

ON-SITE WASTEWATER MANAGEMENT REPORT

DATE COMPILED 20 th August 2013

PREPARED FOR David Little

SITE ADDRESS 102 Boons Valley Road, Picton

PREPARED BY: Ron Findlater

COMPANY Findlater Construction Ltd

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NOTES

REFERENCES

BC NUMBER

FC JOB NUMBER

REPORT NUMBER 162

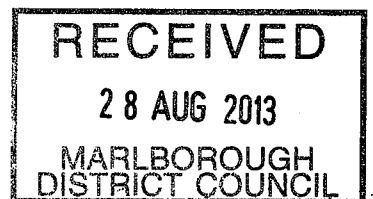
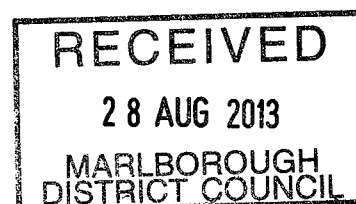


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1.0 SUMMARY OF REPORT

1.1 Scope of Report

This report deals with designing a wastewater system to service:

- a) The proposed new shed where a vanity, toilet & shower are to be installed.
- and
- b) Allowance so a 3 bedroom house could be built in the future.

For ease of design and to be conservative I have designed a system suitable for a four bedroom house.

1.2 Brief Description of Site

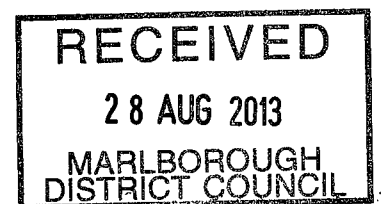
This is 3280 m² lifestyle property is located between a stream on the western boundary and Boons Valley Road on the eastern boundary. The property has two levels, with the northern half being lower than the southern half where the shed and wastewater system are proposed to be located.

The underlying soils are loams covering sandy river gravels.

1.3 General Comments and Recommendations

I recommend installing a 5,000 litre septic tank complete with a Biotube 600 outlet filter, followed by an effluent disposal bed of 53 m².

All as per our attached drawings.



2.0 APPLICANT DETAILS

- 2.1 **Name** David and Patricia Little
- 2.2 **Postal Address** Findlater Construction, 32 Timandra Place, Blenheim.
- 2.3 **Contact Details**
- | | |
|--------|--|
| Work | 579 2284 (Findlater Construction) |
| Mobile | 021 464 232 |
| Email | ron@findlaterconstruction.co.nz |
- 2.4 **Nature of Applicant** Owners
- 2.5 **Owners - Certificate of Title** David Little

3.0 SITE ADDRESS & INFORMATION (Desk top study)

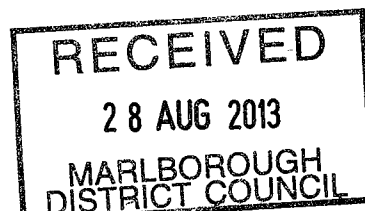
- 3.1 **Address** 102 Boons Valley Road, Picton
- 3.2 **Legal Description** Lot DP 451521
- 3.3 **MDC Property Number** 536627
- 3.4 **Total Property Area** 0.328 Hectares
- 3.5 **Map References** NA
- 3.6 **Annual Rainfall** Approx. 750mm
- 3.7 **Building/s Wastewater System Is To Service**
It is proposed to install a toilet, vanity and shower in the proposed new shed and have spare capacity should a three bedroom house could be built on the property in the future.

4.0 ON-SITE ASSESSMENT

- 4.1 **Date Of Site Visit And Weather**
Several days during June 2013.

4.2 Site Clearances

Separation Distance From:	Septic Tank M	Effluent Bed M
Boundaries	>20	>10
Surface Water	>30	>30
Water Courses	>30	>10
Trees	>20	>10
Wells or bores	>15	>30
Embankments / Retaining Walls	Nil	Nil
Habitable Buildings	>15	>15



- 4.4 **Flooding Potential** Minor
- 4.5 **Possible Run-on Seepage** Nil
- 4.6 **Are Surface Water Interception Drains Required** No
- 4.7 **Site Stability: Is Expert Assessment Necessary** No
- 4.8 **Predominant Wind Direction** North west
- 4.9 **Evapo - Transpiration Potential** Excellent in the warmer months & poor in winter
- 4.10 **Land Application Area Ground Cover** Presently covered grass
- 4.11 **Land Application Area Steepness** Flat
- 4.12 **Land Application Area Site Aspect** North west
- 4.13 **Are Surface Rocks Visible** No
- 4.14 **Availability of Reserve Land** Yes, large site, various options
- 4.15 **Land Disposal Area Ground Water Depth** Summer > 1.8 m
Winter > 1.8 m
- 4.16 **Is Constant Head Permeability Testing (k_{sat}) Required?** No
- 4.17 **Site Constraints**
Few
- 4.18 **Visual Assessment of Land Application Area**
The land application area is adjacent to the properties eastern boundary, on the top terrace and the ground cover is grass/lawn.

