



TEVIOT DOWNS ESTATE PTY LTD

Teviot Village Res A North of Pub Lane
Water Supply Strategy

DOCUMENT CONTROL SHEET

<i>Title</i>	Area North of Pub Lane Proposed Concept for Water Supply
<i>Job No.</i>	CB0951

REVISION HISTORY

Revision Number	Prepared by	Date
A	Keith Ingerman	14/5/2012
B	Keith Ingerman	21/6/2012
C	Keith Ingerman	6/7/2012

DISTRIBUTION DETAILS

Destination	Revision						
	A	B	C	D	E	F	G
RPS	✓	✓	✓				
File							
BMD Consulting Pty Ltd	✓	✓	✓				

PLANS AND DOCUMENTS
referred to in the ULDA
APPROVAL dated 31/1/03

Issue Approved	KI	KI	KI				
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Previous versions of this document are superseded by the most recent revision.

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1.0 Introduction

BMD Consulting has been requested to prepare Water Supply Servicing Report for the Teviot Village area north of Pub Lane – Lot 9968 on SP163061.

The land with an area of 153 hectares has a development application over the land for 963 house allotments and 47 duplex allotments (total 1057 dwellings) and 7 future superlot sites along the rail corridor.

2.0 Past Development

The rest of the Teviot area has been developed as large lot Residential with most allotments being typically 2,000m²-4,000m² in size. Water supply to this large lot development has been a Mixed Demand (MD) service. An MD service provides an on-demand pipeline to the kitchen sink only. The home owner is required to provide one rainwater tank (31,500L minimum), the lower third being devoted to town water filled via a float valve at a restricted flow rate of one litre per minute (nominal 1.5000 litres per day) from the town supply. The top two thirds of the tank is filled by rainwater and the householder must install a pumping system from the tank for all household supply except cold water to the kitchen sink.

The advantages of an MD supply is that the Water Authority is able to reduce the size of reservoirs in the system and maintain smaller pipes in the reticulation network.

The Teviot area used to be under the control of Beaudesert Shire Council and was transferred to Logan City Council in the 2008 amalgamation / realignment of Council boundaries. Subsequently the area was included in the ULDA Greater Flagstone Urban Development Area.

The Teviot Village development now being Res A, requires that the water supply to be On Demand. As a consequence there needs to be upgrades to the regional reservoirs and to the trunk mains between the reservoir and the site.

3.0 Provision of Water

3.1 EXISTING WORKS

Allconnex Water is in the process of upgrading the water supply infrastructure for the area inherited from Beaudesert Shire.

Works constructed already include:

- A reservoir at Round Mountain
- Teviot Down Estate P/L has constructed a 375 of trunk water main from Pub Lane reservoir to New Beith Road, which will be connected to the Round Mountain Reservoir

