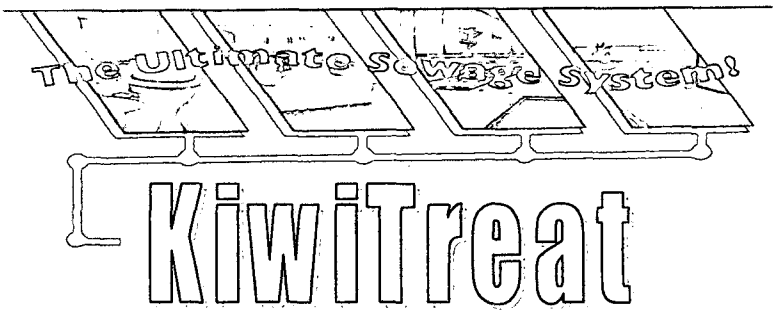

Batched Treatment Sewage System.

For single households.

Producer Statement

Designed and Built in New Zealand
by

KiwiTreat Ltd
Horrelville. RD1. Rangiora
PH 03 3125787 Fax 03 3125780

KiwiTreat.

Batched Treatment System
For
Domestic Wastewater

Producer Statement.

Purpose and Scope.

To provide a sewage treatment plant of the aerated activated sludge type suitable for up to eight equivalent persons, which produces treated wastewater of suitable quality for use above and below ground, as per the requirements of the Regulatory Authorities.

The system is designed to:

1. Meet the requirements of AS/NZS 1547:2000 On-site domestic wastewater management.
2. Be user friendly.
3. Have extremely low maintenance and service requirements.
4. Be very reliable in operation and performance.
5. Meet the discharge quality requirements of AS/NZS 1546.3.2001 On-site domestic wastewater treatment units.
6. Be acceptable in areas of environmental and conservational interest.
7. Be very cost effective at the treatment and disposal of the resultant liquid.

This system is designed to give continuous peace of mind performance.

Wastewater Characteristics.

Hydraulic Load.

The wastewater volume generated by a household has been calculated using well-proven and documented guidelines.

Sewage flow: Average per day = 1200 litres.

Based on a minimum design flow of 100 litres/person/day, with a peaking factor of 200 litres per hour.

Organic Load.

The strength of the wastewater from a house is calculated in terms of grams per day of BOD_5.
The design figure is 560 grams per day, and is derived from the industry-accepted figure of 70 grams of BOD_5 per person per day.

The septic tank reduces the organic load by acting as a primary sedimentation tank and an anaerobic digester. The reduction allowance is 30% of organic strength. This results in a BOD_5 to be treated by the aerobic module of 392 grams per day.

Process Description.

The sewage treatment plant is an activated sludge type, incorporating a measured batch discharge, and with an in-plant surge capacity of 2100 litres.

The initial component of the plant is a septic tank that acts as a primary settling tank and solids digester.

A chamber where aerobic treatment occurs follows this.

The treated wastewater then passes through a clarifier to the pump chamber, where it is then pumped mainly back to the aeration chamber for further treatment, while at the same time a measured batch is discharged to the disposal area.

Septic Tank.

The primary treatment is achieved by the utilisation of a septic tank upstream of the aerobic module.
An Everhard two-chamber 3000 litre septic tank is used, with a primary chamber working volume of 1740 litres, and a secondary chamber working volume of 860 litres.

Most of the insoluble waste remains within the primary chamber. The liquid fraction and small volume solids pass through to the secondary (anoxic) chamber, where significant quantities of nitrogen and nitrogenous compounds are removed from the system. This has the effect of maintaining the pH levels of the resultant liquid

within an acceptable range for the aerobic bacteria working in the downstream processes.
The inclusion of a bio-filter at the discharge area of the primary tank helps to further improve the quality of the wastewater before the aeration stage, by further reducing the solids fraction. This filter also assists in moderating surge volumes.

Aeration Module.

The aeration module utilises second Everhard 3000 litre tank, which allows the wastewater to come into contact with both suspended biomass and attached growth biomass. This contact and subsequent degradation of the fine particulate and soluble organic material occurs in the controlled introduction of air. The settled effluent in the aeration chamber is re-seeded with acclimatised stable biomass. This process provides all the advantages of a step treatment system.

The normal aerated volume in this system is 2500 litres, with a surge capacity of 1100 litres. This surge capacity ensures a uniform treatment of the effluent before discharge to the disposal area.

The aeration system has a design F/M ratio of 0.05 when taking the plate pack attached biomass into account. The above figures are well within the industry accepted guidelines.

