Abel Properties Limited

Property, Project & Resource Management

Level 1, 27 Scott Street
P O Box 185, Blenheim
Telephone (03) 577 7780
Facsimile (03) 578 6003

File Ref: SJ94 - O'Malley

8 February 2008

Marlborough District Council
PO Box 443
Blenheim 7240

Attention: Alan Anderson

Dear Alan,

O'MALLEY EFFLUENT, MT RILEY ROAD U071293

Please find attached an amended design, The beds will now be dose loaded and a pump chamber installed.

Yours faithfully

BRONWEN FRAZER
RESOURCE MANAGEMENT CONSULTANT
bronwen@abelprop.com

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Site and Soil Evaluation Report

1. Site Evaluators	
Company: Abel Properties	**Name:** Bronwen Frazer
Address: PO Box 185, Blenheim	
Phone: (03) 5777780 **Fax:** (03) 5786003	
Date of Assessment: November 2008	

2. Site Information	
Address: 122 Mt Riley Road Okaramio	
Owner: R.C and S.R O 'Malley	**Phone:**
Size/shape/layout: Site plan attached **yes**/no Photographs attached yes/**no**	
Intended water supply: Bore supply from a well (see location plan)	
Expected wastewater quantity (litres/day): 1080 L per day **No. of bedrooms**: design basis= 3 **Standard fixtures**/water reduction fixtures	
Existing On–site systems: Existing system servicing the main dwelling which is located on the adjacent property, new system required for the proposed family flat.	
Local experience: **yes**/no	

3. Site Assessment
Climate: Moderately high rainfall area
Annual Rainfall: Unknown **Annual Evaporation**: Unknown **Data source used:**
Flooding Potential Comment: Site is not within a flood hazard zone
Exposure: Good exposure *Site aspect*: north *Pre-dominant wind direction:* nor westerly *Presence of shelter belts*: no *Presence of topographical features or structures*: farm sheds and existing dwelling, stream runs through the property but is ephemeral in nature and is located within a well incised bed.
Ground Cover/ Vegetation Type: Grass
Slope: Generally Flat
Landform: River flat in base of valley
Site Drainage: moderate
Fill: None
Erosion Potential: Low
Groundwater: **Horizontal distance to well for domestic supply:**+30m **Bores in the area and their purpose:** No other wells within a 30 meter radius.
Buffer distances from wastewater management system to: **Permanent water:** Stream located on property **Other water:** None in vicinity **Other sensitive environments:** None **Boundary of premises:** must be >5m **Swimming pools:** None **Buildings:** >5m setback from buildings **Neighboring disposal fields:** +30m
Is there sufficient land area available for: **Application system (including buffer distances)** **yes**/no **Reserve application system (including buffer distances)** **yes**/no

Drainage controls:
Depth to seasonal water table: +1m
Need for cut off drains/diversion banks: N/A
Need for surface water collector/cut off drains: N/A

4. Site Assessment (see attached tables)

Estimated Soil Category: 4 (see attached tables)
Soil category has been based on table 4.1.1. NZS 1547: 2000 and the texture/structure of soil as observed on site and described in the attached tables.

Recommended DIR **/ DLR:** 10mm/day
Reason: based on soil category

General Comments: We recommend that new 4000L (min) septic tank with pump chamber be installed and a shallow bed disposal field installed to service the flat

5. Design Details

Soil Category: 4
Number of bedrooms: 2 3
Average Daily Flow Rate: 1080 L/day
Design Occupancy: max 6 people
Flow Allowance: 180L per person per day

Septic Tank Capacity: min capacity 4000L

Treatment Quality: Primary
BOD5: <100g/m3
Suspended Solids: <60g/m^3

Loading Rate: 10mm/day (from table 4.2 A1 NZS1547:2000)
Trench **/ Bed Spacing (m):** 2m
Notes: bed must be laid level

5. Calculations

$$A = \frac{1080L}{10\ mm/day}$$

Disposal Area = 108 square meters
Two 3m x 18m shallow bed

6. Assessment of other possible systems:
Secondary treatment and irrigated disposal is also a possible method however this level of treatment is not considered necessary due to the favorable site and soil conditions.

7. Best practical Option:
We believe the proposed system is the best practical option for wastewater management and the best method for preventing or minimizing any adverse effects on the environment.

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Maintenance Schedule for On-site Wastewater Management System

Owner Details:

Owner: R.C and S.R O'Malley

Location: Mt Riley Road, Okaramio

(Owners and Occupiers are legally responsible to keep their on-site systems in good working order)

System Detail:

Capacity: minimum 4000L septic tank with effluent filter and pump chamber

Disposal field: 108 square meters of shallow bed disposal

Use of System:

Manufactures guidelines must be followed at all times.

Maintenance of Septic Tank:

Maintenance of the system should be carried out in accordance with manufactures guidelines and should be arranged by the owner of the system.

1. The system is required to be de-sludged at regular 3-5 year intervals or when sludge/scum occupies 2/3 of the volume of the tank. Effluent filters shall be inspected and cleaned if required at the time of desludging.