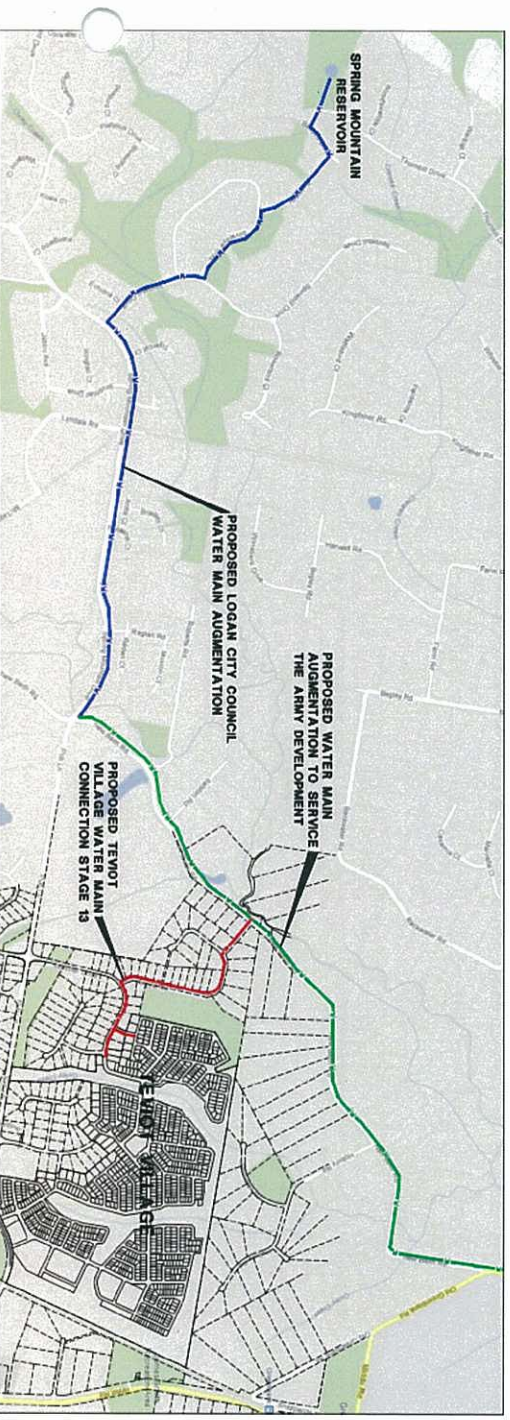
3.2 PLANNED WORKS

Works proposed include:

- A reservoir at Flagstone;
- A connecting trunk water main between the Round Mountain and flagstone reservoirs;

- Allconnex modelling has identified that sections of the trunk water main between the Spring Mountain reservoir and Teviot North need to be augmented in order to provide adequate supply. The timing for the augmentation may be subject to further planning. It has also been identified that trunk water mains need to be provided through Teviot North in order to service future developments to the north and to the east. All these works are headworks creditable if constructed by the developer.
- "Upgrades to facilities at the Greenbank Military Training Base proposed by the Department of Defence may require additional capacity to be provided in the water supply network. However, the timing for construction of these facilities is presently unknown and for the purposes of this assessment, have been assumed to occur after the first 150 lots have been developed at Teviot".
- Council are investigating a connection to the 1050 mm diameter Regional Water pipeline in New Beith Road to assist in drought proofing the "grid".

Councils planned works involve establishing water zones, with Greenbank north of Pub Lane being serviced by the Spring Mountain Reservoir. It is understood that with the construction of the Round Mountain reservoir, there will be ample capacity in the Spring Mountain reservoir to service the Teviot area north of Pub Lane. The trunk water main in Pub Lane has a diameter of 250 mm and is considered to be adequate to service the first three stages of this development. Subject to detailed modelling and design the internal mains are expected to be a mixture of 200, 150 and 100mm diameter pipes.



3.3 SEQUENCING STRATEGY

Allconnex engineers have advised that the water modelling has been carried out for this area, which has shown that the existing reservoir at Spring Mountain can service the whole of Teviot Village. However the water mains between the reservoir and the Estate are approaching their capacity limits, and will require augmenting after 150 lots have been constructed in the Estate. This augmentation of mains is considered to be headworks. It is proposed that either Allconnex (soon to be Logan Water) constructs these mains using funding collected from headworks charges or the Developer constructs the works and receives headworks credits under an Infrastructure Agreement.

The first stages of the development will be connected to existing water mains in Pub Lane. The sole feed to the Estate, will be from Pub Lane until in Stage 13 when a loop connection will be made to the water main in New Beith Road .

TEVIOT VILLAGE WATER SEQUENCING STRATEGY						
Stage	1	2	3	4	5 to 12	13
No.of Lots	58	51	51	42	414	30
Construction period	February 2013 - May 2013	September 2013 - January 2014	June 2014 - October 2014	February 2015 - June 2015	2015 - 2019	2020
Water construction to be carried out in the stage	Mains within stage, plus connection to water main in Pub Lane	Mains within stage	Mains within stage	Mains within stage, plus the upgrade of water mains between Spring Mtn reservoir and New Beith Road	Mains within stages	Mains within stage plus connection to main in New Beith Road
Construction by	Developer	Developer	Developer	Developer and/or Logan Water	Developer	Developer

4.0 WATER EFFICIENT PRACTICES

BMD Consulting prepared a submission on the use of water efficient devices on the 23rd June 2005. This was accepted by Council at the time and is still relevant today.

A copy of that response is attached in Appendix A.