Plate Pack Media.

A high surface area to volume plastic media is fitted to the aeration chamber.

This media provides a suitable growth surface for stable attached growth biomass.

The growth characteristics of this biomass promote good nitrification, some de-nitrification (with inherent stability) and good settling characteristics of the waste sludge.

The media packs and the tank and associated components provide a total surface area for biomass growth in excess of 27m2.

Aeration.

The activated sludge tank supplies aeration on demand for 24 hours each day.

This batch treatment process promotes denitrification and hence stable biomass and suitable pH in the mixed liquor of the aeration tank.

More than 2.4 grams of oxygen per gram of BOD_5 is provided to the system through a venturi. This is the chosen method of aeration, for the following reasons:

1. It supplies large volumes of air in relation to the energy input.

2. It operates without creating a buildup of bacteria around the air discharge area.

3. It aerates to the full depth of the tank, and therefore treats the total volume of the liquid in the aeration chamber.

4. It has the ability to shut down at specified times for further de-nitrification to take place, which helps promote stable biomass and suitable pH.

5. The venturi system does not require any maintenance or servicing.

The air for the venturi is sourced from outside the tank, so only fresh air is made available for the process.

The batching process ensures that all sewage flowing through receives the same amount of processing, and is not affected by variable flow volumes.

Clarifier.

A proprietary 450-litre clarifier chamber is part of the activated sludge system.

The purpose of this chamber is to mix the liquid at the different treatment levels in the recirculating stage of the aeration cycles.
The treatment quality is enhanced during each cycle.
The chamber also controls surging to ensure that the wastewater is properly treated before further downstream processing.

Pump Chamber.

This chamber services a working volume of over 1000 litres of aerated liquid per cycle, of which 60 to 65 litres of treated liquid is pumped to the disposal area, through an additional bio-filter/sediment filter combination.

Disinfection.

Disinfection, when required, is by chlorination, which takes place after the pump out chamber.
The chlorinator remains effective by means of chlorine tablets moving down a magazine system into the operating area as required.
There is no possibility of chlorine contamination of any of the previous treatment stages.

Disposal.

Disposal is through a pressure compensated drip-line via a non-return valve.
The dripline is protected by a high capacity bio-filter/sediment filter.
The system includes 300 metres of pressure compensated, self-flushing drip-line specifically manufactured for effluent disposal.
The site conditions and the environmental conditions of the area govern the size of the disposal area.
It is recognised that treatment quality and the disposal of the resultant liquid are of paramount importance to all concerned.

System Monitoring.

The system is monitored by audible and visual alarms.
The alarms monitor the following:

1. The aeration sequence.
2. The disposal sequence.
3. The correct operation of the disposal line.
4. The venturi system.
5. The correct flows of treated effluent through the chlorinator, if fitted.

Discharge Quality.

Treatment quality of the resultant liquid is recognised to be of paramount importance.
The system is designed to meet the following standards:

1. BOD5 – not greater than 20mg/litre
2. Suspended solids – not greater than 30mg/litre.
3. Faecal coliforms – not more than 30cfu/100 mls, when disinfected.
4. Free chlorine – not less than 0.5mg/litre, when chlorinated.

Servicing.

If disinfection is not necessary, there is no requirement for any routine servicing to take place. The only moving part is a single pump, and timers are not required with this process.
The proprietary air injection system has clocked up over 2 million hours of working time on other KiwiTreat systems, without a single problem.

SMART ASSOCIATES LTD

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9 December 2005

Mr Angus Laird
Resource Consent Officer
Marlborough District Council
PO Box 443
Blenheim

Dear Angus

051248

BC051984 : PIM051216 (Ron Wass)
I F Robertson, A J Whiston
Lot 1 DP11364
Whatamango Bay
Our Ref R03-854

Following house design amendments (ref above building consent application) which adds a bedroom to the proposed house (increasing bedrooms from 2 to 3), we have evaluated the capacity of the KiwiTreat plant already installed to handle increased design flow for up to 6 people house occupation.

We confirm that the aeration plant system installed by KiwiTreat for the owners has capacity for 8 - 10 people so the treatment system is well over required capacity. We enclose some relevant details of the manufacturer's information about the plant operation and treatment standards.

Our review of the drainage requirements for 6 person occupation discharging to Category 4 soil indicates that the pressure compensated drip line needs to be increased from the present 200m to 249m (the system is designed for pumping up to 300m dripline length).

We enclose

- amended site plan
- discharge computation sheet
- KiwiTreat aeration plant method statement
- PIM Notice 101216.