2. Pumps and switches shall be checked annually to insure they are working reliably

Maintenance of Disposal Field:

1. The disposal field shall be inspected for any signs of failure (wet soggy patched or unpleasant dour.

NOTE: MANUFACTURES INSTRUCTIONS FOR MAINTAINENCE OF FILTERS, PUMPS, AND SWITCHES SHALL BE FOLLOWED AT ALL TIMES

4. Soil Assessment

Test site 1. Method: test pit

Layer	Depth to bottom	Moisture condition	Colour	Texture	Coarse fragment %	Structure	Dispersion	Soil Category	Sample taken	Other comments
1.	300mm	Dry	Brown	Loam	None	Strong	-	3	N	Topsoil
2.	700mm	moist	Light Brown - Yellow	Clay Loam	Occasional	weak	-	4	N	Clay Loam, moderately plastic, Smooth and silky, forms a ribbon 40mm long. some fine sand grains. Occasional small pebbles.
3.	-	Moist	Light Brown - Yellow	Clay Loam and Gravels	Abundant	weak	-	3	N	Alluvial schist gravels within a clay loam matrix

Test site 2. Method: test pit

Layer	Depth to bottom	Moisture condition	Colour	Texture	Coarse fragment %	Structure	Dispersion	Soil Category	Sample taken	Other comments
1.	300mm	Dry	Brown	Loam	None	Strong	-	3	N	Topsoil
2.	600mm	moist	Light Brown - Yellow	Clay Loam	Occasional	weak	-	4	N	Clay Loam, moderately plastic, Smooth and silky, forms a ribbon 40mm long. some fine sand grains. Occasional small pebbles.
3.	-	Moist	Light Brown - Yellow	Clay Loam and Gravels	Abundant	weak	-	3	N	Alluvial schist gravels within a clay loam matrix

Test site 3. Method: test pit

Layer	Depth to bottom	Moisture condition	Colour	Texture	Coarse fragment %	Structure	Dispersion	Soil Category	Sample taken	Other comments
1.	300mm	Dry	Brown	Loam	None	Strong	-	3	N	Topsoil
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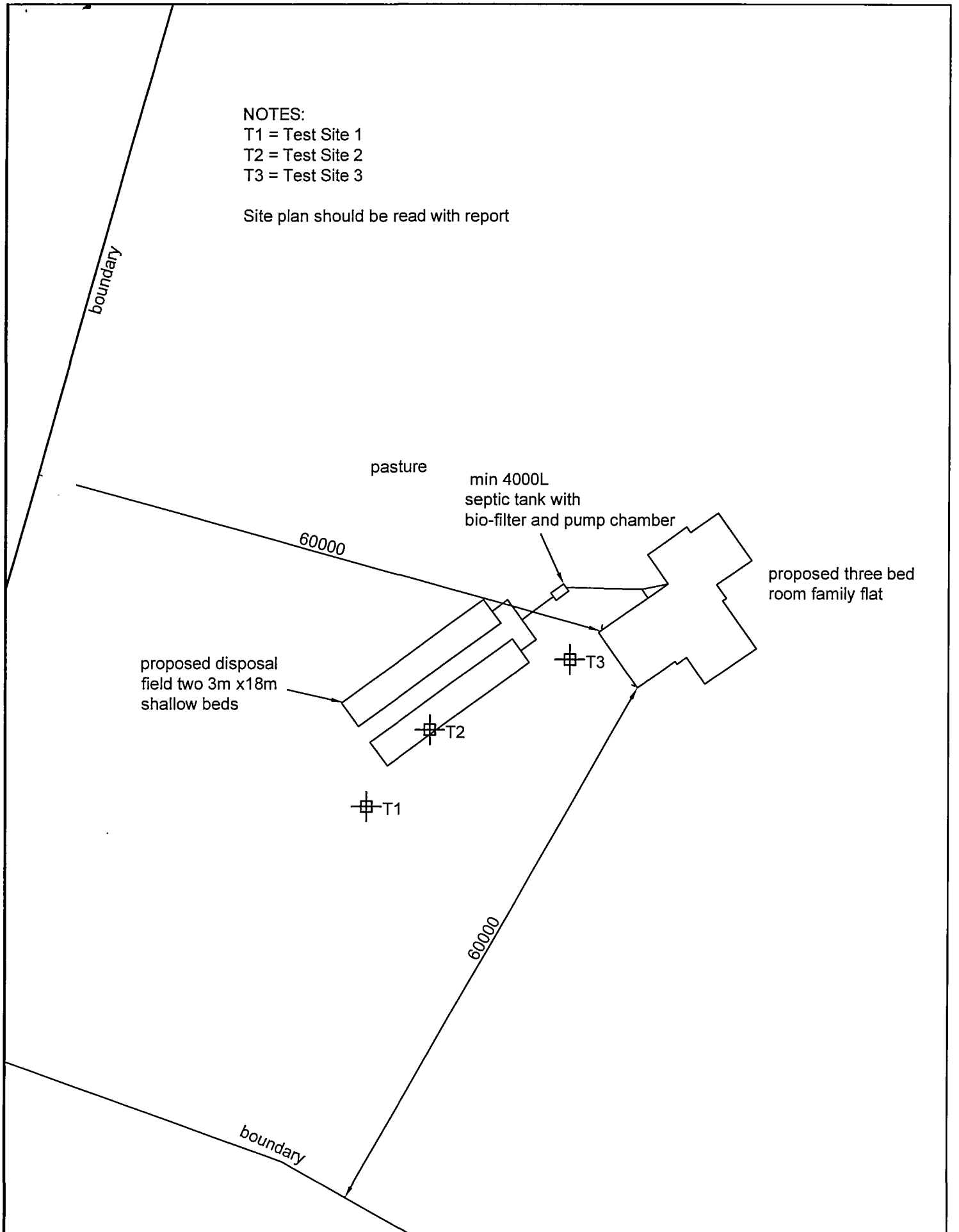
3.	-	Moist	Light Brown - Yellow	Clay Loam and Gravels	Abundant	weak	-	3	N	Alluvial schist gravels within a clay loam matrix