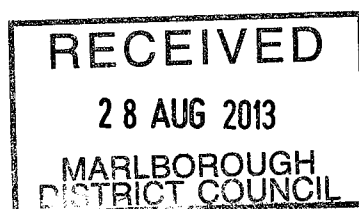
5.0 SOIL LOGS & ANALYSIS

5.1 Summary

- 3 test holes were dug with a digger to a depth of around 1.8 metres.
- The underlying soils are sandy gritty river gravels, all test pits were very similar.
- Ground water was not found in any of the test pits.
- I have conservatively used a soil category 2 in my calculations.

5.2 Test Pit 1

Depth M	Moisture Condition	Colour (Moist)	Field Texture	Gravel Fragments %	Consistency	Structure	Soil Category
0 - 0.1	Dry	Brown	Topsoil	N/A	-	-	1
0.1 - 0.4	Dry / Damp	Yellow	Clays	N/A	-	-	4
0.4 - 1.4	Dry	Yellow/Brown	Gritty sandy gravels	N/A			2



5.3 Test Pit 2

Depth M	Moisture Condition	Colour (Moist)	Field Texture	Gravel Fragments %	Consistency	Structure	Soil Category
0 - 0.1	Dry	Brown	Topsoil	N/A	-	-	1
0.1 - 0.4	Dry / Damp	Yellow	Clays	N/A	-	-	4
0.4 - 1.4	Dry	Yellow/Brown	Gritty sandy gravels	N/A			2

5.4 Test Pit 3

Depth M	Moisture Condition	Colour (Moist)	Field Texture	Gravel Fragments %	Consistency	Structure	Soil Category
0 - 0.1	Dry	Brown	Topsoil	N/A	-	-	1
0.1 - 0.4	Dry / Damp	Yellow	Clays	N/A	-	-	4
0.4 - 1.4	Dry	Yellow/Brown	Gritty sandy gravels	N/A			2

6.0 WASTEWATER DESIGN & CALCULATIONS**6.1 Number Of People System Is To Be Designed For**

Existing House	Bedrooms	3	x	2	Persons/Bedroom	=	6
Shed	Bedrooms	1	x	2	"	=	2
							8 People

6.2 Intended Potable Water Supply

On site bore

6.3 Potable Water Usage (litres per person per day)

From AS/NZS 1547:2012

Households with standard water reduction fixtures = 165 Litres / Day / Person

6.4 Soil Category For Calculation

I have classified the soils in the land application area as Category 2 soils.

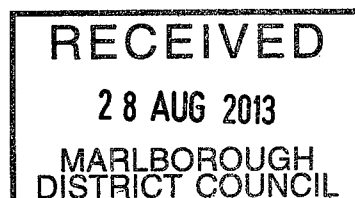
6.5 Land Application System Calculations

DLR for Category 2 Soils = 25 mm per day

$$\frac{Q}{DLR} = \frac{8 \times 165}{25} = \frac{1320}{25} = 53 \text{ M2 of Effluent Disposal Bed}$$

Q = Daily Loading Rate in litres/day (Number of People x litres/day/person)

DLR = Daily Loading Rate in mm/day



7.0 RECOMMENDATIONS

7.1 Designer's Experience

I have designed and installed hundreds of wastewater systems throughout Marlborough.

7.2 Best Practical System

After considering all the site conditions and information available, I believe the system described in item 7.3 is the best practical option for this site.

7.3 Description of System

I recommend installing a 5,000 litre septic tank complete with a Biotube 600 outlet filter, followed by an effluent disposal bed of 53 m2.

All as per our attached drawings.

7.4 System Maintenance Requirements

- Clean (empty) your septic tank regularly, usually at 3 year intervals.
- If you have a waste-disposal unit for food scraps your septic tank should be cleaned out annually, as the sludge build-up occurs much more rapidly.
- Use only toilet cleaners suitable for septic tank systems.
- Do not use disinfectants to clean the toilet bowl, as disinfectants will kill the useful bacteria in the tank.
- Do not place any materials other than toilet paper in the toilet bowl.

