wellington Regional Council may review any or all conditions of this permit by giving notice of its intention to do so pursuant to section 128 of the Resource Management Act 1991, within six months of the commencement date of this permit annually for the first five years and every second year thereafter for the following reasons:
- a) to deal with any adverse effect on the environment which may arise from the exercise of this permit, and which it is appropriate to deal with at a later stage, or
 - b) to review condition 4 to reflect a change in monitoring aquifer salinity once modifications to the McEwan Park site are completed, or
 - c) when more stringent National Environmental Standards on water metering are implemented.
- (6) The wellhead and its connections shall be designed and maintained so that excess water does not run to waste, and contamination of the aquifer and backflow are prevented.
- (7) If any modifications are made to the pump or bore, the permit holder shall notify the Manager, Environmental Regulation, Wellington Regional Council at least one month before the modifications occur.
- (8) If requested by the Manager, Environmental Regulation, Wellington Regional Council, the permit holder shall make the bore available for the monitoring of groundwater levels and water quality.
- (9) All metering and recording methods and procedures shall be to the specific approval of the Manager, Environmental Regulation, Wellington Regional Council.

¹ 10,000m³/year transferred to WGN120153 [31553] on 12 September 2012 under Section 136(2)(b) of the Resource Management Act 1991

Table 8.3: Groundwater allocation limits for groundwater in the Wellington Harbour and Hutt Valley Whitua

| Groundwater management unit | Groundwater allocation limits (m ³ /year) |
|---|---|
| Upper Hutt category B groundwater (groundwater not directly connected) Upper Hutt category C groundwater | 770,000 |
| Lower Hutt category B groundwater (groundwater not directly connected) Lower Hutt category C groundwater | 36,500,000 ¹ [Waiwhetu Aquifer and Taita Alluvium] 1,500,000 [Moroa Aquifer] |

Note

Category B groundwater and **Category C groundwater** are shown in Figure 8.1 and Figure 8.2.

¹ This allocation volume includes depletion equating to 600 L/sec from the Hutt River

8.4 Figures

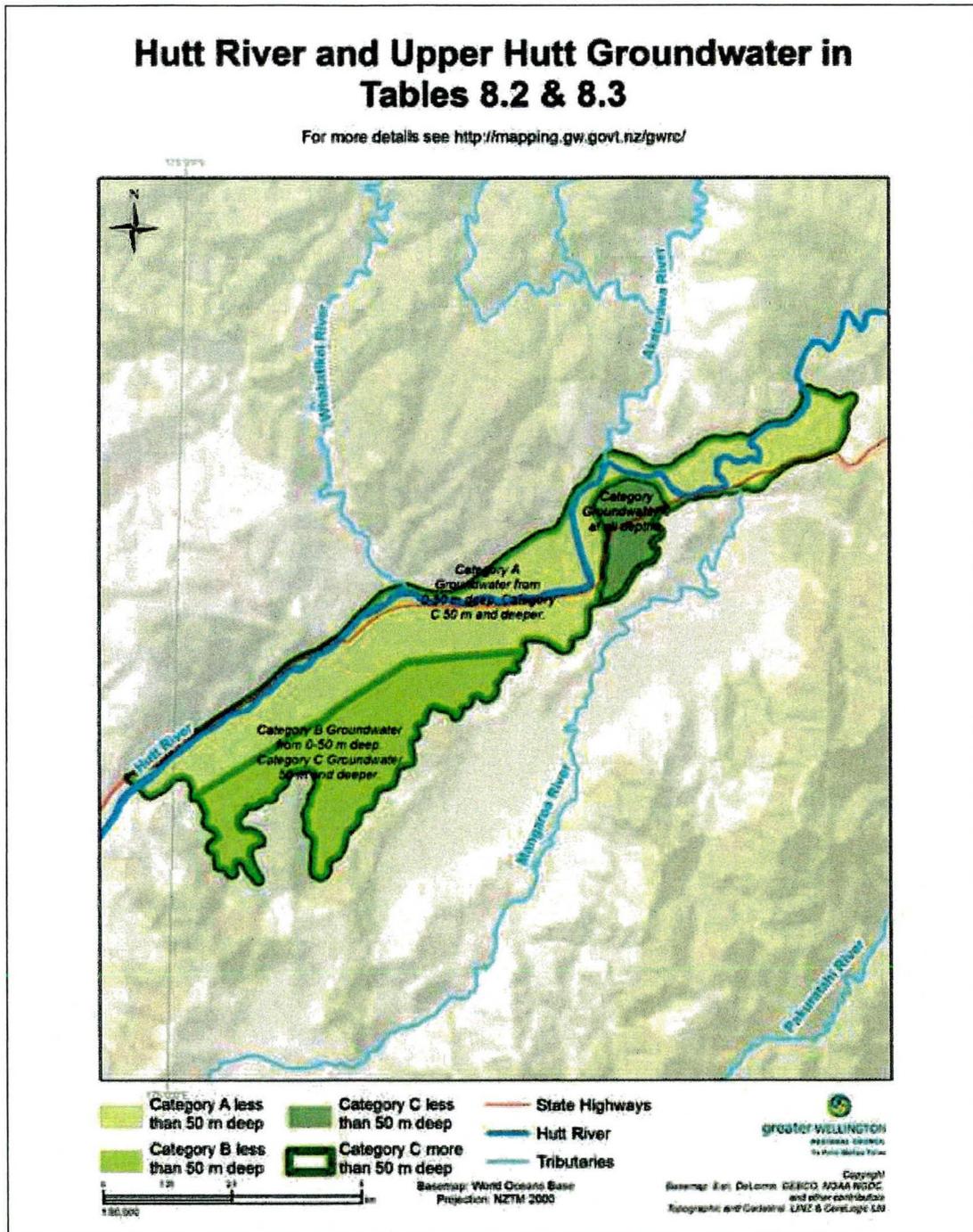


Figure 8.1: Hutt River and Upper Hutt groundwater in Table 8.2 and Table 8.3.

Hutt River and Lower Hutt Groundwater in Tables 8.2 & 8.3

For more details see <http://mapping.gw.govt.nz/gwrc/>

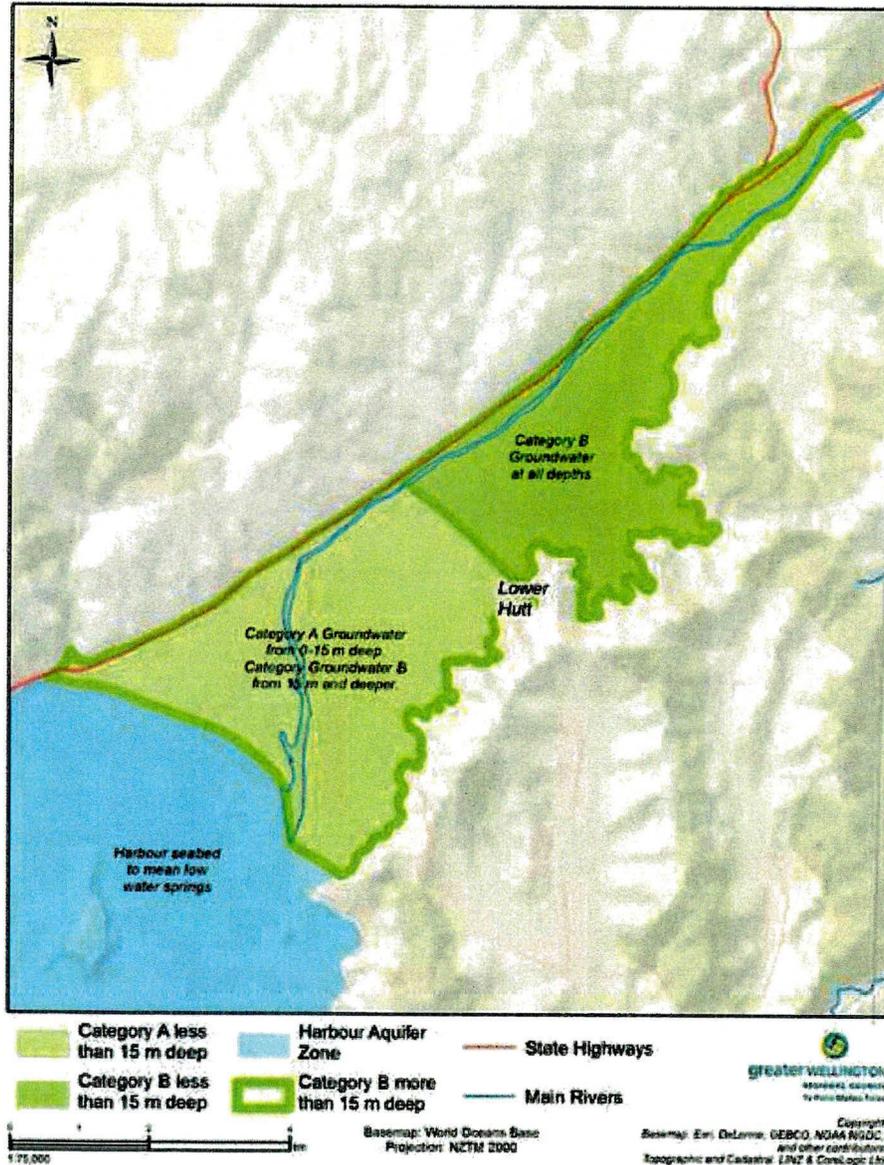


Figure 8.2: Hutt River and Lower Hutt groundwater in Table 8.2 and Table 8.3.

Unilever Site Groundwater Take: Technical Report to Support Consent Renewal

✦ Prepared for

Primeproperty Group Ltd

✦ July 2015



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Quality Control Sheet

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DOCUMENT CONTRIBUTORS

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Reviewed by



SIGNATURE

Blair Thornburrow

Approved by



Graeme Proffitt

Limitations:

This report has been prepared by Pattle Delamore Partners Limited (PDP) on the basis of information provided by Prime Property and others (not directly contracted by PDP for the work), including Unilever, and Greater Wellington Regional Council. PDP has not independently verified the provided information and has relied upon it being accurate and sufficient for use by PDP in preparing the report. PDP accepts no responsibility for errors or omissions in, or the currency or sufficiency of, the provided information.

This report has been prepared by PDP on the specific instructions of Prime Property for the limited purposes described in the report. PDP accepts no liability if the report is used for a different purpose or if it is used or relied on by any other person. Any such use or reliance will be solely at their own risk.

Executive Summary

Pattle Delamore Partners (PDP) has been engaged by Primeproperty Group (the Applicant) to prepare a technical assessment report to support an application to renew a groundwater take consent at the current Unilever site in Petone. The existing consent is to take up to 2,543 m³/day and 9.26 x 10⁵ m³/year from the Waiwhetu aquifer, at a maximum rate of 29.4 L/s. This consent is due to expire on 29 March 2017.

The Applicant is seeking to renew the groundwater take consent with the same daily and annual take volumes provided by the existing consent. The Applicant plans to let the site for industrial use, which will require the continued abstraction of groundwater at the current consented rate. The abstraction bores are installed within the Waiwhetu aquifer, which forms part of the Lower Hutt groundwater zone.

PDP have assessed the current groundwater takes in the Lower Hutt groundwater management zone (GMZ) together with total consented abstraction volumes and actual abstracted volumes. The Regional Council is proposing to increase groundwater allocation in the Lower Hutt GMZ. Whilst the resource is currently over allocated by 8.5 x 10⁵ m³/year, the revised allocation is greater than that currently consented. Prior to the new Natural Resources regional plan coming into force, GWRC indicate that they will assess each new consent and renewal on a case-by-case basis.

PDP has carried out an assessment of the proposed abstraction, including the potential effects on saline intrusion. Recently, a revised saline intrusion monitoring framework was proposed by GWRC. The Council is concerned about the local effects that the proposed take would have on monitoring wells within the framework and the potential activation of trigger levels. Activating trigger levels could cause GWRC to decrease bulk water supply abstraction. This could be problematic, especially during times of drought.

Historically, fluctuations in water level in the monitoring wells have been controlled by GWRC bulk water supply abstraction, which masks any effect of abstraction by Unilever. It is expected that this will continue, and drawdown in the closest saline intrusion monitoring well, R27/0122, as a result of the proposed take is not expected to exceed 0.09 m.

Despite the predicted small drawdown effects, abstraction at this rate from the Unilever site could cause the existing stand-by level of 2.5 m amsl to be breached more regularly, although no significant increase in risk of saline intrusion would actually occur. It is suggested that GWRC consider decreasing the stand-by level to 2.45 m amsl in monitoring well R27/0122. This would prevent the local effect from this take from influencing groundwater abstraction elsewhere in the Lower

Hutt GMZ, and would not increase the risk of saline intrusion in the Waiwhetu aquifer.

Hydraulic gradients between well pairs are also used as trigger levels within the proposed saline intrusion management framework. Analysis by PDP shows that small, isolated reversals in these gradients occur in response to abrupt increases in abstraction from GWRC's Waterloo wellfield. Two of the last three reversals have been caused by an increase in abstraction from the Waterloo wellfield above GWRC's consented volume. It is proposed that a 7-day mean hydraulic gradient is used between monitoring wells R27/0122 and R27/1171 in the monitoring framework. This will prevent small, isolated reversals caused by abstraction from the Waterloo wellfield from disrupting groundwater users in the Lower Hutt groundwater management zone.

To be consistent with the proposed saline intrusion management framework, PDP suggest that a series of conditions are applied to the proposed abstraction. These conditions would involve progressive reduction in pumping from the Applicant's bores as the level of risk increases. Given current conditions, these measures will be sufficient to protect against the risk of saline intrusion.

Effects on neighbouring groundwater bores and stream depletion will be minimal, owing to the relatively high transmissivity of the Waiwhetu aquifer.