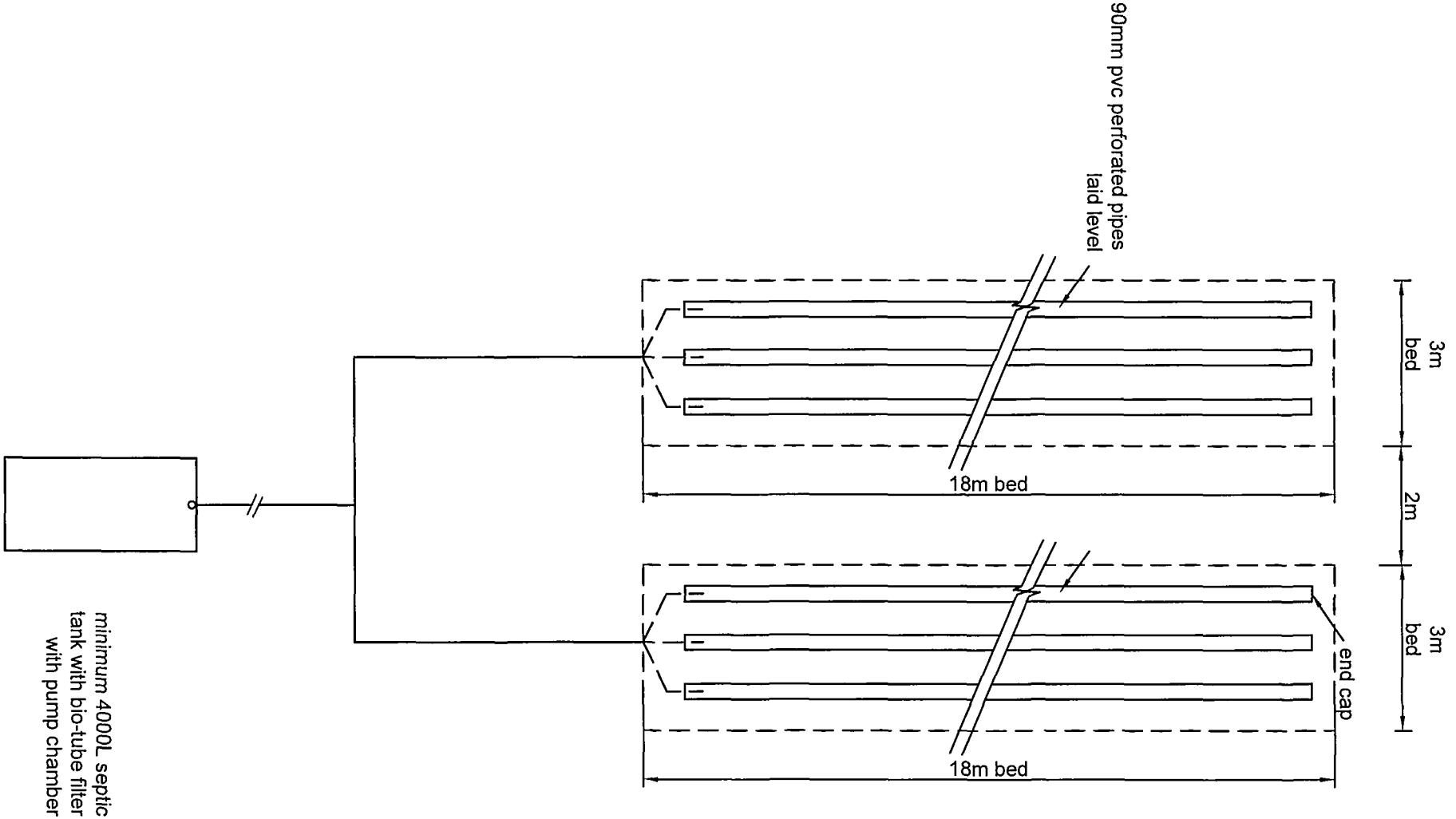
APL	**PROJECT:** O'Malley Effluent **DRAWING:** Location Plan **DATE:** 23/11/07 **SCALE:** 1:4000	**DWG NO :** SJ102-01 **AMENDMENT:** 01 **ISSUE:** info	**Abel Propertied Limited** Property, Project & Resource Management 1st floor, 27 Scott Street PO Box 185 Blenheim Telephone (03) 577 7780 Facsimile (03) 578 6003