7.5 Care Of Ground Area Above The Effluent Bed

Keep this area free of:

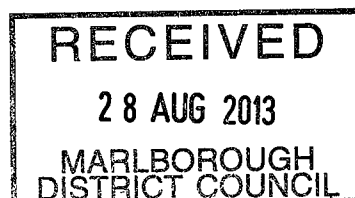
- a. Vehicle movements and parking.
- b. Planting of anything other than grasses and shallow rooted plants.
- c. Grazing of any animals.
- d. Ensure roots from any adjacent trees, existing or future plantings, roots don't grow into the effluent disposal bed.

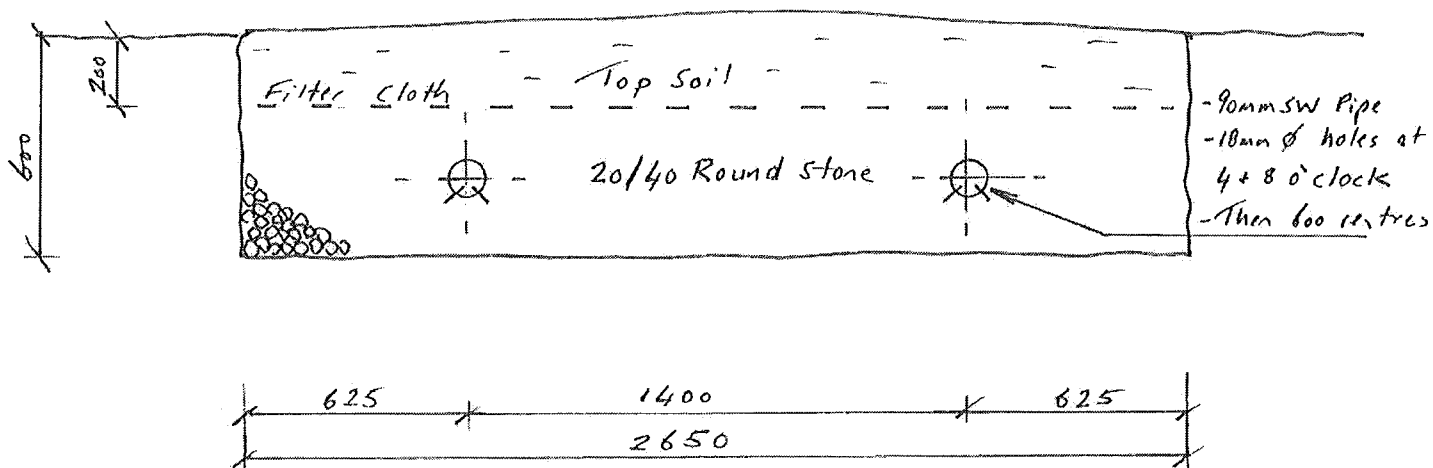
8.0 EFFECTS ON SURROUNDING ENVIRONMENT

- 8.1** As this system has been designed in accordance with MDC guidelines and AS/NZS 1547:2012, there should be no detrimental effects on the environment.

9.0 REFERENCES

- 9.1** MDC Guidelines for new on-site wastewater management systems (2005).
- 9.2** AS/NZS 1547:2012, On-Site domestic wastewater management.
- 9.3** Centre for Environmental Training - Course July 2005: 'Site and Soil Assessment for On-Site Wastewater Management Systems'.