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Appendix A: Figures

1.0 Introduction

1.1 Background

Pattle Delamore Partners (PDP) has been engaged by Primeproperty Group (the Applicant) to prepare a technical report in support of an application to renew a groundwater take consent at the current Unilever site in Petone. The existing consent (consent number WGN070193) is to take up to 2,543 m³/day and 9.26 x 10⁵ m³/year from the Waiwhetu aquifer, at a maximum rate of 29.4 L/s. This consent is due to expire on 29 March 2017. The Applicant is seeking to renew the groundwater take consent with the same daily and annual take volumes provided by the existing consent, as it plans to lease the site for industrial use. This will require the continued abstraction of groundwater at the currently consented rate.

At present, Unilever abstract groundwater from two bores located immediately adjacent to each other, with a third used as a back-up. Groundwater abstracted at the site is utilised for industrial purposes. Previously, Unilever held a consent to abstract up to 4,550 m³/day (52.7 L/s). From 1971 – 1978, daily groundwater takes regularly exceeded 3,000 m³. Since then, groundwater usage by Unilever has decreased as factory production has slowed.

Figure 1 shows the location of the Unilever site in Petone.

1.2 Report Outline

This report includes the following:

- ✧ A description of the hydrogeology of the Lower Hutt groundwater zone;
- ✧ A description of the data obtained to support the technical assessment;
- ✧ An assessment of current consented groundwater takes in the Lower Hutt groundwater zone, total consented abstraction volumes and actual abstracted volumes; and
- ✧ A technical assessment, focusing on what we understand to be the main concerns of Greater Wellington Regional Council (GWRC).

2.0 Lower Hutt Aquifer System

2.1 Hydrogeology

The Unilever site is located within the Lower Hutt Groundwater Management Zone (GMZ), and the two main abstraction bores at the Unilever site take water from the Upper Waiwhetu aquifer. Figure 1 shows the location of the Unilever site, and neighbouring consented groundwater takes.

Along the Petone foreshore, borehole logs indicate that the aquifer is encountered at a depth of 20-30 m below ground level, and is around 20-55 m thick. It is comprised of well-sorted, rounded gravels deposited in a high energy riverine environment. The aquifer extends from Taita Gorge in the north and underlies much of Wellington harbour.

Underlying the Upper Waiwhetu aquifer is the Lower Waiwhetu aquifer, which has a greater abundance of finer sediment within the gravel matrix, and consequently a lower permeability. Figure 2 shows a conceptual model of the hydrogeological system.

South of the Kennedy-Good Bridge (crossing the Hutt River at Avalon Park), the aquifer is overlain by the Melling Peat and, further down-valley, the Petone Marine Beds, which are composed of low permeability silts, sands, and peat. At Petone foreshore, the confining layer is up to 30 m thick. This confinement causes static water levels in the Waiwhetu aquifer proximal to the Unilever site to be artesian at around 3–4 m above ground level.

Overlying the confining layer is the Taita Alluvium, which is a heterogeneous unit comprised of riverine and flood plain deposits of variable permeability. Dependent upon location, this unit can be a productive aquifer.

Underlying the Lower Waiwhetu aquifer is the Moera Gravel aquifer. The Moera Gravels are further confined by the lower permeability Wilford shell bed layer, which lies between the two aquifers (WRC, 1995). The shell bed layer is up to 30 m thick, and is at 70-83 m depth in the Petone foreshore area.

2.2 Recharge and Groundwater Flow

Recharge to the Waiwhetu aquifer occurs primarily from the Hutt River (Gyopari, 2014). North of Kennedy-Good Bridge the Waiwhetu aquifer is unconfined and the river loses water to the aquifer between the Kennedy-Good Bridge and Taita Gorge. South of the bridge, the Waiwhetu aquifer becomes confined by the Melling Peat, and further down the valley by the Petone Marine Beds, and the Hutt River gains from the Taita Alluvium. Figure 1 shows the approximate location of the boundary between the unconfined and confined aquifer.

Groundwater flows in a south-west direction down the Hutt Valley towards Wellington Harbour. Downgradient of the Waterloo well field, which is consented to supply up to 83,115 m³/day of bulk water supply to the Wellington region, the hydraulic gradient flattens significantly due to the drawdown associated with this large take (see below).

Due to the high artesian heads, groundwater flow within the Waiwhetu aquifer also has a vertical component. Groundwater discharges through the overlying Petone Marine Beds aquitard both onshore and offshore to the overlying Taita alluvium, and to the sea. There are a number of submarine springs through

which the aquifer discharges off the coast through weaknesses in the Petone Marine Beds.

The Lower Waiwhetu aquifer has similar groundwater heads to the overlying Upper Waiwhetu aquifer. However, groundwater heads in the Moera Gravel aquifer are approximately 1 m greater than heads in the overlying Waiwhetu aquifer, meaning vertical leakage through the Wilford shell bed layer can occur.

2.3 Hydraulic Properties

Hydraulic properties of the Waiwhetu aquifer have been characterised through three large scale pumping tests involving pumping from the GWRC wellfields at Gear Island (1991) and Waterloo (1993 and 1995). Pumping test analyses from these tests indicate that the Upper Waiwhetu aquifer is highly transmissive. Geometric means of the derived transmissivities mostly lie in the range 22,000 – 38,900 m²/day, with a storage coefficient of $3 \times 10^{-4} - 1 \times 10^{-3}$ (Gyopari, 2014). Analysis of these pumping tests indicates that some leakage occurs between the Moera Gravels, and Waiwhetu aquifer across the Wilford Shell bed. A hydraulic conductivity was calculated for the Wilford Shell bed aquitard of around 2.4×10^{-2} m/day (WRC, 1995).

Maps of the transmissivity distribution, derived from the pumping test analyses, suggest that around the Petone foreshore area, the transmissivity is in the range of 40,000–50,000 m²/day (WRC, 1995). Aquifer transmissivity decreases further inland, as aquifer thickness decreases.

In order to be conservative, PDP have used the values of 28,000 m²/day, and 6.4×10^{-4} for drawdown assessments presented later in this report. These values have been derived from the calibrated hydraulic parameters used in the most recent Hutt Aquifer Model (HAM3) numerical model developed for GWRC by Gyopari (2014). Calibrated values for the Upper Waiwhetu aquifer were 1400 m/day and $3.2 \times 10^{-5} \text{ m}^{-1}$ for hydraulic conductivity and specific storage, respectively. Using the most conservative (smallest) thickness of the Upper Waiwhetu aquifer of 20 m results gives values of 28,000 m²/day, and 6.4×10^{-4} for the transmissivity and storativity respectively.

3.0 Data Obtained

In order to carry out this assessment, PDP obtained data from GWRC and Unilever. This is outlined below:

GWRC data:

- ∴ Groundwater level time series for GWRC monitoring wells across the Lower Hutt GMZ;
- ∴ Abstraction data for groundwater take consents within the Lower Hutt groundwater zone; and

- ∴ Copies of relevant hydrogeological reports; this involved a file viewing.

Unilever data:

- ∴ A site plan showing the location of abstraction bores;
- ∴ Groundwater quality data;
- ∴ Groundwater abstraction data; and
- ∴ Information about the history and usage of abstracted groundwater.

4.0 Existing Groundwater Take Consents

Currently, there are 18 groundwater take consents within the Lower Hutt GMZ. Three of these abstract groundwater from the Taita Alluvium, whilst the remaining 15 take groundwater from the Waiwhetu aquifer. Table 1 details the consented takes, and the approximate actual usage between June 2012 and July 2014 (2 year period).

| Table 1: Consented Groundwater takes in the Lower Hutt GMZ, consented abstraction rates and actual use. | | | | |
|---|----------------|--------------------------------------|---------------------------------------|---------------------------|
| Consent Holder | Aquifer | Consented Take (m ³ /day) | Consented Take (m ³ /year) | Actual Usage ¹ |
| GWRC | Waiwhetu | 83,115 | 30,253,860 | 63-72 % |
| Unilever | Waiwhetu | 2,543 | 925,600 | 2 % |
| Avalon Studios | Taita Alluvium | 2,419 | 880,589 | No Data |
| Hutt Valley Health | Waiwhetu | 2,160 | 786,240 | No Data |
| Hutt City Council | Taita Alluvium | 1,530 | 17,075 | 14-18 % |
| Hutt City Council | Waiwhetu | 1,102 | 15,000 | 64-76 % |
| Boulcott Golf Club | Waiwhetu | 995 | 199,000 | No Data |
| Shandon Golf Club | Waiwhetu | 560 | 63,000 | 37-54 % |
| Canterbury Spinners Ltd | Waiwhetu | 543 | 197,601 | 3-8 % |

Table 1: Consented Groundwater takes in the Lower Hutt GMZ, consented abstraction rates and actual use.

| Consent Holder | Aquifer | Consented Take (m ³ /day) | Consented Take (m ³ /year) | Actual Usage ¹ |
|--|----------------|--------------------------------------|---------------------------------------|--|
| Hutt Valley Health | Waiwhetu | 450 | n/a | No Data |
| Boulcott Golf Club | Waiwhetu | 400 | 80,000 | 0-54 % (no take recorded before 9/4/13) |
| Woolyarns Ltd | Taita Alluvium | 286 | 104,000 | No Data |
| NZTS Ltd | Waiwhetu | 143 | 51,936 | 0-55 % (no take recorded after 2/7/13) |
| Imperial Tobacco NZ | Waiwhetu | 65 | 23,660 | 18-19 % |
| Petone Pure Water Ltd | Waiwhetu | 50 | 18,200 | No Data |
| Teri Puketapu | Waiwhetu | 43 | 15,725 | No Data |
| Hutt City Council | Waiwhetu | 30 | 10,920 | 51-55 % |
| Department of Conservation | Waiwhetu | 24 | 8,736 | No Data |
| Total | | 96,458 | 33.7 x 10⁶ | 24.0 x 10⁶ (estimated)² |
| Notes: | | | | |
| 1. Approximate usage of annual take based on data from July 2012 – June 2014 | | | | |
| 2. Approximate actually annual usage, based on maximum annual take data and, where no data exists, consented annual volumes. | | | | |

Abstraction by GWRC for water supply purposes accounts for approximately 90 % of the total annual consented abstraction from the Lower Hutt GMZ. The current Unilever take consent is the second largest in the GMZ. However, this is only 3% of the GWRC annual take. Actual abstraction data show that all consent holders take less groundwater than their consented annual takes, with most taking < 60 % of their consented annual abstraction.

GWRC indicate that $32.85 \times 10^6 \text{ m}^3$ is the current maximum annual abstraction volume from the Lower Hutt GMZ (GWRC, 2012). This maximum volume is a hypothetical value derived from numerical modelling, and set to protect against

adverse effects, including saline intrusion. Currently, the total consented annual take from the Lower Hutt GMZ is $33.7 \times 10^6 \text{ m}^3$, and by this measure the resource is currently over allocated by $8.5 \times 10^5 \text{ m}^3/\text{year}$ or by 3 %. However, the amount of groundwater actually abstracted is conservatively estimated above (Table 1) to be $24.0 \times 10^6 \text{ m}^3$, which is 27 % less than the annual allocated volume. Current abstraction therefore lies within the maximum allocated volume.

Although recently Unilever have not been utilising its full consented allocation, the site use is proposed to change. PDP have been advised that the full consented volume will be required by the Applicant's lessee for production purposes.

Recent groundwater flow modelling commissioned by GWRC suggests that the sustainable groundwater abstraction for this GMZ is $36.5 \times 10^6 \text{ m}^3/\text{year}$ (Gyopari, 2014). GWRC has recommended in a technical report to support draft changes to the regional plan that the groundwater allocation for the Lower Hutt GMZ is increased to this value based on these findings (GWRC, 2014a). This new value is included in the draft Natural Resources Plan for the Wellington Region (GWRC, 2014b). Although the plan is not yet operative, GWRC have indicated that for GMZs where the revised allocation limit has increased, they will consider each consent application on a case-by-case basis taking into account the proposed limits (GWRC, 2015).

5.0 Assessment of Effects

5.1 Introduction

PDP has met with the Senior Environmental Scientist (Groundwater) at GWRC, to discuss the potential environmental effects GWRC will be concerned about with respect to this take. The regional council is mostly concerned about saline intrusion potential, and whether trigger levels intended to warn of such potential will be activated by the Unilever take. This could affect the amount of water taken for municipal supply by GWRC from the Waterloo wellfield.

This section also assesses effects on neighbouring bores and associated groundwater takes, stream depletion and land subsidence.

5.2 Saline Intrusion Risk

5.2.1 Risk Management Framework

The regional council has installed a number of monitoring wells along the Petone foreshore, and further inland, to monitor the potential for coastal saline intrusion. Water level and conductivity triggers have been set several years ago to guard against, and provide early warning of the potential for, saline intrusion. These triggers were recently reviewed and confirmed for the council, and

incorporated into a broader saline intrusion monitoring framework by Gyopari (2014).

Saline intrusion could conceptually occur within the Hutt aquifer system by either one or two of the following mechanisms (Gyopari, 2014):

- ∴ Inland migration of an offshore saline water interface; and
- ∴ Backflow of saline waters through submarine discharge sites proximal to Petone foreshore.

There is currently no evidence for the presence of saline water within the Waiwhetu aquifer at some distance offshore. However, it is possible that there could be some areas of enhanced hydraulic connection between the aquifer and the sea. This could be through areas of weaknesses in the aquitard, or where it is thinner or absent.

The potential for an offshore saline water interface has been tested by numerical modelling. The study found that if an offshore connection between the aquifer and the sea is assumed, groundwater heads beneath the harbour cannot be calibrated to their current levels, i.e. pressure in the Waiwhetu aquifer cannot be maintained (Gyopari, 2014). The presence of an offshore saline water interface is therefore considered to be unlikely, and backflow of saline waters through submarine vents is therefore the most likely mechanism of saline intrusion.