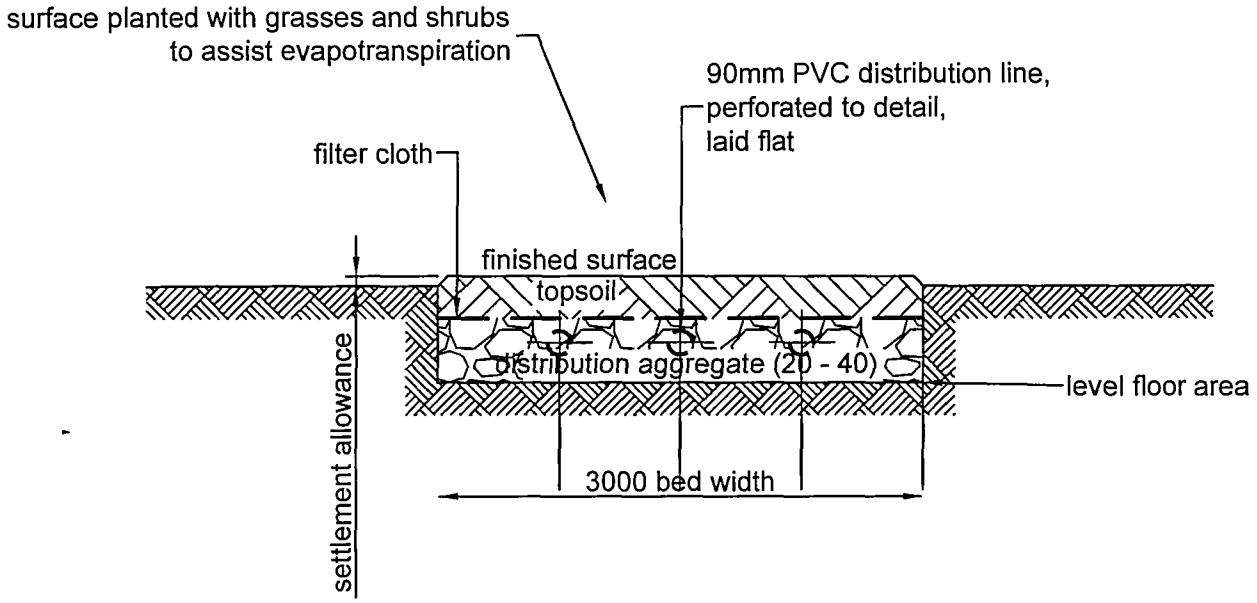
PROJECT: O'MAlley Effluent **DRAWING:** Site Plan **DATE:** 23/11/07 **SCALE:** 1:500	**DWG NO :** SJ102-02 **AMENDMENT:** 01 **ISSUE:** info	**Abel Propertied Limited** Property, Project & Resource Management 1st floor, 27 Scott Street PO Box 185 Blenheim Telephone (03) 577 7780 Facsimile (03) 578 6003

SHALLOW BED SECTION

Not To Scale



PROJECT: O'Malley Effluent	**DWG NO :** SJ44-03	**Abel Propertied Limited**
DRAWING: Details 2	**AMENDMENT:** 01	Property, Project & Resource Management
DATE:23/11/07 **SCALE:** NTS	**ISSUE:** info	1st floor, 27 Scott Street PO Box 185 Blenheim Telephone (03) 577 7780 Facsimile (03) 578 6003



CONVENTIONAL BED SECTION

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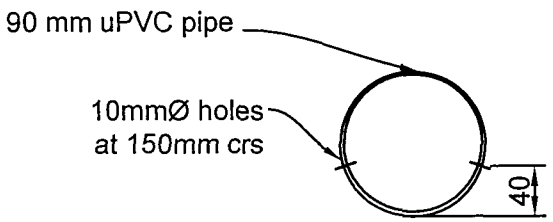

PIPE DETAIL

Not To Scale

A P L	**PROJECT:** O'Malley Effluent **DRAWING:** Details 2 **DATE:** 23/11/07 **SCALE:** NTS .	**DWG NO :** SJ102-04 **AMENDMENT:** 01 **ISSUE:** info	**Abel Propertied Limited** Property, Project & Resource Management 1st floor, 27 Scott Street PO Box 185 Blenheim Telephone (03) 577 7780 Facsimile (03) 578 6003

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Address: PO Box 185, Blenheim	
Phone: (03) 5777780 **Fax:** (03) 5786003	
Date of Assessment: November 2008	

2. Site Information	
Address: 122 Mt Riley Road Okaramio	
Owner: R.C and S.R O 'Malley	**Phone:**
Size/shape/layout: Site plan attached Photographs attached	 **yes**/no yes/**no**
Intended water supply: Bore supply from a well (see location plan)	
Expected wastewater quantity (litres/day): 1080 L per day **No. of bedrooms**: design basis= 3 **Standard fixtures**/water reduction fixtures	
Existing On–site systems: Existing system servicing the main dwelling which is located on the adjacent property, new system required for the proposed family flat.	
Local experience:	**yes**/no

3. Site Assessment
Climate: Moderately high rainfall area
Annual Rainfall: Unknown **Annual Evaporation**: Unknown **Data source used:**
Flooding Potential Comment: Site is not within a flood hazard zone
Exposure: Good exposure *Site aspect*: north *Pre-dominant wind direction:* nor westerly *Presence of shelter belts*: no *Presence of topographical features or structures*: farm sheds and existing dwelling, stream runs through the property but is ephemeral in nature and is located within a well incised bed.
Ground Cover/ Vegetation Type: Grass
Slope: Generally Flat
Landform: River flat in base of valley
Site Drainage: moderate
Fill: None
Erosion Potential: Low
Groundwater: **Horizontal distance to well for domestic supply:**+30m **Bores in the area and their purpose:** No other wells within a 30 meter radius.
Buffer distances from wastewater management system to: **Permanent water:** Stream located on property **Other water:** None in vicinity **Other sensitive environments:** None **Boundary of premises:** must be >5m **Swimming pools:** None **Buildings:** >5m setback from buildings **Neighboring disposal fields:** +30m
Is there sufficient land area available for: **Application system (including buffer distances)** **yes**/no **Reserve application system (including buffer distances)** **yes**/no

Drainage controls:
Depth to seasonal water table: +1m
Need for cut off drains/diversion banks: N/A
Need for surface water collector/cut off drains: N/A

4. Site Assessment (see attached tables)

Estimated Soil Category: 4 (see attached tables)
Soil category has been based on table 4.1.1. NZS 1547: 2000 and the texture/structure of soil as observed on site and described in the attached tables.