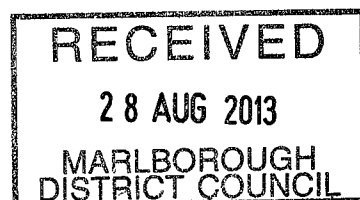


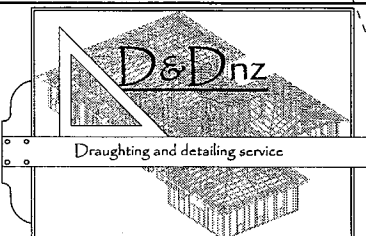
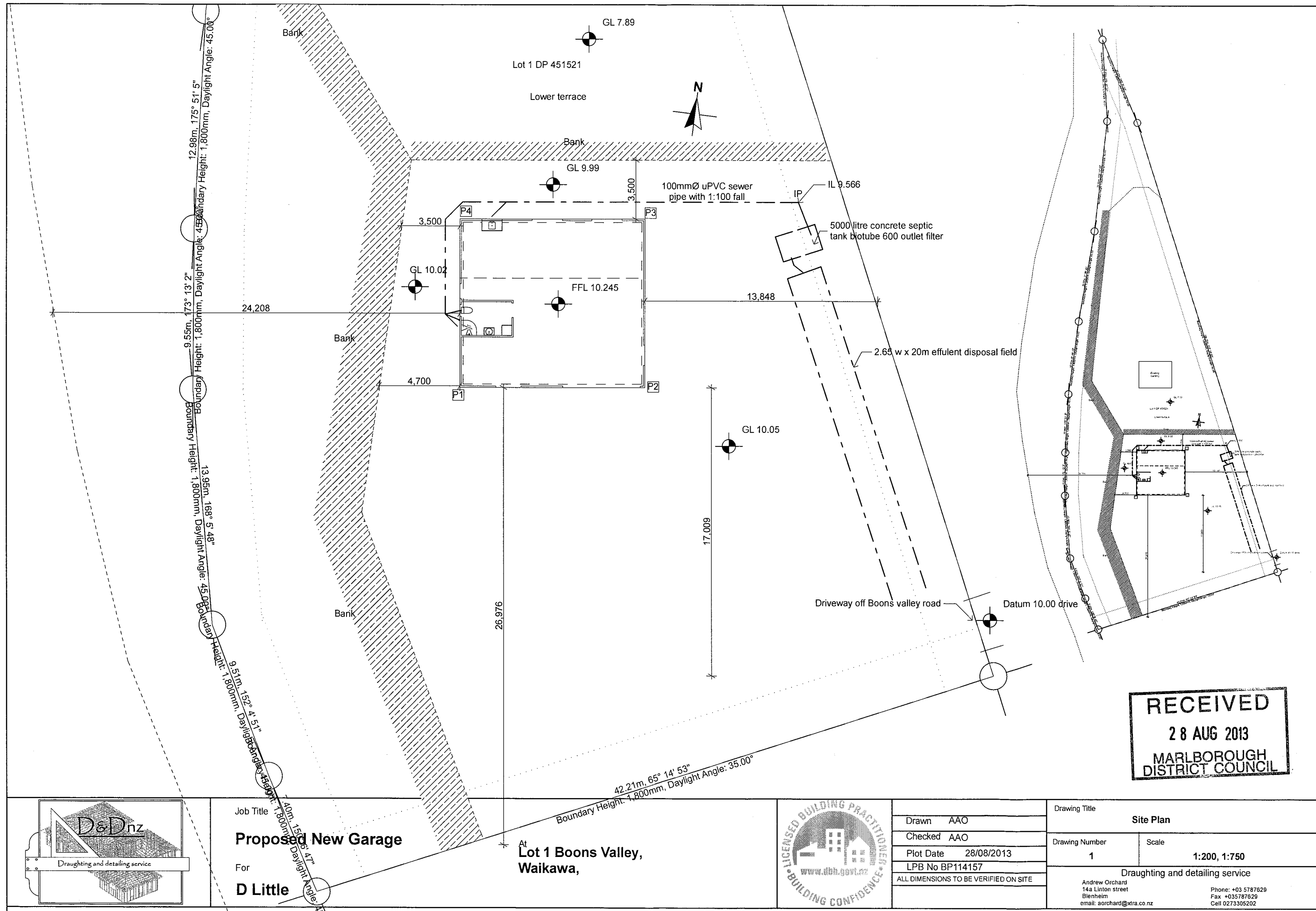


Little Effluent Bed Design - 20m L x 2.65m W

102 Boons Valley Road, Pictou

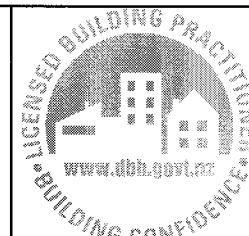
Scale 1-200





Job Title
Proposed New Garage
For
D Little

At
**Lot 1 Boons Valley,
Waikawa,**



Drawn	AAO
Checked	AAO
Plot Date	28/08/2013
LPB No	BP114157
ALL DIMENSIONS TO BE VERIFIED ON SITE	

Drawing Title Site Plan	
Drawing Number 1	Scale 1:200, 1:750
Drafting and detailing service Andrew Orchard 14a Linton street Blenheim email: aorchard@xtra.co.nz Phone: +03 5787629 Fax: +03 5787629 Cell 0273305202	