Three types of triggers are defined in the framework. These are:

- ∴ Groundwater levels in saline intrusion monitoring wells (R27/0122, and R27/7154),
- ∴ Electrical conductivity values measured in monitoring wells, and
- ∴ The direction of hydraulic gradients between well pairs.

Figure 3 shows the location of the relevant monitoring wells and well pairs used to assess hydraulic gradients by Gyopari (2014). A positive hydraulic gradient refers to a hydraulic gradient indicating flow towards the sea. Table 2 outlines the trigger levels set by GWRC, and the corresponding recommended management responses for the Waterloo wellfield.

GWRC is concerned about the impact of this take on the saline intrusion monitoring well in McEwan Park, Petone (R27/0122), and the potential for local drawdown impacts at this location to affect saline intrusion triggers. This is the closest saline intrusion monitoring well to the Unilever site, and is located around 371 m south of the Unilever site abstraction bores.

Table 2: Saline intrusion trigger levels in R27/0122 and R27/7154, and management responses to triggers, adapted from Gyopari (2014)

| Stand-by Level | Response |
|---|--|
| Groundwater level: R27/0122 or R27/7154: < 2.5 m amsl ¹ and: Offshore and onshore gradients positive ² and: EC ³ < 150 µS/cm Upper Waiwhetu EC < 250 µS/cm Lower Waiwhetu | Wellfield operators on stand-by to adjust abstraction rates |
| Alert Level | Response |
| Groundwater level: R27/0122 or R27/7154: < 2.3 m amsl and/or: Onshore gradients positive or negative, offshore gradients positive and: EC < 150 µS/cm Upper Waiwhetu EC < 250 µS/cm Lower Waiwhetu | Perform weekly water quality monitoring. Wellfield operators required to decrease abstraction. |
| Minimum Level | Response |
| Groundwater level: R27/0122 or R27/7154: < 2.0 m amsl and/ or > 1 offshore gradient negative EC > 150 µS/cm Upper Waiwhetu EC > 250 µS/cm Lower Waiwhetu | Water quality investigation. Wellfield operators required to decrease abstraction to maintain level at > 2.0 m asl, or until water quality improves. |
| Notes: 1. Groundwater Levels are 24 hour means and measured above mean sea level (amsl). 2. Hydraulic gradients are shown in Figure 3. 3. Electrical conductivity measured in Petone foreshore monitoring wells | |

Bulk water supply for the Wellington region is mostly sourced from the Waterloo wellfield and the Hutt River at Kaitoke, and is augmented by other surface water

takes. During a drought when river levels are low, the groundwater supply is relied on to make up the difference in so far as that is possible. The principal concern of GWRC is that local effects from this take during a drought could cause the triggers to be breached, meaning bulk water abstraction from the wellfield would have to decrease when it is most needed.

The following sections assess the potential impacts of the proposed consented take on the trigger levels.

5.2.2 Drawdown Effects on R27/0122

5.2.2.1 Calculated Drawdown Interference

Drawdown interference, as a result of abstraction from the Unilever site has been calculated at R27/0122 using the Theis (1935) solution. Using conservative hydraulic properties of 28,000 m²/day and 6.4×10^{-4} for the transmissivity and storativity, respectively, drawdown is predicted to be 0.09 m after pumping at the maximum proposed rate of 2,543 m³/day for a full year. Drawdown is not expected to increase beyond this, as the Applicant plans to utilise the take for industrial purposes meaning that production, and consequently water use, will slow or cease during holiday periods, even if production is otherwise 24 hours a day seven days per week.

Leakage through the Wilford shell bed aquitard from the underlying Morea Gravels aquifer, will act to dampen the drawdown interference effect. However, since the Morea Gravel aquifer is confined, water will only be released from elastic storage, meaning leakage from this layer will not significantly reduce drawdown. Leakage from overlying layers is not expected to reduce drawdown, as at this distance from pumping bore(s), the static vertically upwards hydraulic head gradient will be preserved.

5.2.2.2 Effects of Historical Unilever Pumping

No pumping test was undertaken as part of this assessment. However, historic Unilever abstraction data records are available. Figure 4 shows a graph of Unilever abstraction data, together with groundwater levels in R27/0122, and monthly rainfall. This figure shows that there is no obvious recovery in groundwater levels in the monitoring well in response to the decreasing rate of abstraction through time.

Figures 5 and 6 compare daily Unilever abstractions to groundwater levels in R27/0122 during the first and second halves of 1996, when abstraction from the Unilever site was at its highest. Again, there is no obvious correlation between decreases in groundwater level and increases in pumping rate, implying that the effect of pumping from the Unilever site on R27/0122 is minimal.

5.2.2.3 Effects of GWRC Bulk Water Supply Abstraction

Bulk water supply abstraction by GWRC has moved to more inland locations through time as saline intrusion concerns have increased. Prior to 1982, GWRC abstracted groundwater for public supply from the Gear Island wellfield, which is comprised of three bores and situated around 600 m north of monitoring well R27/0122 (marked on Figure 3). Between 1982 and 2001, GWRC abstracted water from both the Waterloo wellfield (located around 2.8 km north-north-east of R27/0122 and also marked on Figure 3) and the Gear Island wellfield. Since 2001, bulk water supply abstraction has solely been from the Waterloo wellfield to protect against saline intrusion. The most recent, prolonged abstraction from the Gear Island wellfield took place in 1999.

Figure 7 compares abstraction from the Waterloo wellfield with groundwater levels in monitoring well R27/0122 and monthly rainfall¹ during 2013. Due to the high transmissivity of the aquifer, and the large abstraction volumes, drawdown interference effects are evident at R27/0122. Figure 7 shows how the fluctuations in pumping rate cause corresponding fluctuations in the groundwater level.

In March 2013, drawdown of approximately 0.6 m occurred in response to an increase in pumping rate at Waterloo from 60,000 – 99,710 m³/day. As the pumping rate subsequently declined, groundwater levels recovered quickly, as is expected in a high transmissivity aquifer. This increase up to 99,710 m³/day caused GWRC to exceed its consented take. Such an increase in pumping rate could cause the alert level to be breached, particularly during a drought period, when groundwater levels are depressed.

At present, fluctuations in pumping rate at Waterloo have the most significant influence on 24-hour mean water levels in monitoring well R27/0122. Using the Theis equation, and the hydraulic property values outlined above, drawdown is expected to be 1.99 m after 365 days pumping at the maximum consented rate from the Waterloo wellfield. The expected drawdown due to pumping at the proposed maximum rate from the Unilever site (0.09 m after 365 days) is just 4 % of the maximum drawdown expected from the Waterloo wellfield. This is an insignificant amount relative to water level fluctuations, which are primarily influenced by GWRC bulk supply abstraction and recharge.

Figure 8 shows historic Unilever abstraction data from 1970 – 1991. From 1970 – 1978, Unilever consistently abstracted > 2,500 m³/day. During this period, all bulk water supply from the aquifer was sourced from the Gear Island wellfield. Drawdown effects on monitoring well R27/0122 during this time interval should

¹ Summed monthly rainfall at Trentham. While the recharge from the Hutt River at Taita (and therefore groundwater levels) is likely to reflect rainfall from further up in the Hutt catchment, summed monthly rainfall from Trentham is considered likely to mirror trends in the upper catchment.

therefore be most pronounced, and greater than from combined pumping from the Waterloo wellfield and the Unilever site.

Figure 9 shows a plot of groundwater levels in monitoring well R27/0122 through time from 1971 to 2014 compared with monthly rainfall. Between 1971 and 1978, groundwater levels dropped below the saline intrusion minimum level (2 m amsl) on five occasions, and for all but one year, annually dropped below the saline intrusion alert level (2.3 m amsl).

Following the transfer of part of the bulk water supply abstraction to Waterloo in 1981, there is a noticeable recovery in groundwater levels, while there is no obvious change in rainfall. However, any recovery associated with the decreasing abstraction from the Unilever site in 1978 is not possible to identify. This further supports the conclusion that the effect of the groundwater take from the Unilever site on R27/0122 is insignificant relative to the GWRC bulk water supply abstraction.

5.2.2.4 Effects on Trigger Levels in Monitoring Well R27/0122

Since 1982, from when abstraction from Gear Island decreased, the saline intrusion alert level has not have been breached, and the stand-by level has been breached on only six occasions. Abstraction for water supply purposes ceased from Gear Island entirely in 2001, and the stand-by level has been breached once since this time. This is most likely during lower groundwater levels in summer, in response to lower flows in, and lower aquifer recharge from, the Hutt River.

A hypothetical scenario was considered whereby 0.09 m of drawdown was applied to the historical groundwater level hydrograph for monitoring well R27/0122. This was a conservative assessment designed to demonstrate the potential influence of the proposed take on the trigger levels. This assessment indicates that the stand-by level would have been breached on five occasions since 2001. However, the alert level would not have been triggered. This assessment is conservative, because Unilever were pumping during this time, albeit at a reduced rate, and therefore some drawdown at R27/0122 was already occurring. This means the same drawdown is counted twice.

This drawdown effect is local and will not increase the risk of saline intrusion in the Waiwhetu aquifer. It is possible that the proposed abstraction could occasionally contribute to trigger levels being breached. This in turn would require a reduction in other abstractions, particularly the GWRC bulk water supply abstraction. We suggest that GWRC consider decreasing the stand-by trigger level to 2.45 m amsl in monitoring well R27/0122. This would prevent unnecessary abstraction reductions caused by the local effect of pumping from the Unilever site.

Due to the much greater abstraction, and high aquifer transmissivity, bulk water supply abstractions have historically masked drawdown interference effects on

monitoring well R27/0122 caused by abstraction by Unilever. The effect of this is that if breaches do occur, it is not possible to determine whether the breach is a result of the bulk water abstraction or some other abstraction, for example from the Unilever site.

5.2.3 Drawdown Effects on other Monitoring Wells

The next closest monitoring well is R27/7154, located around 1.75 km west-northwest of the Unilever site along the Petone foreshore. Figure 3 shows the location of this bore. Using the Theis method, and the same hydraulic parameters outlined above, drawdown interference effects of around 0.07 m are expected after pumping from the Unilever site for one year at 2543 m³/day. This monitoring site has only been operating since 2008, and saline intrusion trigger levels are yet to be breached (as of 2014).

Monitoring well R27/7154 is located further away (3.3 km) from the Waterloo wellfield than monitoring well R27/0122, meaning drawdown interference effects from bulk water supply abstraction will be less pronounced than in R27/0122. Even so, it is expected that effects from the Unilever site will be difficult to distinguish, and effects on groundwater level will be small (≤ 0.07 m).

5.2.4 Effects on Hydraulic Gradients

Figure 3 shows the locations of well pairs which define hydraulic gradient triggers in the proposed saline intrusion monitoring framework. The gradients to be most affected by this abstraction will be those closest to the Unilever site; onshore between Randwick (monitoring well R27/1122) and McEwan Park (R27/0122); and offshore between McEwan Park (R27/0122) and Somes Island (monitoring well R27/1171). The effect of drawdown on monitoring well R27/0122 will be greater than at Randwick monitoring well since R27/0122 is closer to the Unilever site, thereby increasing the onshore gradient (Randwick to McEwan Park) towards the coast. Therefore, the proposed take will not increase the probability of the hydraulic gradient trigger being breached. However, drawdown at monitoring well R27/0122 is predicted to be greater than at Somes Island (R27/1171), meaning the offshore gradient between McEwan Park and Somes Island will reduce.

Figure 10 shows groundwater level time series data for monitoring well R27/1171 (Somes Island) and monitoring well R27/0122 (McEwan Park) and the head difference between them through time. Groundwater levels in both monitoring wells follow the same trend, indicating that they are both influenced by bulk water supply abstraction further up the aquifer. Since May 1993, a period which includes when the Gear Island wellfield was pumping, offshore hydraulic gradient between R27/0122 and R27/1171 has reversed (indicating flow towards land) on 23 days (calculated using 24 hour means of water level). These reversals are small (maximum head difference of -0.11 m), isolated incidents, and are well

correlated with increased bulk water supply abstraction which causes groundwater levels to decrease abruptly. Table 3 details the most recent three reversals.

Table 3: Gradient reversals and associated GWRC abstraction for July 2012 – June 2014

| Reversal Date | Head Difference (m) | Waterloo Pumping – change in pumping from previous day |
|---------------|---------------------|--|
| 29/8/2012 | -0.04 | Increase from 73,140 to 94,480 m ³ /day |
| 6/5/2013 | -0.07 | Increase from 64,200 to 94,070 m ³ /day |
| 15/5/2014 | -0.07 | Increase from 63,300 to 78,300 m ³ /day |

When abstraction from the Waterloo wellfield increases sharply, effects will be observed first at monitoring well R27/0122, before taking time to propagate out to Somes Island (monitoring well R27/1171). As is discussed earlier, drawdown at R27/0122 due to pumping the Unilever bores at the proposed rate for one year is predicted to be 0.09 m. Using the Theis equation and the same parameters and conditions as above, drawdown at monitoring well R27/1171 (3.47 km south) is predicted to be 0.06 m. This corresponds to an estimated small decrease in the head at R27/1171 of only 0.03 m.

Since 2002, when the Gear Island wellfield ceased regular abstraction, the gradient reversed on eight occasions. Taking into account the predicted 0.03 m difference, the gradient would have reversed 20 times over this same period if the Unilever bores were pumping at the maximum rate, an increase of 12 occasions. This assessment is conservative, because, as noted above, Unilever were actually pumping during this time, albeit at a reduced rate. Although the number of reversals is predicted to increase, the magnitude of the head difference is low for these occasions, and they remain isolated events primarily driven by sharp increases in abstraction rates from the Waterloo wellfield.

The timeframe over which the hydraulic gradients are to be considered for the purposes of assessing triggers is unclear. PDP recommend assessing the 7-day averaged hydraulic gradients. This would provide a more reliable indication of saline intrusion risk and will prevent short duration pumping spikes from GWRC from disrupting groundwater users in the Lower Hutt GMZ (including GWRC).