Recommended DIR **/ DLR:** 10mm/day
Reason: based on soil category

General Comments: We recommend that a new 4000L (min) septic tank be installed and a shallow bed disposal field installed to service the flat.

SUPERSEDED

5. Design Details

Soil Category: 4
Number of bedrooms: 2 3
Average Daily Flow Rate: 1080L/day
Design Occupancy: max 6 people
Flow Allowance: 180L per person per day

Septic Tank Capacity: min capacity 4000L

Treatment Quality: Primary
BOD5: <100g/m3
Suspended Solids: <60g/m^3

Loading Rate: 10mm/day (from table 4.2 A1 NZS1547:2000)
Trench **/ Bed Spacing (m):** 2m
Notes: bed must be laid level

5. Calculations

$$A = \frac{1080L}{10\ mm/day}$$

Disposal Area = 108 square meters
Two 3m x 18m shallow bed

6. Assessment of other possible systems:
The environmental risks are sufficiently low to allow the use of a conventional gravity fed system, Secondary treatment and irrigated disposal is also a possible method however this level of treatment is not considered necessary due to the favorable site and soil conditions.

7. Best practical Option:
We believe the proposed system is the best practical option for wastewater management and the best method for preventing or minimizing any adverse effects on the environment.

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Maintenance Schedule for On-site Wastewater Management System

Owner Details:

Owner: R.C and S.R O'Malley

Location: Mt Riley Road, Okaramio

(Owners and Occupiers are legally responsible to keep their on-site systems in good working order)

System Detail:

Capacity: minimum 4000L septic tank with effluent filter

Disposal field: 108 square meters of shallow bed disposal

Use of System:

Manufactures guidelines must be followed at all times.

Maintenance of Septic Tank:

Maintenance of the system should be carried out in accordance with manufactures guidelines and should be arranged by the owner of the system.

1. The system is required to be de-sludged at regular 3-5 year intervals or when sludge/scum occupies 2/3 of the volume of the tank. Effluent filters shall be inspected and cleaned if required at the time of desludging.

Maintenance of Disposal Field:

1. The disposal field shall be inspected for any signs of failure (wet soggy patched or unpleasant dour.

NOTE: MANUFACTURES INSTRUCTIONS FOR MAINTAINENCE OF FILTERS, PUMPS, AND SWITCHES SHALL BE FOLLOWED AT ALL TIMES

4. Soil Assessment

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Test site 2. Method: test pit

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Test site 3. Method: test pit

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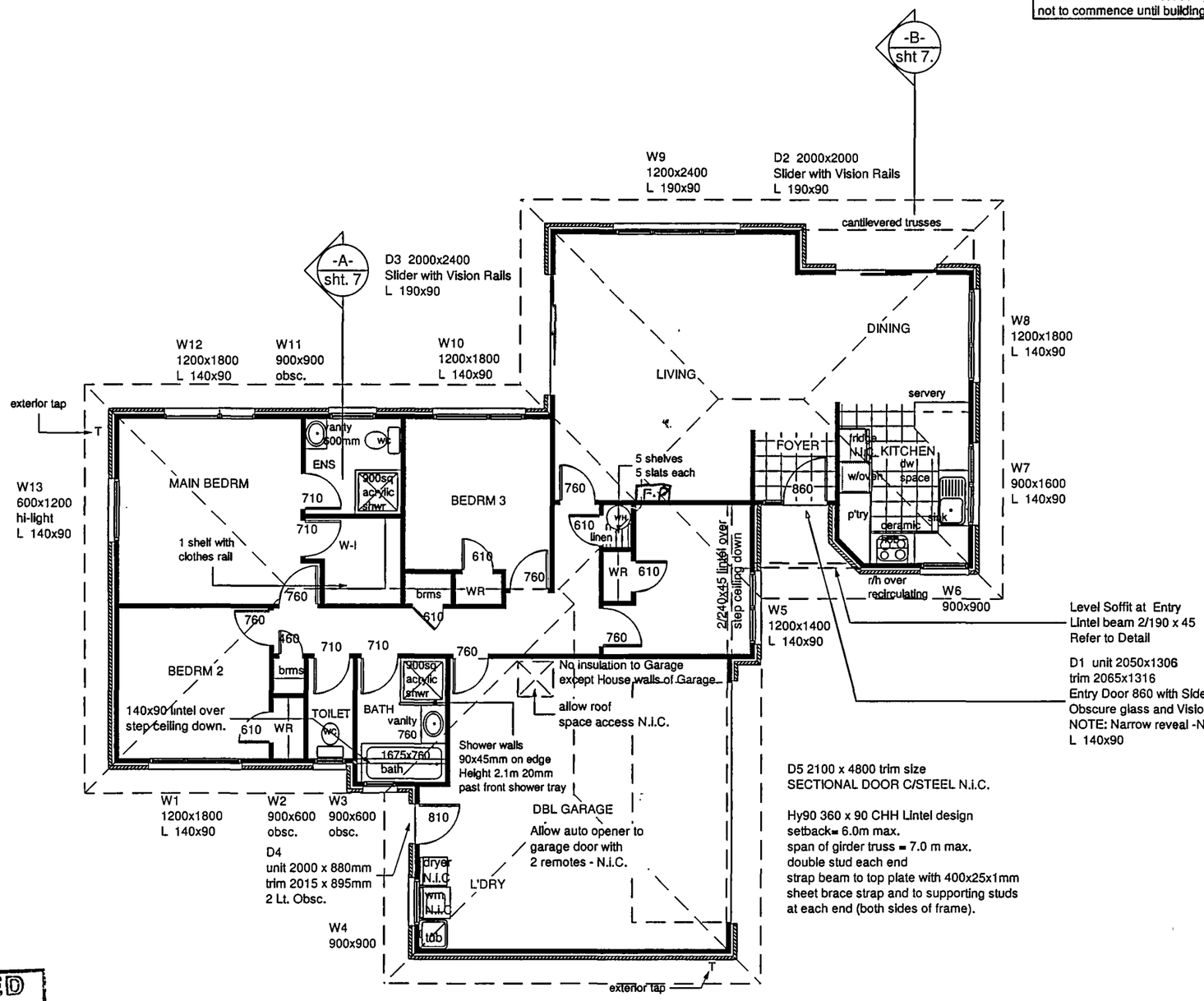