5.0 Conclusions

Water reticulation mains will be provided throughout the Estate, for all normal water uses and fire fighting. The pipe sizing will be determined after modelling. All dwellings shall be required to install 5000 litres rainwater tanks in accordance with State and Council standards.

The area north of Pub Lane is to be serviced by the Spring Mountain reservoir.

Appendix A – Email

23rd June 2005

TA:ta

Our Ref: CB-0528

Beaudesert Shire Council

PO Box 25

Beaudesert QLD 4285

Attention: Mr Ricky Graham

Dear Sir,

**RE: TEVIOT DOWNS ESTATE – Southern Precinct
FOR TEVIOT DOWNS ESTATE PTY LTD**

Water Efficient Devices

In response to council's negotiated decision notice dated 29th April 2005 and in particular condition xi Water Efficient Devices. The Water Services Association of Australia (WSAA) has undertaken extensive research in this area and has developed two national schemes for the conservation of water, *The National Water Conservation Rating and Labelling Scheme* (products for indoor water-use) and the *Smart Approved WaterMark* outdoor (products for outdoor water-use).

The National Water Conservation Rating and Labelling Scheme

The Scheme is designed to assist communities not only to conserve Australia's potable water supply but also to protect the environment in general as well as reduce costs to consumers.

The National Water Conservation Rating and Labelling Scheme is a type test certification program that awards an appropriate A-rating to water efficient products that comply with all the relevant requirements of Joint Australian/New Zealand Standard AS/NZS6400 *Water efficient products – Rating and labelling*. The A-rating is indicated on a label which provides consumers with point of sale information on the relative water efficiency of those products.

Products currently covered by the scheme include the following:

- Shower heads. (Showerheads can only obtain a maximum rating of 3As at present. Additional tests are being developed.)
- Dishwashers.
- Clothes washing machines.
- Urinal operating mechanisms.
- Taps and tap outlets.
- Toilet suites or matched cistern and pan sets.
- Flow regulators

Smart Approved WaterMark

The Water Services Association of Australia (WSAA), the Irrigation Association of Australia (IAA), the Nursery and Garden Industry of Australia (NGIA) and the Australian Water Association (AWA) have developed the Smart Approved WaterMark scheme.

The key objectives of the Smart Approved WaterMark scheme are:

- To reduce per capita water consumption in the areas of outdoor water-use
- To recognise products, services and organisations that will contribute to a reduction in per capita water use and encourage further research and development
- To provide a simple and identifiable label for consumers, so that they can make informed choices at point-of-sale outlets, and through such choices, contribute to the reduction in per capita water use
- To provide a simple and identifiable label for services and organisations to allow them to differentiate themselves from competitors, to reinforce the scheme to consumers and encourage other services and organisations to also increase their efforts towards contributing to a reduction in per capita water consumption

The key elements of the Smart Approved WaterMark are:

- It is a voluntary labelling scheme
- The scheme is not-for-profit. Any additional revenue will be used to maximise promotion and marketing of the scheme and/or to further enhance the quality of the scheme
- It is not a comparative based system in relation to water-use — either it can be demonstrated to be water saving and/or water efficient or not
- The Smart Approved WaterMark label can be applied to:
 - outdoor water using/saving products
 - outdoor water related services
 - outdoor water related organisations

In light of the above work already undertaken, it would seem that the preparation of a report to be used for future occupants is more detrimental as products and range in this area are continually improving. We therefore propose that prospective buyers be provided with a letter that informs them of the current rating system and points them in the right direction to obtain additional up-to-date information (i.e. via authorities and or websites).

Please find enclosed an example draft letter proposed to be issued to prospective buyers to inform them of the use and selection of water efficient devices for your approval.

Should you require any further information please call the undersigned on telephone 3893 7000.

Yours faithfully,

BMD CONSULTING PTY LTD

Troy Amiet

Project Engineer

Enc.

cc. Teviot Downs Estate Pty Ltd – Robert Phillips

Lekedi Pty Ltd – Richard Suchowiecki

PMM – Julian Kemp

Date

Address

Attention: *Prospective Buyer*

Dear Sir,

RE: TEVIOT DOWNS ESTATE
Water Efficient Devices

Firstly we congratulate you on your recent purchase and welcome you to the growing Teviot Downs Community.