5.2.5 Overall Effects and Management

Effects on the trigger levels in the proposed saline intrusion management framework will be dominated by abstraction from the Waterloo wellfield.

Nevertheless, trigger levels consistent with the management framework should be applied to the consent. PDP suggest that a series of conditions are applied to the consent, with appropriate responses by the Applicant. These are outlined in Table 4. These have been derived by calculating the necessary reduction in pumping rate to reduce the observed drawdown in monitoring well R27/0122. Owing to the high transmissivity of the aquifer, any decrease in pumping rate will cause groundwater levels to rapidly recover in the monitoring wells.

Since the proposed abstraction is just 3 % of the consented GWRC bulk water supply take, the effects on drawdown in R27/0122 from GWRC's take at Waterloo will be much greater, and it is unlikely that the effect of reducing abstraction from the Unilever site will be noticeable relative to fluctuations from Waterloo.

| Table 4: Proposed responses by the Applicant to trigger levels being reached | | |
|--|---|---|
| Level | Type | Response |
| Stand-by level | Groundwater Levels R27/7154: ≤ 2.5 m amsl Groundwater levels R27/0122: < 2.45 m amsl | Applicant is notified by GWRC. Be prepared to take action. |
| Alert Level | Groundwater Levels ≤ 2.3 m amsl ¹ or negative onshore gradient(s) ² | Reduce maximum pumping rate by 25 % (2,034 m ³ /day). This reduces drawdown to 0.045 m after 7 days pumping ³ . |
| Minimum Level | Groundwater Levels ≤ 2 m amsl ¹ or negative offshore gradient(s) ² or > 150 µs/cm | Reduce maximum pumping rate by 50 % (1,260 m ³ /day). This reduces drawdown to 0.03 m after 7 days pumping ³ . |
| 7 days at Minimum Level | | Cease pumping |
| Notes: 1. Trigger level in metres above mean sea level, and calculated as 24 hour mean value measured in R27/0122 or R27/7154. 2. Gradient calculated as 7 day mean. 3. Prediction calculated using Theis equation. Drawdown after 7 days pumping at maximum rate is 0.06 m. | | |

Between July 2012 and June 2014, GWRC exceeded its daily consented take 14 times, by up to 16,595 m³/day. As historical data demonstrates, GWRC bulk abstraction greatly influences the triggers, in particular, groundwater levels in monitoring well R27/0122. Such an exceedance of the GWRC consented take could cause trigger levels to be breached. This would not be caused by the Applicant's pumping, and if this were the case PDP suggests that the Applicant is allowed to continue abstracting at the same consented rate.

Based on analysis of the historical data, it is considered unlikely that given current conditions, the minimum or alert levels would be breached. This could change with sea level rise or during an exceptional drought. In comparison to the GWRC take at the Waterloo wellfield, this take is relatively small, and effects on the hydraulic gradient and saline intrusion monitoring wells are expected to be similarly minor. Hence, the proposed triggers are considered sufficient to protect against saline intrusion.

5.3 Drawdown Effects on Neighbouring Bores

The closest consented groundwater abstraction to the Unilever site is Shandon Golf Club. According to GWRC, the golf club's bore is located around 355 m northeast of the Unilever site. Using the Theis method, with the hydraulic properties specified above, drawdown in the Shandon Golf Club abstraction bore is expected to be 0.08 m after 365 days of continuous pumping at the maximum proposed rate (2,543 m³/day). This drawdown interference effect is minimal, and will not affect the ability of Shandon Golf Club to abstract groundwater. Effects on other neighbouring bores are expected to be much less and, as such, neighbouring groundwater users will not be affected.

5.4 Stream Depletion Effects

The Hutt River is the nearest surface water body to the abstraction bores, with the true right bank located approximately 460 m to the east of the Unilever bores. A blind channel (the Dead Arm) of the Hutt River lies 150 m north-east of the bores.

Taking groundwater from the Waiwhetu aquifer causes more water to be drawn from the Hutt River where the aquifer is unconfined. However, this take is relatively small compared to the Waterloo wellfield bulk supply take. Any additional effects on the Hutt River in the reach where the aquifer is unconfined will be minimal in comparison to this.

Stream depletion in the immediate vicinity of the bores is unlikely to be significant. Due to the high transmissivity of the aquifer, drawdown effects will be small. The presence of the Petone Marine Beds confining layer will cause limited leakage from the surface and mean drawdown effects at the surface will be small and widespread, thereby minimising any direct stream depletion effects.

In addition, the amount of possible leakage will be very small relative to the flow in the river, even at summer low flows.

In summary, stream depletion effects will be below the level requiring an abstraction restriction, and any long-term depletion effects are most appropriately managed by the groundwater allocation limits already set (or proposed) for the area. As mentioned above, the groundwater resource in the Lower Hutt GMZ is currently slightly over the current allocation limit. However, this allocation limit is proposed to be increased above the current consented allocation, and effects on the surface water bodies are expected to be less than minor.

5.5 Subsidence

Due to the high transmissivity of the aquifer, drawdown is not expected to be significant, and consequently subsidence will not occur.

6.0 Conclusions

From the assessment of current consented takes and the AEE, the following conclusions can be made:

- ∴ The Applicant wishes to renew the current take consent for the same volume, being 2,543 m³/day and 9.26 x 10⁵ m³/year. Although the consent is not currently utilised to the full degree, the site is to be purchased by Primeproperty Group, and leased for industrial purposes. It is understood that the full take will be required by the lessee company.
- ∴ It is understood that GWRC proposes to increase the groundwater allocation of the Lower Hutt GMZ. Whilst the resource is theoretically currently over allocated by 8.5 x 10⁵ m³/year, the revised allocation is greater than that currently consented. GWRC has indicated it will assess each new consent or renewal on a case-by-case basis taking the revised allocation into account.
- ∴ GWRC is most concerned about the effect the take may have on the saline intrusion monitoring framework and the potential increased frequency of trigger levels being activated. Effects on the nearby saline intrusion monitoring well R27/0122 are of most concern because it is to be used as an indicator for regional saline intrusion risk.
- ∴ Drawdown in monitoring well R27/0122 as a result of the proposed take is not expected to exceed 0.09 m. Historically, fluctuations in water level in R27/0122 have been dominated by bulk water supply abstraction by GWRC. Given the much larger effects from the Waterloo wellfield, it is unlikely that drawdown effects from the Unilever bores will be distinguishable from that caused by pumping from the Waterloo wellfield. Nevertheless, abstraction at the proposed rate from the

Unilever site could cause the existing saline intrusion stand-by trigger level to be breached more regularly. However, historical monitoring shows the likelihood of actual saline intrusion at this trigger to be minimal, and the small additional local drawdown from the Unilever bore will not change this.

- ∴ To avoid unnecessary and irrelevant triggers, it is suggested that GWRC consider decreasing the stand-by level to 2.45 m amsl in R27/0122. This would prevent the local effect from this take from influencing groundwater abstraction elsewhere in the Lower Hutt GMZ, and would not increase the risk of saline intrusion in the Waiwhetu aquifer.
- ∴ In the saline intrusion management framework, PDP suggest that a 7-day mean is used to assess the offshore hydraulic gradient between R27/0122 (McEwan Park) and R27/1171 (Somes Island). This is to prevent small, isolated reversals caused by abrupt increases in abstraction from the Waterloo wellfield from disrupting groundwater users in the Lower Hutt GMZ. Two of the last three reversals have been caused by an increase in abstraction from the Waterloo wellfield above the consented rate.
- ∴ A change in head difference of 0.03 m is anticipated between McEwan Park and Somes Island, as a result of the proposed take. Given historical data, this is considered unlikely to cause an increase in the frequency of reversals in gradient. Abrupt increases in abstraction from Waterloo will continue to be the main driver for this trigger.
- ∴ To be consistent with the proposed saline intrusion management framework, PDP suggest that a series of triggers be applied to the Unilever abstraction. This involves progressive reduction in pumping from the Applicant's bore as the level of risk increases. Given current conditions, these measures will be sufficient to protect against the risk of saline intrusion.
- ∴ Due to the large transmissivity of the aquifer, drawdown on neighbouring bores will be limited, and no effects are envisaged. Likewise, any stream depletion effects are expected to be unnoticeably small and widely distributed.

7.0 References

Greater Wellington Regional Council (GWRC) (2012). *Freshwater Allocation and Availability in the Wellington Region*.

Greater Wellington Regional Council (GWRC) (2014a). *Water allocation recommendations for the Wellington region: Technical Report to support the draft Natural Resources Plan*.

Greater Wellington Regional Council (GWRC) (2014b). *Draft Natural Resources Plan for the Wellington Region*. Accessed June 2015
<http://www.gw.govt.nz/regional-plan-review>

Greater Wellington Regional Council (GWRC) (2015). *Balancing water allocation provisions in the Regional Freshwater Plan & draft Natural Resources Plan: Guidance on the consideration of potential increased water allocation from 1 January 2015*.

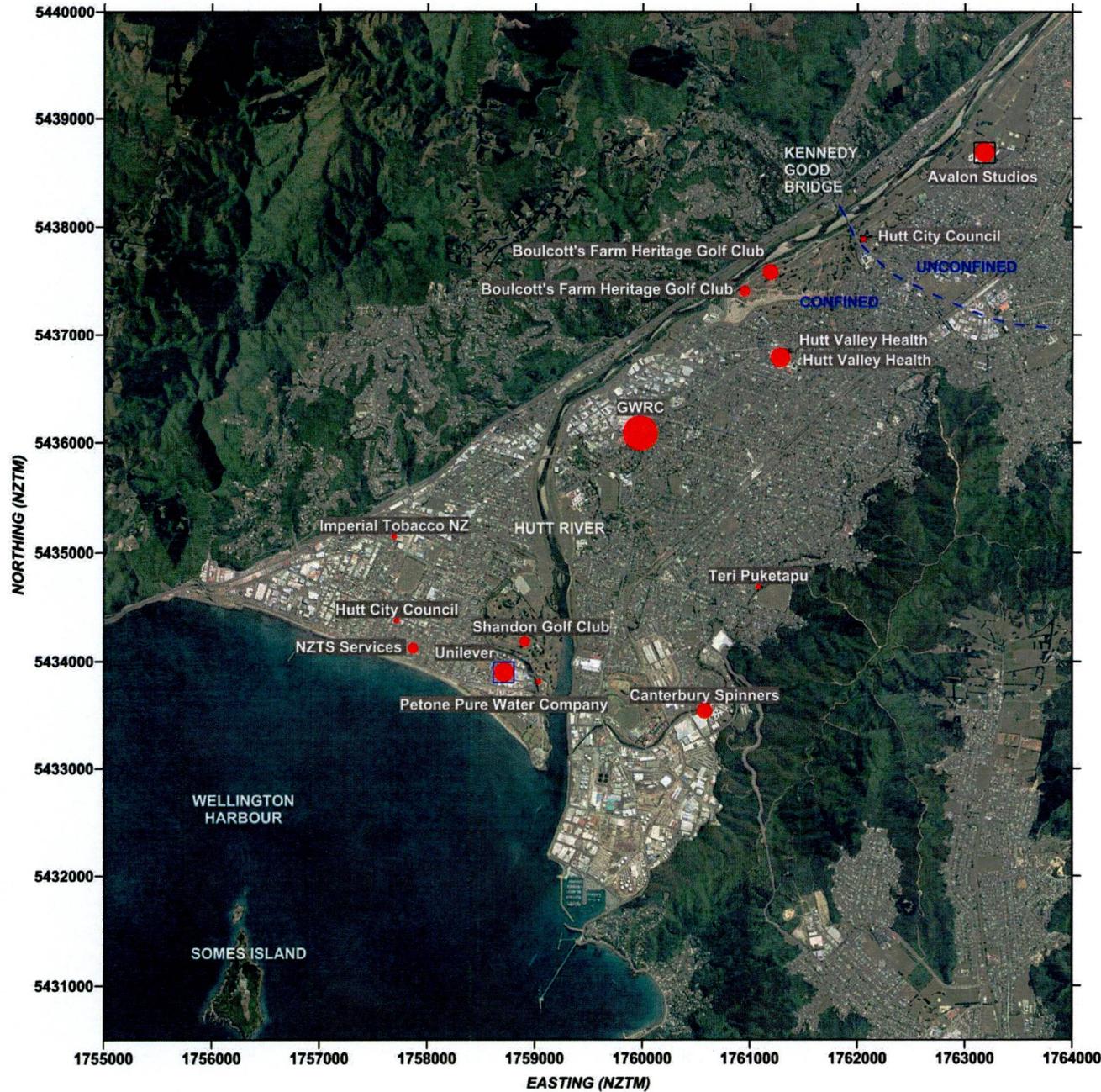
Gyopari, M. (2014). *Lower Hutt Aquifer Model Revision (HAM3): Sustainable Management of the Waiwhetu Aquifer*. Report for Greater Wellington Regional Council, Earth in Mind Limited, Wellington.

Theis, C. V. (1935). The relation between the lowering of the piezometric surface and the rate and duration of discharge of a well using groundwater storage. *American Geophysical Union Transcript* vol. 16, pp. 519-524.

Tonkin and Taylor (1997). *Groundwater Takes from the Waiwhetu Aquifer. Assessment of Environmental Effects*. Report for Dominion dyers Ltd, Feltex Carpets Ltd, NZTS Wellington, Seaview Wools Ltd, WD & HO Wills Ltd, and Unilever Ltd.

Wellington Regional Council (WRC) (1995). *Hydrology of the Hutt Catchment. Volume 2 – Groundwater Hydrology*. Wellington Regional Council Hydrological Services Group. May 1995. Pub No. WRC/CI_T_95/38.