D5 2100 x 4800 trim size
SECTIONAL DOOR C/STEEL N.i.C.

Hy90 360 x 90 CHH Lintel design
setback= 6.0m max.
span of girder truss = 7.0 m max.
double stud each end
strap beam to top plate with 400x25x1mm
sheet brace strap and to supporting studs
at each end (both sides of frame).

Note:
- All joinery to have double glazing

WET AREAS

BATH / LAUN / KITCHEN / WC (floor finishes)

(NOTE: Non-slip vinyl to achieve a minimum slip resistance coefficient of 0.25 - 0.50)
Non-slip vinyl lining over sealed floor.
Option 1 - Cove vinyl at up wall 100mm, fix skirting or vinyl smooth edge to wall junction
Option 2 - waterproof seal vinyl to edge of painted skirting contractor to comply with NZBC : E3/AS1 internal moisture.

Option 3 - Floor finish (Tiled)
Seal flooring with BRANZ approved waterproofer
Wall lining stopped 5mm clear of flooring.
Fix 6.0mm tile & slate underlay over joists, seal & allow to dry prior to tiling.
Non-slip ceramic tiles laid over by qualified tiler, lay 1 row of tiles up wall with flexible waterproof sealant to floor tile junction

FIRE CODE COMPLIANCE:
Fire code compliance with NZBC sections C1/AS1, C2/AS1 C3/AS1 & C4/AS1.
Purpose group SH in accordance with Table 2.1 Pg 43

Proposed dwelling compliant with C1/AS1 Detached Dwelling: Paragraphs 1.3.3 & 1.3.4 - Pg 36

GENERAL NOTES:

All dimensions are CRITICAL to ensure neat and exact fitting of components/fixtures.
Most important are Baths, Showers, Vanities and the like. Due to manufacturing processes these can vary in dimension + or - 5mm. Confirm ALL dimensions prior to placing Gib Board or before permanently fixing any items.

Ensure 'cabinatery and other components' backing nogs are placed prior to placing any wall linings.

N.I.C. = Not in Contract.

KEY WALL FRAMING:

EXTERIOR WALLS
Allow 90x45 MSG8 H1.2 KD studs @ 600m ctrs with 2 rows of nogs.

INTERIOR WALLS;
Allow 90x45 MSG8 UT KD studs @ 600m ctrs with 2 rows of nogs.

90x45mm timber wall framing

90x45mm timber wall framing on edge

Allow 1 row of tiles (min. 150mm high) as bath splashback to walls around bath.
Allow to rebate studs for recessing of bath.
Allow 10mm Gib Aqualine on ceiling and walls for all bathrooms.

INSULATION:
Allow wall insulation of R2.4
Allow ceiling insulation of R3.6

Lintels as shown from NZS:3604 A2 or similar approved system.

RECEIVED
26 NOV 2007
MARLBOROUGH DISTRICT COUNCIL

THE PHOENIX 160
-standard-

Floor Area:
House = 121.9m²
Garage = 38.1m²
Total Floor Area = 160.0m²

3
4 2
1
ELEVATION KEY

All documentation prepared in accordance with NZS:3604 (Amendment No.2 May 2006)

*All timber stress grading to be a minimum MSG8 or VSG8 unless otherwise noted.