We would like to bring to your attention the current national crisis in relation to water supply. It is obvious that we cannot increase demands for water much more without detrimental effects to the environment, society and the economy. It's time to become water efficient! This involves reassessing our relationship with water, and learning to use it more sparingly. On the most basic level, it requires a behavioural change, and assigning a value to water that truly reflects its worth.

We can also unlock economic benefits of being water efficient.

We, The Teviot Downs Community, believe everybody has a responsibility to save water, if we are going to allow future generations to enjoy a similar standard of living that we enjoy now. In fact, many of the impacts associated with water use are likely to have an effect on our own lives! One way we can all help in the reduction of water consumption is via the careful selection and installation of water efficient devices.

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Products currently covered by the scheme include the following:

- Shower heads. (Showerheads can only obtain a maximum rating of 3As at present. Additional tests are being developed.)
- Dishwashers.
- Clothes washing machines.
- Urinal operating mechanisms.
- Taps and tap outlets.
- Toilet suites or matched cistern and pan sets.
- Flow regulators

Presently, products can be rated as indicated in the labels below:

				
1A	2A	3A	4A	5A
A moderate level of water efficiency	A good level of water efficiency	A good level of water efficiency A high level of water efficiency	A very high level of water efficiency	An excellent level of water efficiency

Simply remember: The more 'As' the more water efficient the product is.

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 - outdoor water related services
 - outdoor water related organisations

Examples of what the scheme covers include:

Products	Services	Organisations
• Trigger Hoses • Drip systems • Weep hoses • Microspray systems • Tap Timers • Electronic water controllers • Moisture sensors/Rainfall sensors • Mulch • Rain water tanks • Watering spikes • High pressure cleaning devices • Grey water permanent tank systems • Temporary grey water diverters	• Green Plumbers • Water Saving retrofit Services • Watering saving training and accreditation programs • Water Efficient design of occupied & new buildings • Maintenance programs for irrigation systems • IAA Certified Irrigation Designer services for water efficient gardens and irrigation systems • IAA Certified Landscape Irrigation Auditor programs	• Councils demonstrating water reduction & efficiency programs (i.e. parks & gardens) • Developers adopting water saving and efficiency measures in new developments • IAA Certified Irrigation Designers • IAA Certified Landscape Irrigation Auditors



For approved products, services and organisations simply look for the

For additional information on water efficient devices available and their selection of we suggest the following contacts:

Water Services Association of Australia

Melbourne Office

Level 8
469 Latrobe Street
Melbourne VIC 3000
Australia

Sydney Office

Suite 21, Level 5
321 Pitt Street
Sydney South NSW 2000
Australia

Postal Address:

PO Box 13172
Law Courts Post Office
Melbourne VIC 8010
Australia

Postal Address:

PO Box A812
Sydney South NSW 1235
Australia

Telephone: 03 9606 0678

Telephone: 02 9283 0725

Fax: 03 9606 0376

Fax: 02 9283 0799

Website: www.wsaa.asn.au (contains extensive information of range of products available and links to suppliers)

SAVEWATER.COM.AU

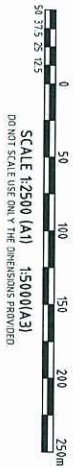
savewater.com.au
Private Bag 1
Mitcham Vic 3132

Website: www.savewater.com.au (contains an ever growing database of products & solutions available and links to suppliers).