Appendix A: Figures



KEY

- CONSENTED TAKE: WAIWHETU AQUIFER
- CONSENTED TAKE: TAITA ALLUVIUM
- LOCATION OF UNILEVER TAKE

KEY: ANNUAL CONSENTED TAKES

- 0 - 50,000 m³
- 50,000 - 100,000 m³
- 100,000 - 500,000 m³
- 500,000 - 1,000,000 m³
- > 1,000,000 m³

* LABEL IS CONSENT HOLDER

TAKES FROM WOOLYARNS AND MANOR PARK GOLF CLUB LOCATED FURTHER NORTH (OFF THIS MAP)

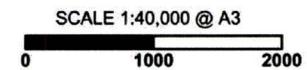
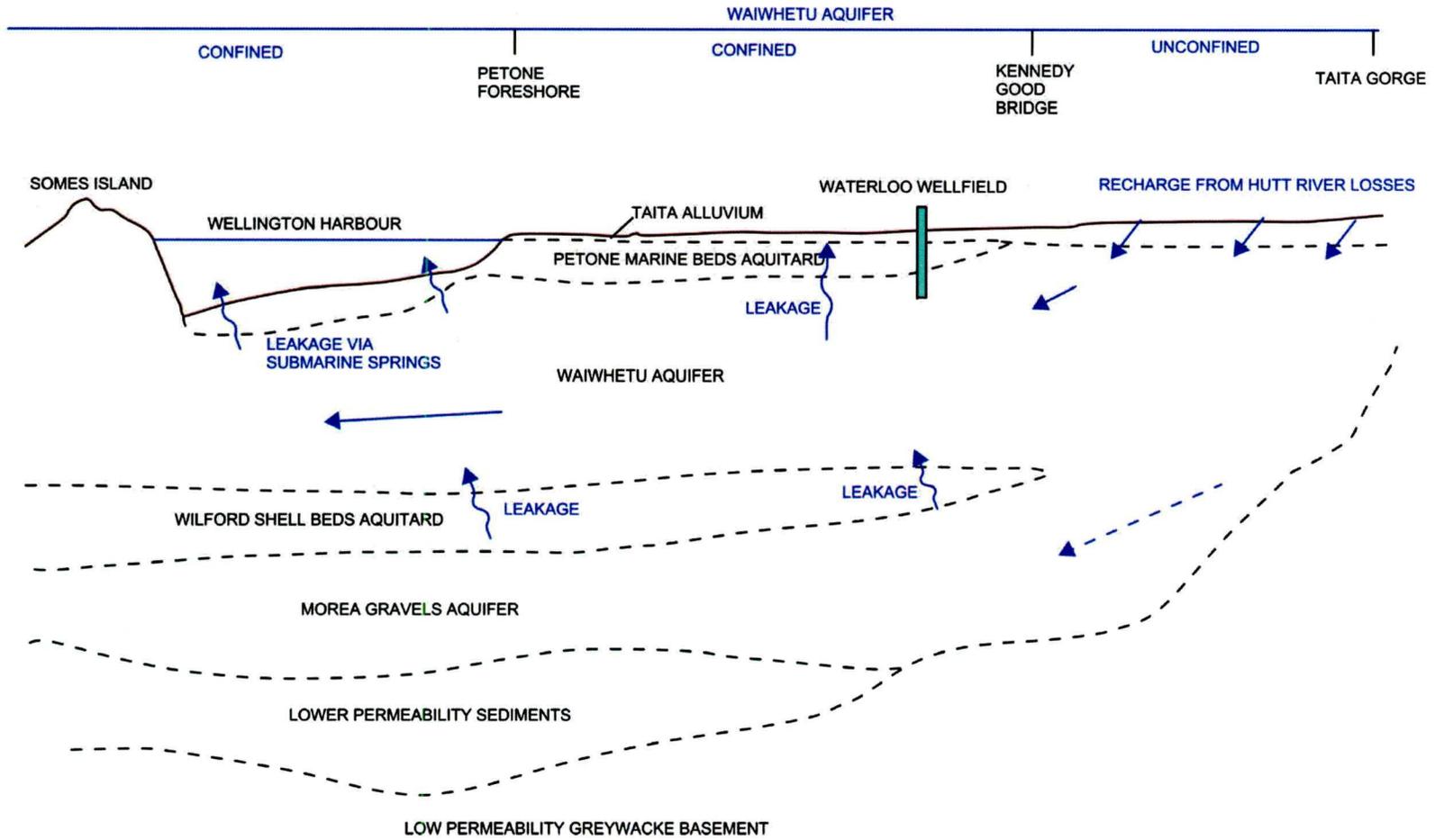


FIGURE 1: LOCATION OF UNILEVER SITE AND OTHER CONSENTED TAKES IN LOWER HUTT GROUNDWATER MANAGEMENT ZONE



NOT TO SCALE, ALL BOUNDARIES APPROXIMATE

FIGURE 2: CONCEPTUAL MODEL OF THE LOWER HUTT AQUIFER SYSTEM, ADAPTED FROM WRC (1995).

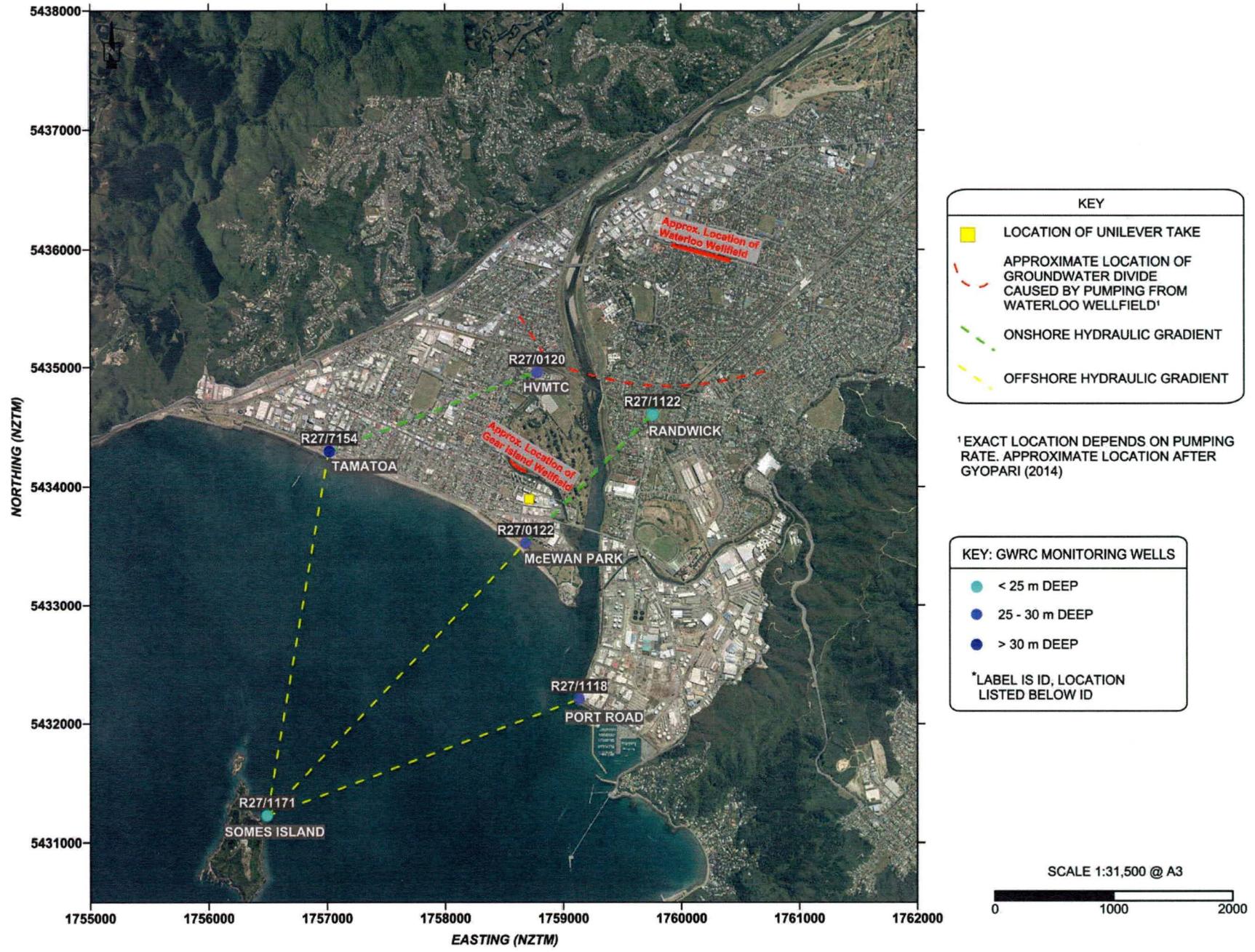
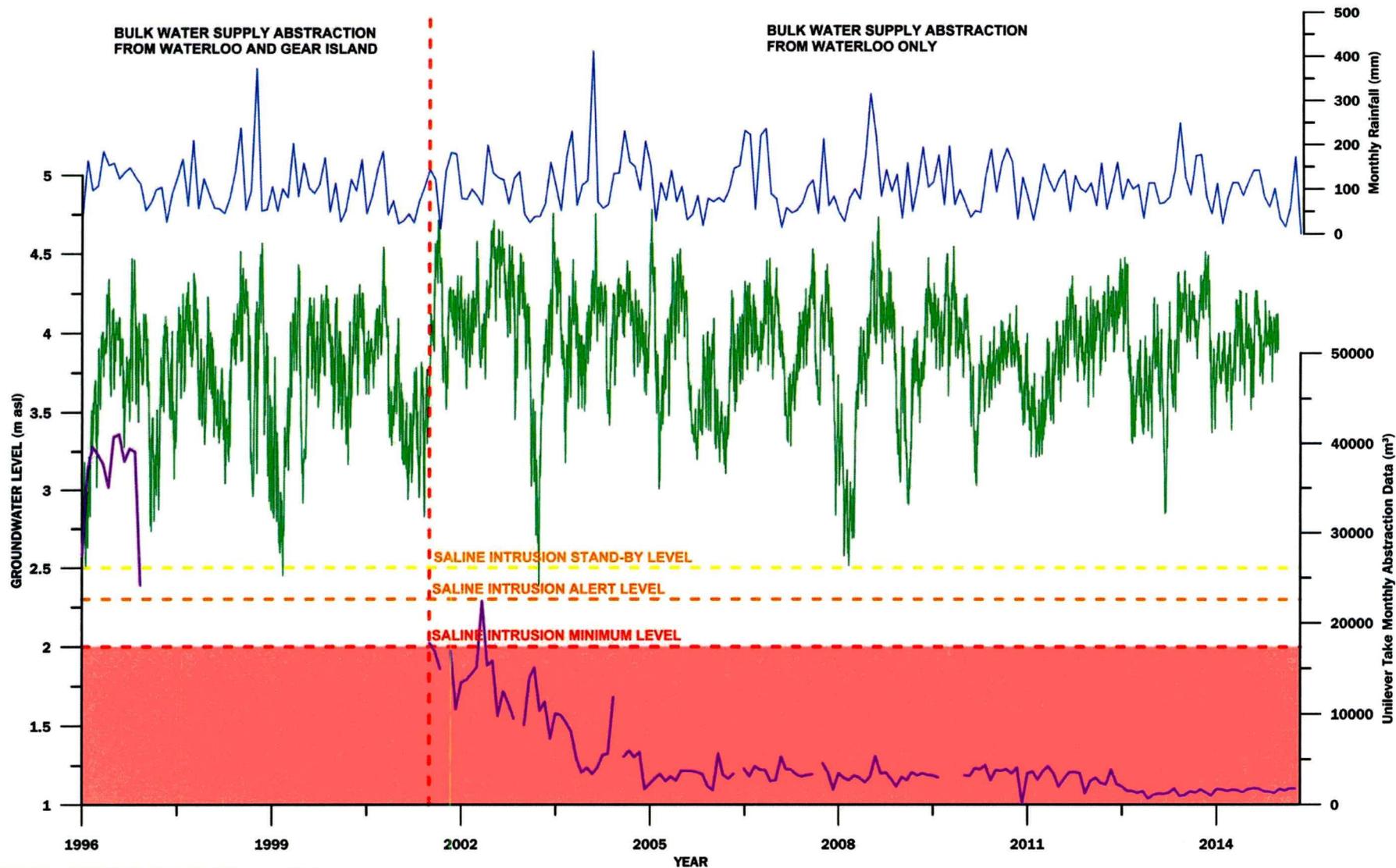