Highmark Homes

NEW HOME FOR:
R.C. & S.R. O'Malley
112 Mount Riley Road,
RD1, Okaramio

THE PHEONIX 160

www.highmarkhomes.co.nz

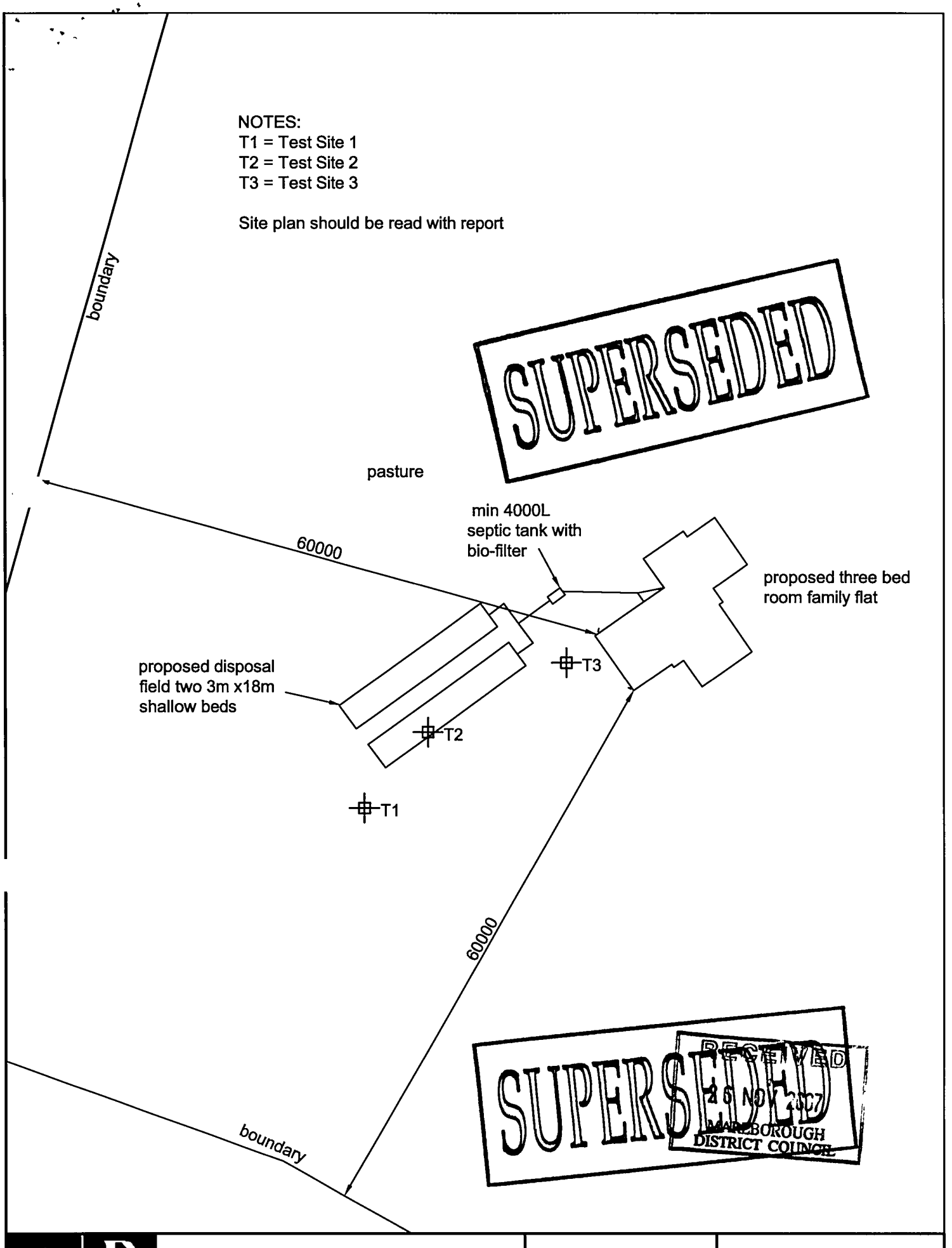
Wind: High
EQ: A

FLOOR PLAN
texts only

Date: 16 Nov 2007
Sheet # 02
Set of 15
Drawn: ST
Scale: 1 : 100
Job # FA-0714

NOTES:
T1 = Test Site 1
T2 = Test Site 2
T3 = Test Site 3

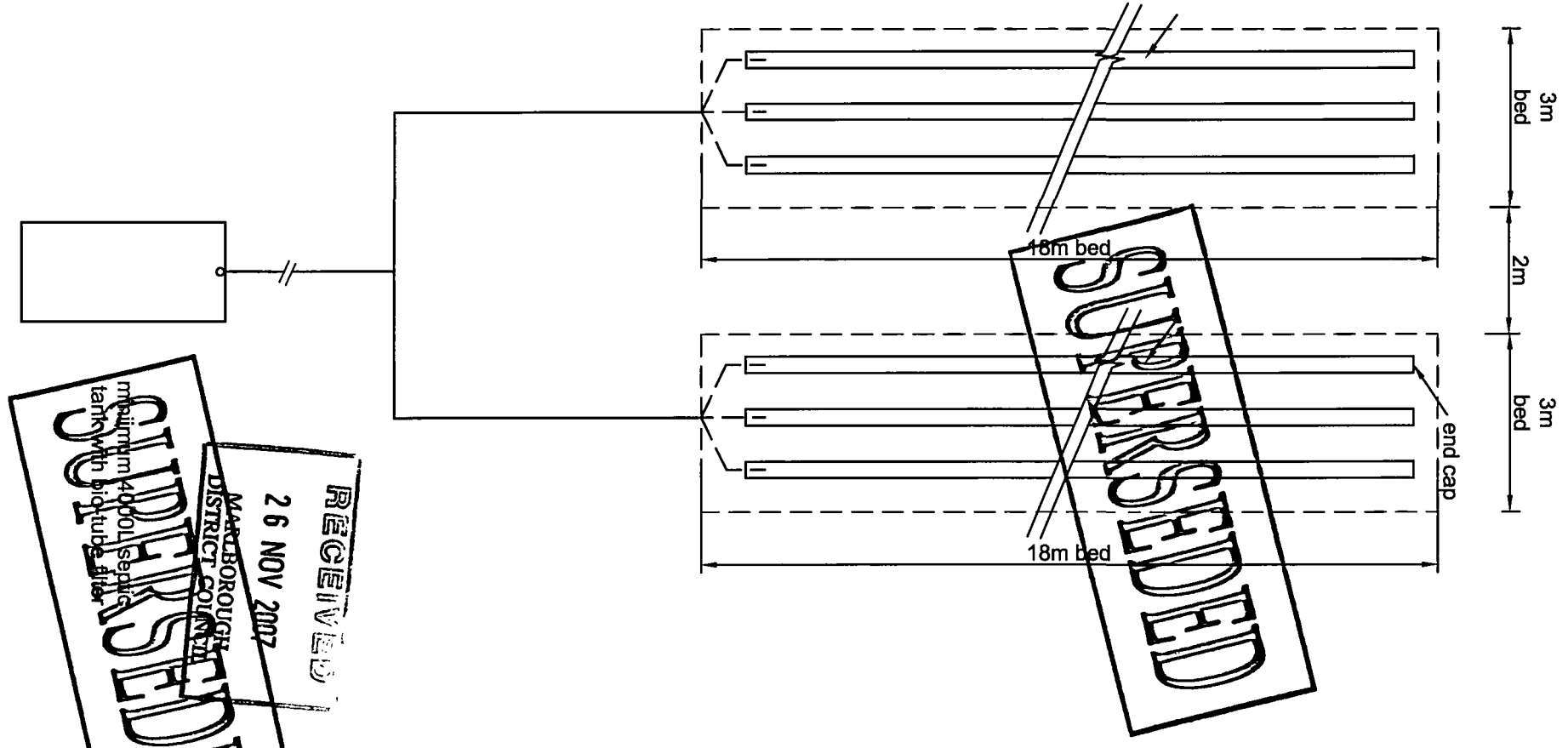
Site plan should be read with report



APL	**PROJECT:** O'MAlley Effluent **DRAWING:** Site Plan **DATE:** 23/11/07 **SCALE:** 1:500	**DWG NO :** SJ102-02 **AMENDMENT:** 01 **ISSUE:** Info	**Abel Propertied Limited** Property, Project & Resource Management 1st floor, 27 Scott Street PO Box 185 Blenheim Telephone (03) 577 7780 Facsimile (03) 578 6003