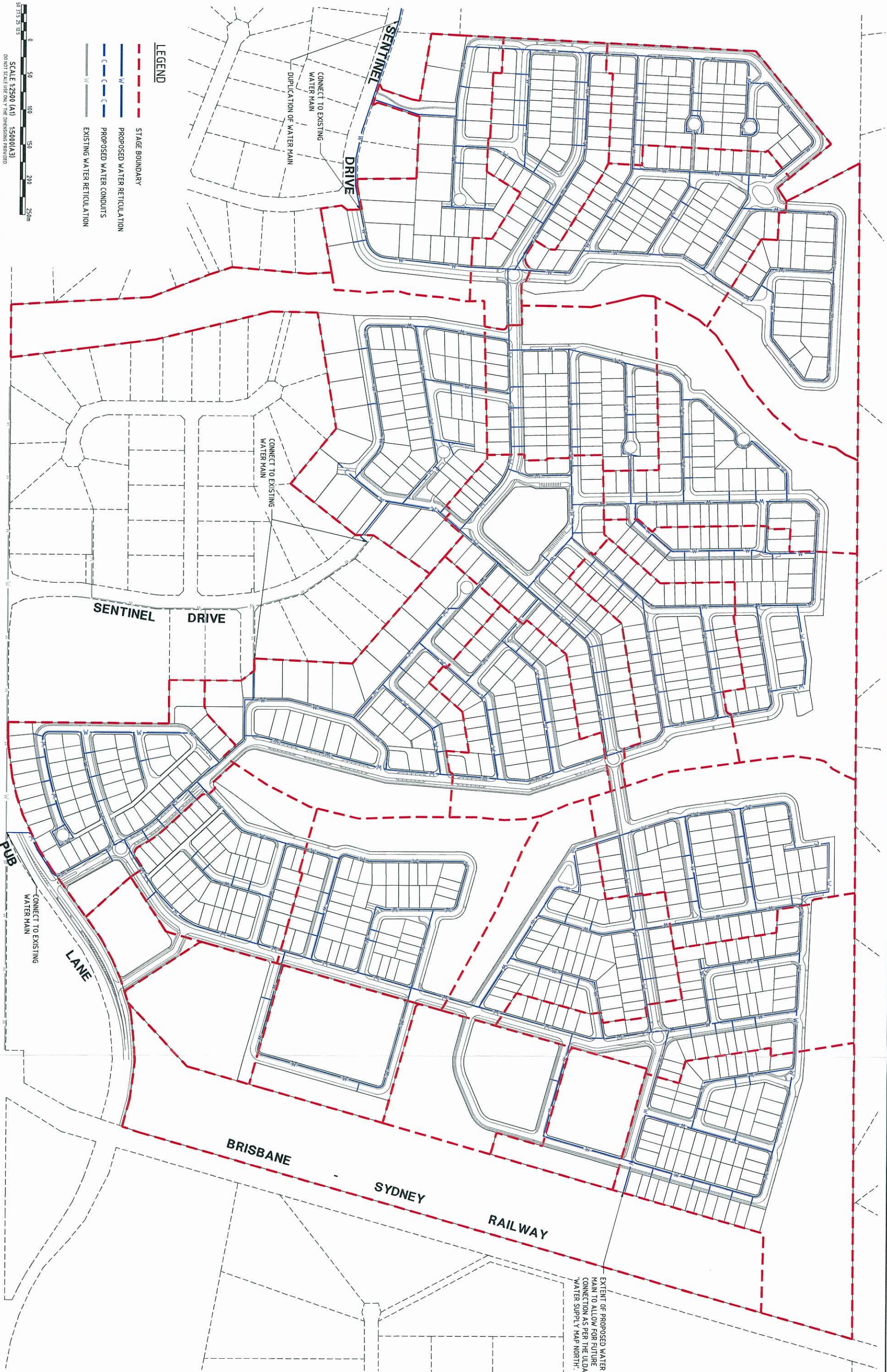
FOR TEVIOT DOWNS ESTATE PTY LTD

Appendix B – Proposed Site Plan

No.	Amendments				Drawn/Design	Appd	Registered Engineer	Reg No.	Date
A	ORIGINAL ISSUE				MM	MM	MM	4188	15/05/12
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- LEGEND**
- STAGE BOUNDARY
 - PROPOSED WATER RETICULATION
 - PROPOSED WATER CONDUITS
 - EXISTING WATER RETICULATION



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SGS

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Client: **NORTH TEVIOT DOWNS PTY LTD**

Project: **NORTH TEVIOT DOWNS**

Title: **OVERALL WATER RETICULATION LAYOUT PLAN**

Date: **AND PSM**

Project No: **(MGA) COORD**

Project No: **NOT FOR CONSTRUCTION**

Drawing No: **CB-0951-CW001**

Rev: **A**

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