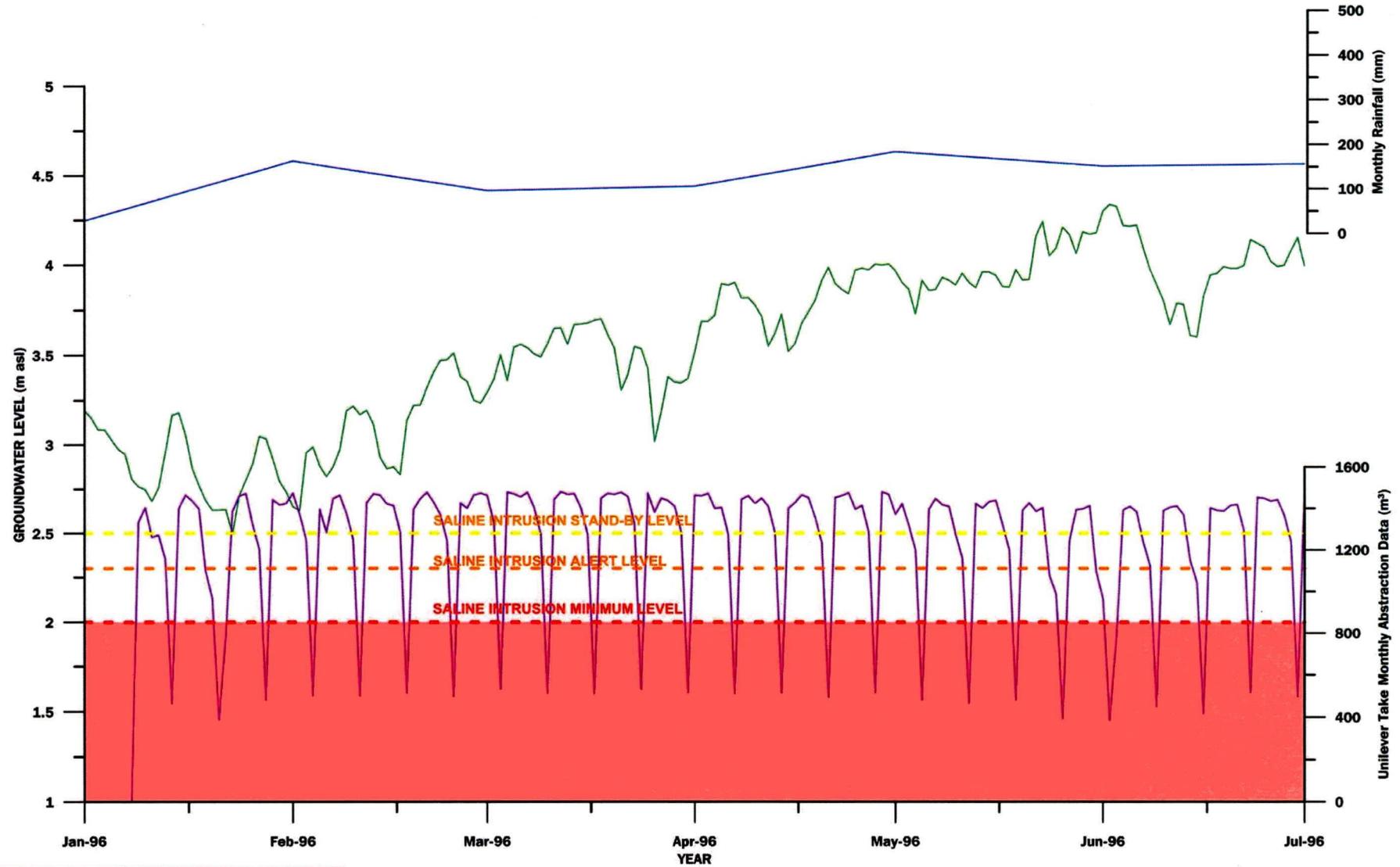
FIGURE 3: LOCATION OF MONITORING WELLS AND HYDRAULIC GRADIENTS WHICH FORM PART OF THE PROPOSED SALINE INTRUSION MONITORING NETWORK



R27/0122 Hydrograph Compared to Seasonal Rainfall and Unilever Abstraction Data

- R27/0122 (24 hour mean)
- Monthly Rainfall (Trentham) (mm)
- Unilever Take Abstraction Data (m3)

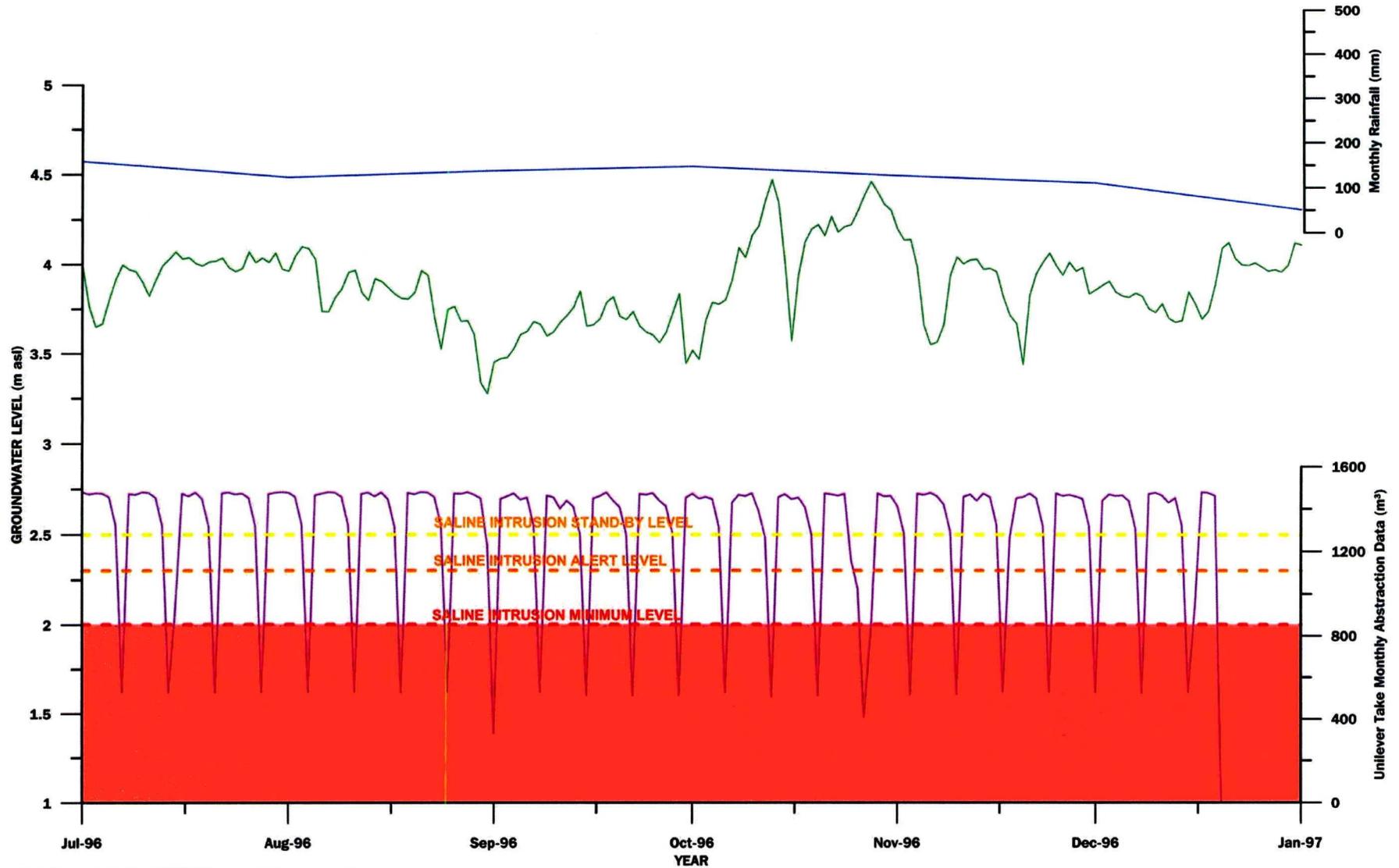
FIGURE 4: GROUNDWATER LEVEL HYDROGRAPH FOR GWRC MONITORING WELL R27/0122 COMPARED TO MONTHLY RAINFALL AND UNILEVER ABSTRACTION DATA



R27/0122 Hydrograph Compared to Seasonal Rainfall and Unilever Abstraction Data

- R27/0122 (24 hr mean)
- Monthly Rainfall (Trentham) (mm)
- Unilever Take Abstraction Data (m3)

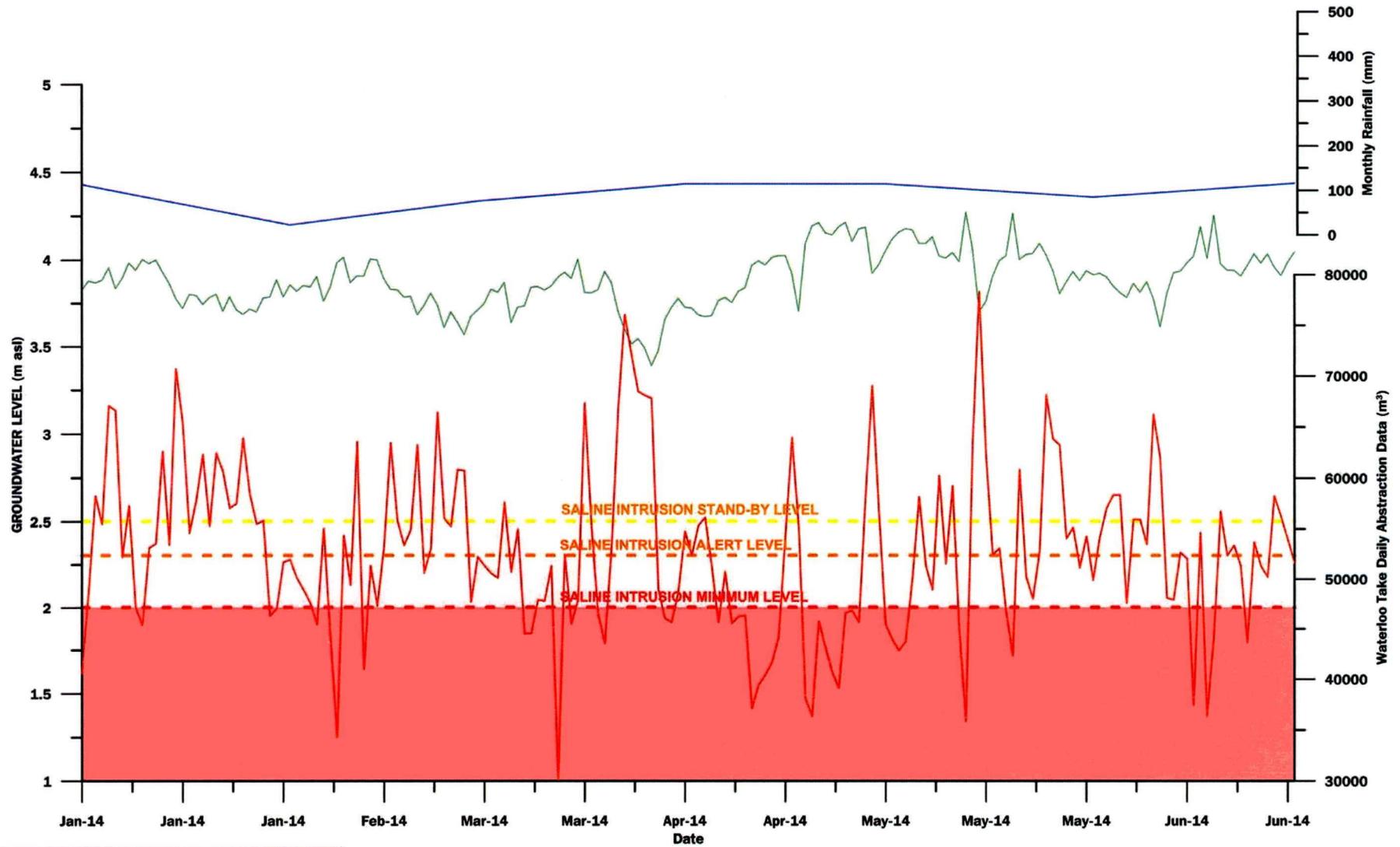
FIGURE 5: GROUNDWATER LEVEL HYDROGRAPH FOR GWRC MONITORING WELL R27/0122 COMPARED TO MONTHLY RAINFALL AND DAILY UNILEVER ABSTRACTION DATA FOR JANUARY - JUNE 1996



R27/0122 Hydrograph Compared to Monthly Rainfall and Unilever Abstraction Data

- R27/0122 (24 hour mean)
- Monthly Rainfall (Trentham) (mm)
- Unilever Take Abstraction Data (m3)

FIGURE 6: GROUNDWATER LEVEL HYDROGRAPH FOR GWRC MONITORING WELL R27/0122 COMPARED TO MONTHLY RAINFALL AND DAILY UNILEVER ABSTRACTION DATA FOR JULY - DECEMBER 1996



R27/0122 Hydrograph Compared to Daily Rainfall and Waterloo Borefield Abstraction Data

- R27/0122 (24 hour mean)
- Rainfall (Trentham) (mm)
- Waterloo Take Abstraction Data (m3)

FIGURE 7: GROUNDWATER LEVEL HYDROGRAPH FOR GWRC MONITORING WELL R27/0122 COMPARED TO MONTHLY RAINFALL AND WATERLOO BOREFIELD ABSTRACTION DATA, JANUARY - JUNE 2014