SHALLOW BED SECTION

Not To Scale



PROJECT: O'Malley Effluent

DRAWING: Details 2

DATE: 23/11/07 **SCALE:** NTS

DWG NO : SJ44-03

AMENDMENT: 01

ISSUE: Info

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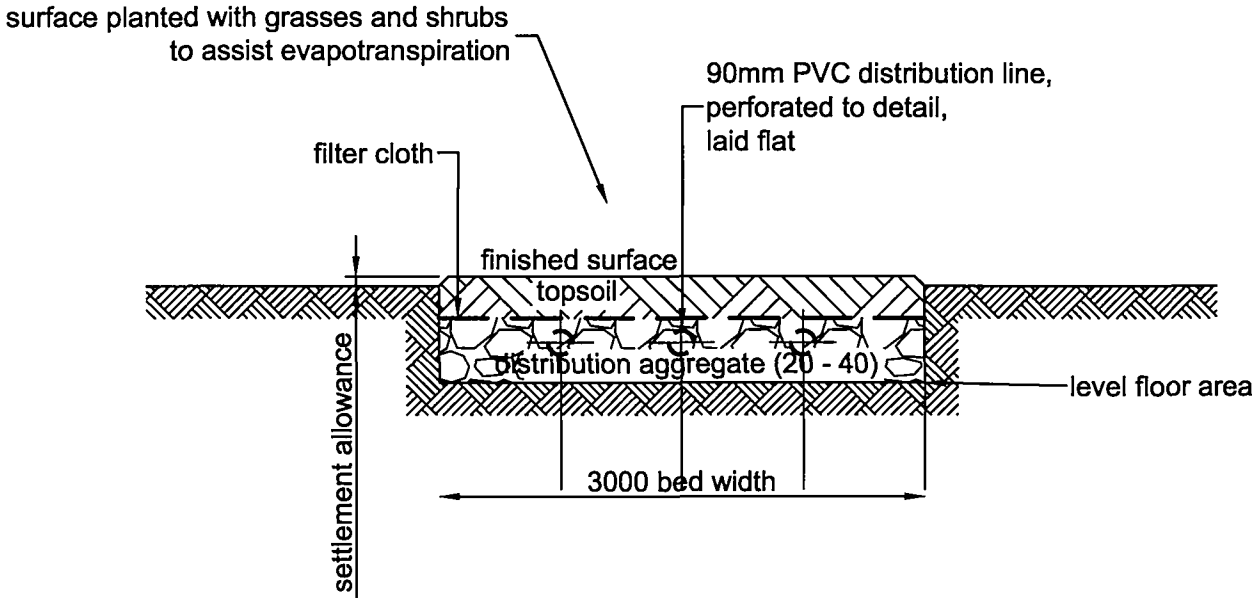

CONVENTIONAL BED SECTION

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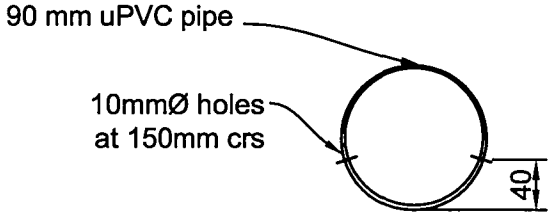

PIPE DETAIL

Not To Scale

PROJECT: O'Malley Effluent
DRAWING: Details 2
DATE: 23/11/07 **SCALE:** NTS

DWG NO : SJ102-04

AMENDMENT: 01

ISSUE: Info

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