Unilever Water Usage 1970-90 7 day moving average

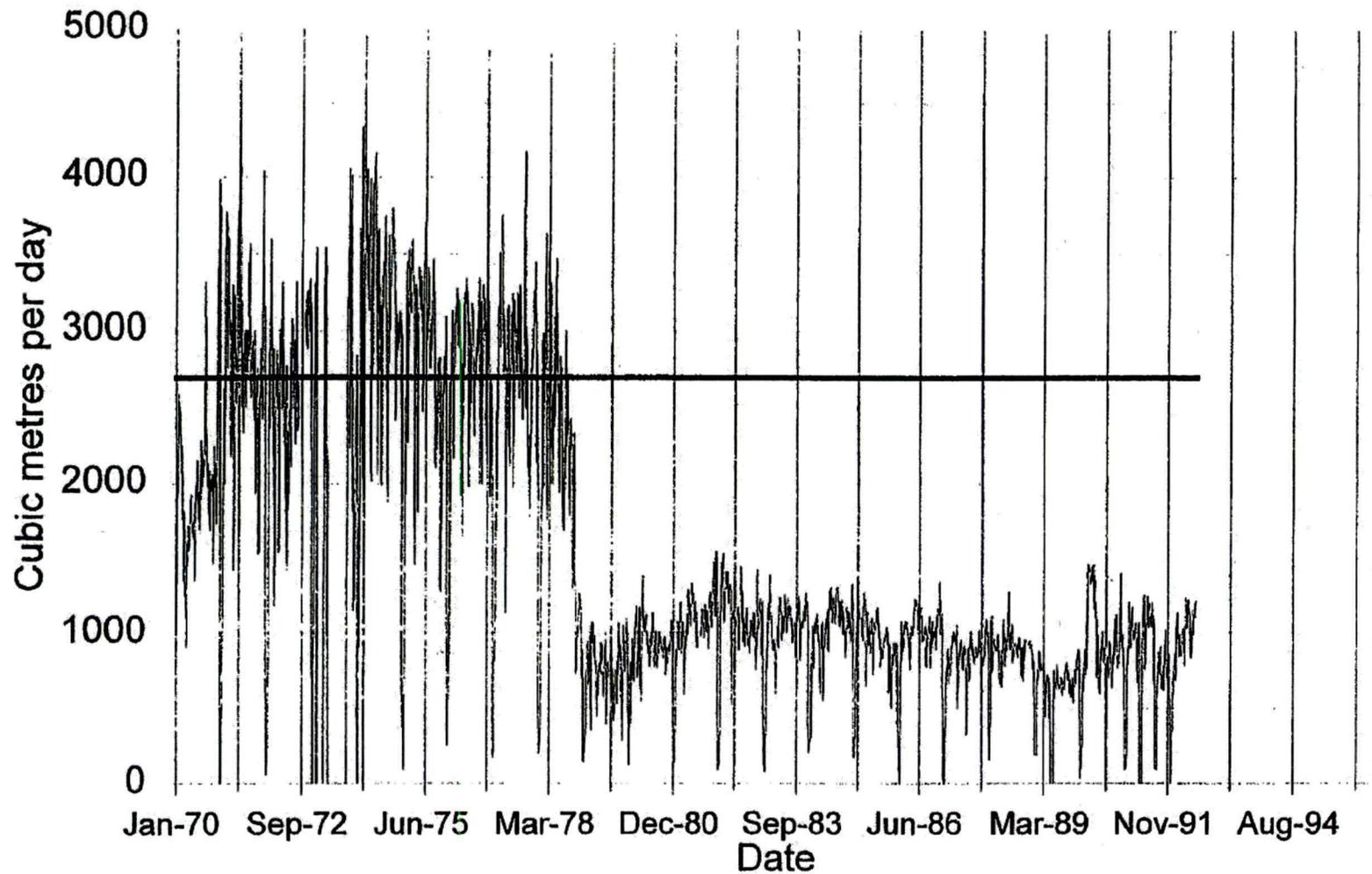
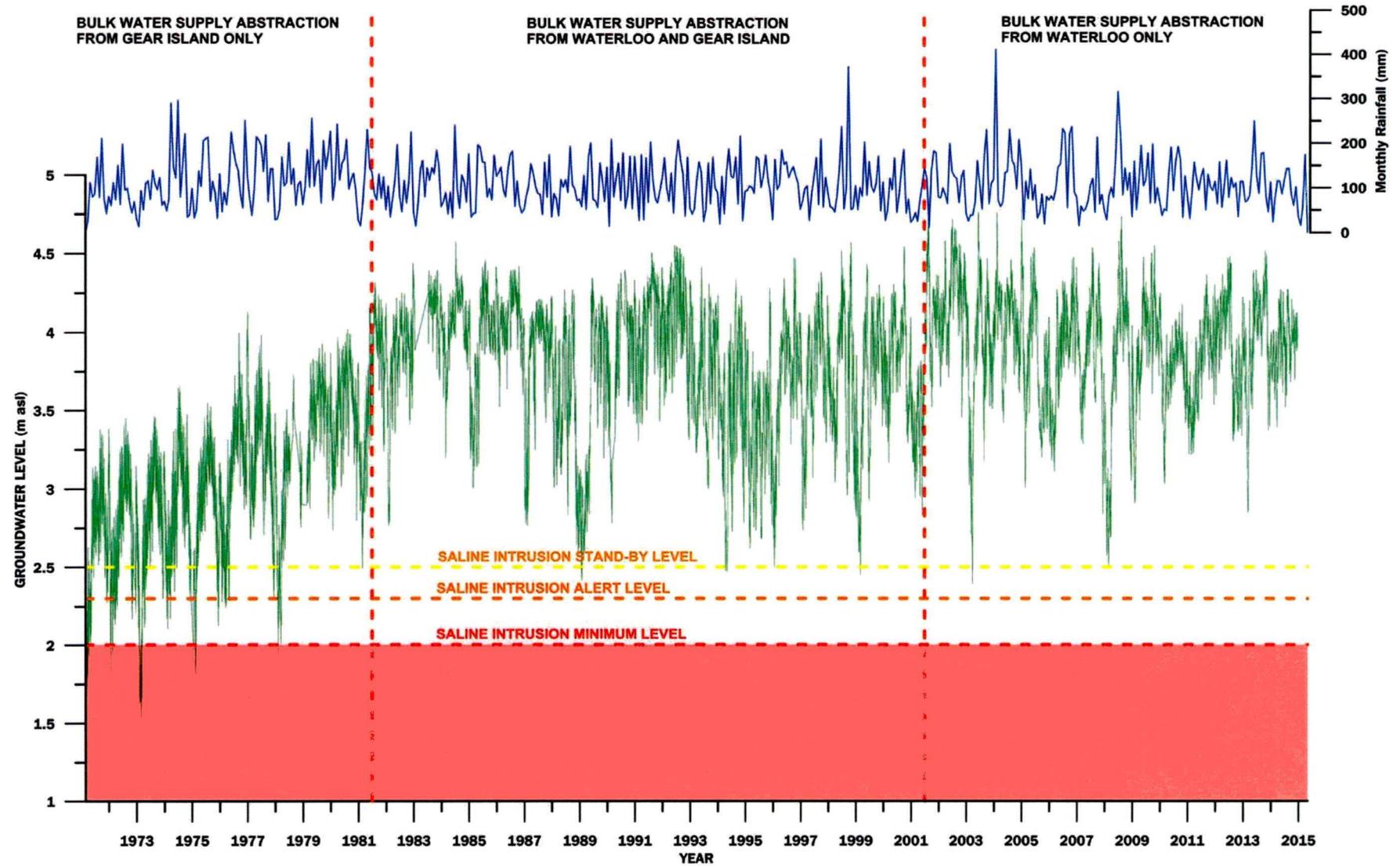
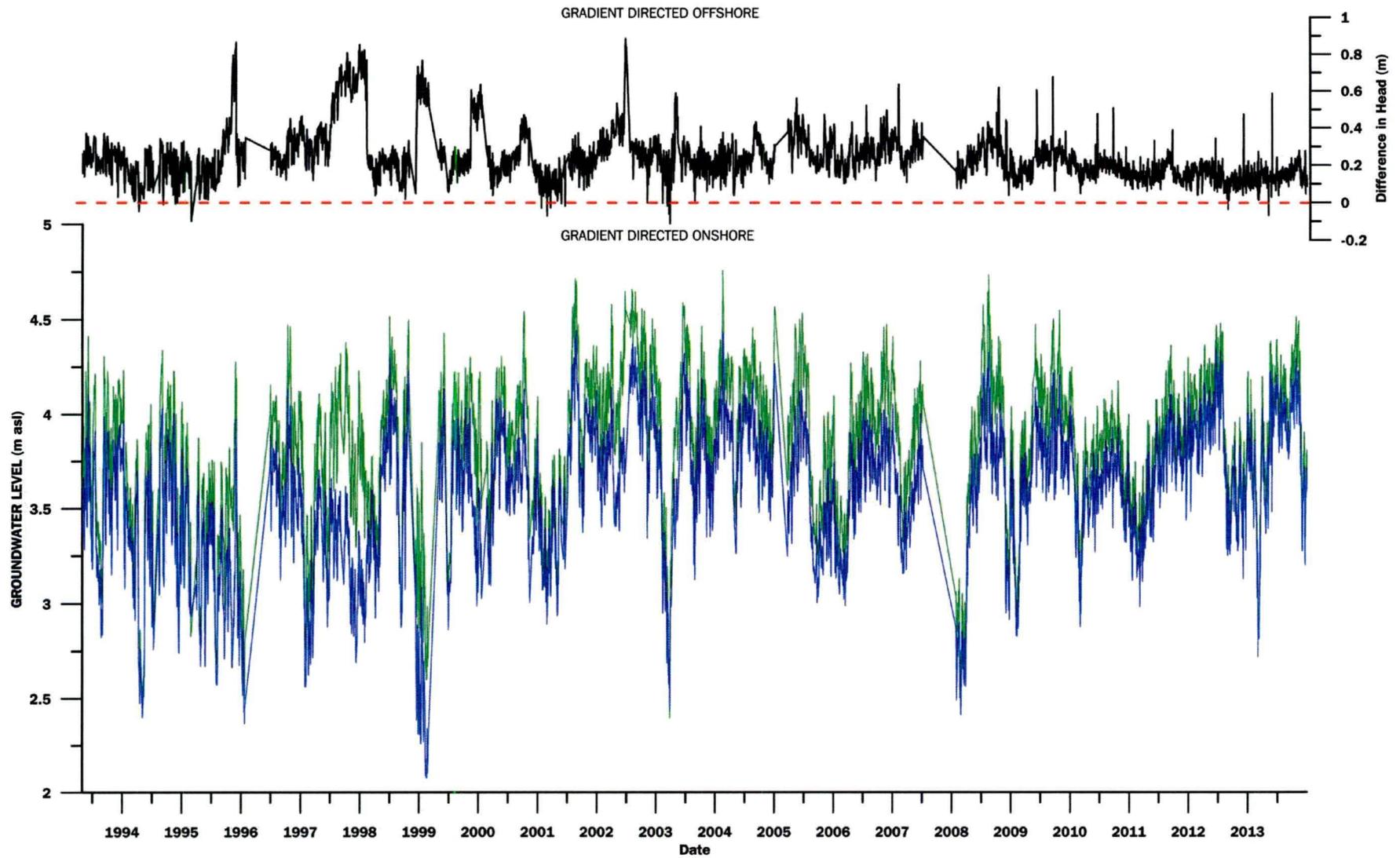


FIGURE 8: GRAPH OF ABSTRACTION FROM THE UNILEVER SITE FROM 1970 – 1993. THE HORIZONTAL LINE MARKS THE CURRENT CONSENTED DAILY TOTAL. GRAPH SOURCED FROM TONKIN & TAYLOR (1997)



R27/0122 Hydrograph Compared to Monthly Rainfall
 — R27/0122 (24 hour mean)
 — Monthly Rainfall (Trentham) (mm)
 — Unilever Take Abstraction Data (m3)

FIGURE 9: GROUNDWATER LEVEL HYDROGRAPH FOR GWRC MONITORING WELL R27/0122 COMPARED TO MONTHLY RAINFALL



Hydrographs for R27/0122 and R27/1171 and Head Difference through time

- R27/0122 (24 hour mean)
- Hydraulic Gradient (24 hour mean)
- R27/1171 (24 hour mean)

FIGURE 10: GROUNDWATER LEVEL HYDROGRAPHS FOR GWRC MONITORING WELLS R27/0122 AND R27/1171 TOGETHER WITH THE DIFFERENCE IN HEADS THROUGH TIME

Ian Leary

From: Ian Leary
Sent: Thursday, 21 May 2015 4:48 p.m.
To: [REDACTED]; [REDACTED]
Subject: Extension of Water Permit - 476-486 Jackson Street, Petone
Attachments: WGN_DOCS-#1117838-v1-
New_consent_certificate_Unilever_(following_transfe....pdf

Kiaora Jennie/Reina,

We are currently under instructions from Prime Property Group (PPG) to lodge an application to the Greater Wellington Regional Council to extend an existing water permit for the land described as 476-486 Jackson Street, Petone.

This land is currently known as the Unilever Site. Unilever has an existing right to take water from the Hutt Aquifer.

The existing water permit and its conditions are attached to this email.

We are currently in the consultation stage, prior to lodging the application for an extension of the existing water permits, therefore we are writing to the Ngati Toa to obtain your views on this extension. The last extension was granted in 2007. I understand from Council records that no objections were raised by Ngati Toa at that time.

The existing water permits expire in 2017, however our clients are seeking an extension to the water permit prior to them taking possession of the site later this year.

PPG intend on maintaining the same conditions and same permitted water take, authorised by the existing permit. Unilever have had a right to draw water under the RMA since the coming into force of the Act in 1991. I also understand that their water take rights were in place many years before the RMA.

It is acknowledged that Unilever has been winding down its production in recent years prior to selling the site, however the long term effects of the water take have been established on this aquifer. Our client is seeking to confirm other industrial tenants for the site who will likely require water rights to operate and provide employment opportunities for the Hutt Valley and Wellington Region.

As part of the consultation process, we are seeking Ngati Toa's view on the extension of the existing permit. Unilever last sought the views of Tangata Whenua in 2007 when the most recent extension was granted. It is my understanding that no issues were raised at that time with the extension granted at that time.

Should you require any further information from us to form its views, please do not hesitate to contact me and I will do my best to provide that information.

Otherwise, I look forward to receiving the comments and views on the extension of the water permit.

Regards

Ian Leary
Director - Survey and Planning
SpencerHolmes Limited

PO Box 588, Wellington 6140
Level 6, 8 Willis Street, Wellington 6011
[REDACTED]

www.spencerholmes.co.nz

DDI [REDACTED] B M [REDACTED] P 04-472-2261 F [REDACTED]

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Ian Leary
Director - Survey and Planning
SpencerHolmes Limited

PO Box 588, Wellington 6140
Level 6, 8 Willis Street, Wellington 6011

[REDACTED]
www.spencerholmes.co.nz

DDI [REDACTED] B M [REDACTED] P 04-472-2261 F [REDACTED]

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Ian Leary

From: Ian Leary
Sent: Thursday, 21 May 2015 9:30 a.m.
To: [REDACTED]
Subject: Extension of Water Permit - 476-486 Jackson Street, Petone
Attachments: WGN_DOCS-#1117838-v1-
New_consent_certificate_Unilever_(following_transfe....pdf

Kiaora Ben,

We are currently under instructions from Prime Property Group (PPG) to lodge an application to the Greater Wellington Regional Council to extend an existing water permit for the land described as 476-486 Jackson Street, Petone.

This land is currently known as the Unilever Site. Unilever has an existing right to take water from the Hutt Aquifer.

The existing water permit and its conditions are attached to this email.

We are currently in the consultation stage, prior to lodging the application for an extension of the existing water permits, therefore we are writing to the Wellington 10ths Trust to obtain your views on this extension. The last extension was granted in 2007. I understand from Council records that the Trust had no objection at that time to the extension.

The existing water permits expire in 2017, however our clients are seeking an extension to the water permit prior to them taking possession of the site later this year.

PPG intend on maintaining the same conditions and same permitted water take, authorised by the existing permit. Unilever have had a right to draw water under the RMA since the coming into force of the Act in 1991. I also understand that their water take rights were in place many years before the RMA.

It is acknowledged that Unilever has been winding down its production in recent years prior to selling the site, however the long term effects of the water take have been established on this aquifer. Our client is seeking to confirm other industrial tenants for the site who will likely require water rights to operate and provide employment opportunities for the Hutt Valley and Wellington Region.

As part of the consultation process, we are seeking the Tenth Trust views on the extension of the existing permit. Unilever last sought the views of the Trust in 2007 when the most recent extension was granted. It is my understanding that the Trust at that time, had no issues with the extension granted at that time.

Should the Trust require any further information from us to form its views, please do not hesitate to contact me and I will do my best to provide that information.

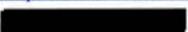
Otherwise, I look forward to receiving the comments and views of the Trust on the extension of the water permit.

Regards

Ian Leary
Director - Survey and Planning
SpencerHolmes Limited

PO Box 588, Wellington 6140
Level 6, 8 Willis Street, Wellington 6011


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DDI  **M**  **P** 04-472-2261 **F** 

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Ian Leary

From: Ian Leary
Sent: Thursday, 21 May 2015 7:35 a.m.
To: 'shandon@golf.co.nz'
Subject: Renewal Of Water Permit - Unilever Site
Attachments: 150144c01 letter to Shandon Golf Club.pdf; WGN_DOCS-#1117838-v1-New_consent_certificate_Unilever_(following_transfe....pdf

Greg,

As discussed, please find attached letters regarding the renewal of water permits for the Unilever site.

Regards

Ian Leary
Director - Survey and Planning
SpencerHolmes Limited

PO Box 588, Wellington 6140
Level 6, 8 Willis Street, Wellington 6011

www.spencerholmes.co.nz

DDI [REDACTED] **M** [REDACTED] **P** 04-472-2261 **F** [REDACTED]

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20th May 2015

Shandon Golf Club Petone
P.O. Box 38104
LOWER HUTT

PO Box 588
Level 6, 8 Willis Street
Wellington 6140, New Zealand
Phone 04 472 2261
Email admin@spencerholmes.co.nz

Attention: Greg Galway

Dear Greg,

Water Permit Extension – Unilever Site – Jackson Street Petone

I am writing on behalf of our client Prime Property Group (PPG). PPG have purchased the Unilever site and are currently seeking a renewal of their existing water take permit. A copy of the existing permit is attached to this letter.

We are in the consultation stage of this application. The current permit does not expire till 2017 however PPG is seeking to confirm an extension to the existing permit prior to taking possession of the site later this year.

Greater Wellington Regional Council (GWRC) have asked us to consult with you. The current water permit was granted in 2007. At that time, Shandon Golf Club gave their written approval.

The current extension is to keep the same conditions and water allocation levels.

We would be happy to provide any other details or information should it be necessary. Should there be any issues with this from Shandon Golf Club's point of view, please contact us and we will do our best to respond. If however, Shandon Golf club has no issues with PPG's application for an extension to the water permit, could you sign a copy of this letter and forward it back to me.

We look forward to hearing from you.

Yours faithfully
Spencer Holmes Limited

Ian Leary
Director – Survey and Planning



The Shandon Golf Club has considered the proposed Water Permit extension by Prime Property Group and by signing indicate support for the Consent.

Greg Galway
Course Superintendent, Shandon Golf Club

14 July 2015

Ian Leary
Director - Survey and Planning
Spencer Holmes Limited
PO Box 588
Wellington 6140

Gary Craig
Strategic Services

Our reference: EDV1-100

Dear Ian

RE: Prime Property Resource Consent Application – Transfer of existing water permit – Extension of permit to take water.

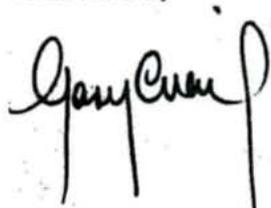
We refer to your application to Greater Wellington Regional Council to both transfer and renew a water permit to abstract water from the Hutt River aquifer for the ex-Unilever site at 476-496 Jackson Street, Petone. This is to enable the new owner, Prime Property Group to attract new industrial/commercial tenants to the site.

Hutt City Council supports the continued use of this site for industrial/commercial activity. The city's commercial and industrial land supply is largely fixed by the extent of existing development along with our topography and territorial authority boundaries. At the time Unilever was considering the sale of this site we undertook an in-house economic assessment of various types of development on the site, including residential. This determined that the economic impact from its continued use as an industrial/commercial site provides the highest value added GDP and employment impacts for the city/region. This is based on it attracting new businesses to the site or businesses displaced by higher value activity in other parts of the city/region.

Policy 32 of the Wellington Regional Policy Statement refers to 'identifying and protecting key industrial-based employment locations'. There is limited space left to develop in Hutt City that would be appropriate for industrial uses. Given the size of the this site, its proximity to other industrial/employment sites in the Esplanade, Petone and Gracefield areas, we consider it is prudent to support continued use of the land for industrial/commercial uses and amenity, such as the water permit which support this use.

The site should also benefit from the proposed Petone to Grenada link road, which is expected to help create greater links between businesses in Hutt City and Porirua, as well as lower commuting times to allow more people to work in one city and live in another. There is potential for the link road to create additional demand for industrial/commercial land in the Petone/Esplanade area among a wide range of industries in the future.

Yours sincerely



Gary Craig
DIVISIONAL MANAGER, CITY DEVELOPMENT

8 Wellington Harbour and Hutt Valley Whaitua

Minimum flows, **minimum water levels** and allocation **limits** referred to in the Plan are interim to the extent that they will be reviewed by **whaitua** committees and may be amended by plan changes or variations following recommendations of **whaitua** committees.

8.1 Policies

The following policies apply in the Wellington Harbour and Hutt Valley Whaitua, in addition to those set out in Chapter 4 of the Plan. Policy LW.P110 is particularly relevant to the way **minimum flows or water levels** are applied and Policy LW.P113 is particularly relevant to how allocation **limits** are applied.

Policy WHW.P1: Minimum flows and water levels in the Wellington Harbour and Hutt Valley Whaitua

Minimum flows or water levels in the Wellington Harbour and Hutt Valley Whaitua are:

- (a) for rivers (including **tributaries**) identified in Table 8.1, the **minimum flows or equivalent flows** in Table 8.1, and
- (b) for rivers not in Table 8.1, 90% of the seven day **mean annual low flow**, and
- (c) for **natural lakes**, existing **minimum water levels**.

Policy WHW.P2: Allocation limits for rivers and groundwater in the Wellington Harbour and Hutt Valley Whaitua

Limits for allocating water from rivers (and **tributaries**) and **groundwater** in the Wellington Harbour and Hutt Valley Whaitua are:

- (a) the **limits for surface water allocation** in Tables 8.2 and **groundwater allocation** in Table 8.3; and
- (b) for water from rivers (including **tributaries**) and **directly connected groundwater** not in tables 8.2 and 8.3:
 - (i) with mean flows of greater than five cubic metres per second, 50% of the **mean annual low flow**, or
 - (ii) with mean flows of less than or equal to five cubic metres per second, 30% of the **mean annual low flow**.

8.2 Rules

The following rules apply in the Wellington Harbour and Hutt Valley Whaitua, in addition to those set out in chapter 5 of the Plan.

Rule WHW.R1: Taking and use of water in the Wellington Harbour and Hutt Valley Whaitua – restricted discretionary activity

The take and use of water from any river (including **tributaries**) or **groundwater** in the Wellington Harbour and Hutt Valley Whaitua identified in Tables 8.2 and 8.3 is a restricted discretionary activity provided the following conditions are met:

- (a) the take and use does not result in flows falling below the **minimum flows (or equivalent flows)** determined in Table 8.1, except that this condition does not apply to water for the **health needs of people** as part of a **group or community drinking water supply**, and
- (b) for an existing take and use replacing or changing an **existing resource consent**, the amount of water taken and used, in addition to all **existing resource consents**, does not exceed whichever is the greater of:
 - (i) the amount allocated by resource consents at the date the consent application is lodged, or
 - (ii) the **limits for groundwater allocation and surface water allocation** identified for river and **groundwater management units** in Table 8.2 and 8.3, and
- (c) for a new take and use, not replacing an **existing resource consent**, the amount of water taken and used, in addition to all **existing resource consents**, does not exceed the **limits for groundwater allocation and surface water allocation** identified for river and **groundwater management units** in Tables 8.2 and 8.3, except that this condition does not apply to the take and use of water at flows above the **median flow**, and
- (d) at flows above **median flow**:
 - (i) the frequency of **flushing flows** that exceed three times the **median flow** of the river is not changed, and
 - (ii) 50% of the river flow above the **median flow** remains in the river, and
- (e) the take and use is not from a river identified as outstanding in Schedule A1 (outstanding rivers) or Schedule A2 (outstanding lakes).

Matters of discretion

1. The reasonable and efficient use of water, including the criteria in Schedule R (efficient use).

2. The timing, amount (volume), and rate of taking and using water; including instantaneous (litres per second), daily (metres cubed per day), and seasonal requirements and duration and timing of peak daily take rate.
3. For **group or community drinking water supplies**, the amount and rate of water taken and used for the **health needs of people**.
4. Reduction in the rate of take at times of low flow and restrictions to prevent rivers falling below the **minimum flow or equivalent flow**, including the guideline for **stepdown allocations** and flows in Schedule T (measuring takes).
5. For a new take and use, effects due to local flow or water level depletion on **wetlands**, springs, or river reach **immediately downstream**, in the same **groundwater management unit** in Tables 8.2 and 8.3.
6. For a new take and use, interference effects on existing lawful water takes.
7. Prevention of salt water intrusion into the **aquifer**, or landward movement of the salt water/fresh water interface.
8. For a new take and use in **category B groundwater**, whether the water taken is from **directly connected groundwater** or **groundwater not directly connected**.
9. Preventing fish from entering water intakes.
10. Measuring and reporting, including the guideline in Schedule T (measuring takes).

Rule WHW.R2: Taking and using water – discretionary activity

The take and use of water in the Wellington Harbour and Hutt Valley Whaitua from:

- (a) any river, lake (other than an outstanding lake identified in Schedule A2) or groundwater not in Table 8.2 and Table 8.3, and
- (b) any river at flows above the **median flow** that does not meet condition (d) of Rule WHW.R1

is a discretionary activity.

Rule WHW.R3: Taking and use of water that exceeds minimum flows or allocation amounts – prohibited activity

The take and use of water from any river (including **tributaries**) or groundwater in the Wellington Harbour and Hutt Valley Whaitua in Tables 8.2 and 8.3 that does not meet conditions (a), (b) or (c) of Rule WHW.R1 is a prohibited activity.

Rule WHW.R4: Taking and use of water from outstanding rivers or lakes – non complying activity

The take and use of water from any river or lake in the Wellington Harbour and Hutt Valley Whaitua identified as outstanding in Schedule A1 (outstanding rivers) or Schedule A2 (outstanding lakes) is a non-complying activity.

8.3 Tables

Table 8.1: Minimum flows for rivers in the Wellington Harbour and Hutt Valley Whaitua

| River | Minimum flow | |
|-------------------|-------------------------------|---------------------|
| | Management point ¹ | Minimum flow L/s) |
| Hutt River | Kaitoke water supply intake | 600 [upper reach] |
| | Birchville recorder | 1200 [middle reach] |
| Wainuiomata | Manuka recorder | 100 [upper reach] |
| | Leonard Wood Park recorder | 300 [middle reach] |
| Orongorongo River | Russ Bridge recorder | 100 |

¹ This is the flow gauging site where the **minimum flow** policy applies (either a permanent continuous recorder or a site where spot flow gaugings can be undertaken). Where the management point is upstream of abstractions then the specified **minimum flow** is to be interpreted as the equivalent downstream flow (that is, the natural flow that occurs at any point downstream of the management point at the same time as the specified **minimum flow**)

Table 8.2: Surface water allocation limits for rivers and directly connected groundwater in the Wellington Harbour and Hutt Valley Whaitua

| River and groundwater management unit | Surface water allocation limits (L/s) ² |
|--|--|
| Hutt River and all tributaries, category A groundwater, category B groundwater (groundwater directly connected). | 720 [upper reach] |
| | 2115 [middle reach] |
| Wainuiomata River and all tributaries, category A groundwater, category B groundwater (groundwater directly connected) | 55 [upper reach] |
| | 180 [middle reach] |
| Orongorongo River | 95 |

Note

The Hutt River, **Category A groundwater** and **Category B groundwater** are shown in Figure 8.1 and Figure 8.2.

² This **limit** has been derived as a default based upon one of two rules; for rivers with a mean flow of greater than 5000 litres/sec, the **allocation limit** is equal to 50% of the natural 7-day **mean annual low flow** (7d **MALF**) and for rivers with a mean flow of less than 5000 litres/sec, the **allocation limit** is equal to 30% of the 7-day **mean annual low flow**. The 7d **MALF** has been estimated for either the bottom of the catchment or (where there is significant flow variation) or the bottom of a particular reach within a catchment. Where **allocation limits** are given for multiple reaches on the same river (eg, 'upper' and 'lower'), the downstream reach **limits** include the upstream reach **limits** (ie, are not in addition to the upstream **limit**).