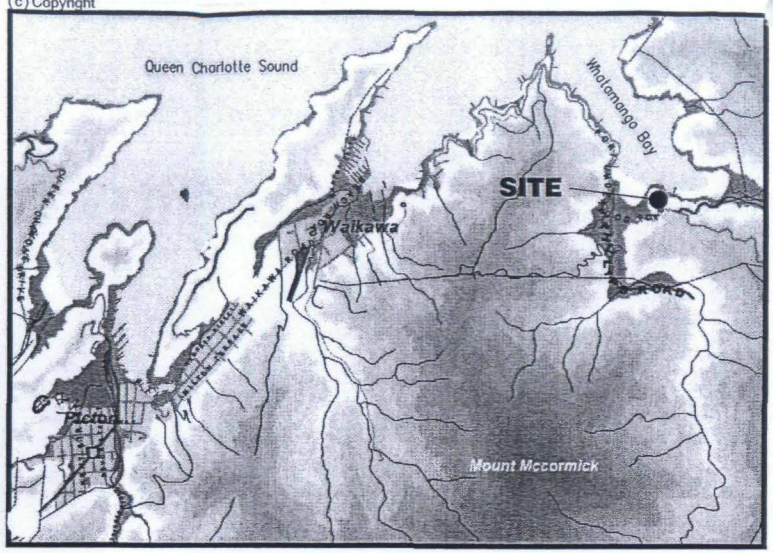
The owners will deliver the signed application for resource consent discharge permit.

Yours sincerely

John Smart, Director, Smart Associates
BE, CP Eng, MIPENZ

c/c Fin Robertson and Jane Whiston

REVISIONS



1 LOCALITY PLAN
NTS

north

12.5 drip lines @ 1000mm crs
each running min 20 metres
to follow contours of slope

SW Pipe to gully

Existing water storage

Existing glass house

SW Pipe

Kiwi Treat Aeration module

Driveway

Sump

retaining wall

SW pipe

New Dwelling

car park

Lot 1
DP 3726

SOUNDS FORSHORE RESERVE

Whatamango Bay

12 DEC 2005

SMART ASSOCIATES Ltd.
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ACENZ

PROPOSED 3 BEDROOM HOME
PORT UNDERWOOD ROAD, WHATAMANGO BAY
for FIN ROBERTSON & JANE WHISTON

PROJECT No. **R2003-754**

NOTES
Do not scale from this drawing. Only figured dimensions are to be taken from this drawing. The contractor must verify all dimensions on site before commencing any ordering of materials, work or shop drawings. The contractor must report any discrepancies to the Engineer before commencing work. If this drawing exceeds the quantities taken in any way, the Engineer is to be informed before the work is started. This drawing is Copyright and must not be reproduced without the consent of Smart Associates Ltd. The Engineer is to be given at least 2 weeks notice of the beginning of construction works, and at least 48 hours notice of critical items (eg concrete pours, prelining etc). The Engineer reserves the right to alter the design in light of site circumstances including previously unforeseen design issues.

LOCATION & SITE PLAN

DRAWING No. **WD01**

DRAWN rrp/nb/mp | CHECKED jis | SCALE (A3) As Shown | DATE 09/12/05

COMPUTER FILE: drawings\ | REVISION B

SMART ASSOCIATES Ltd.
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ACENZ

SOIL PERMEABILITY ASSESSMENT / EFFLUENT DESIGN SHEET

To AS/NZS 1547:2000

Site Evaluation:Lot 1 DP 11364, Whatamango Bay Sheet No: *Job No:R03-854*

Intended water Supply:

~~*Public Supply*~~ *Rain water (roof collection)* ~~*Bore/Well/Dam*~~

Local experience with existing on-site systems:

Septic Tank or similar (Primary treatment):

OK when installed properly with a correctly sized drainage area and maintained.

AWTS or similar:

Work very well in domestic use where effluent quality suitable for irrigation effluent disposal is required

Recommendation for this site: *KiwiTreat system and drip irrigation*

DRAINAGE CONTROLS:

Need for surface water collector / cut-off drains?

AVAILABILITY OR RESERVE / SETBACK AREAS

Reserve area available for extensions, % of design area: *100%*

Setback distance? (between development and disposal system): *Min. as required by Resource Management Act*

Ksat, (m/day): *0.38* ESTIMATED SOIL CATEGORY: *Category 4 - Imperfectly drained clay loam*

4.0 Design

RECOMMENDED D.I.R. *25* mm/week

(NOTE: Where DIR is 10mm/week or less, ETA/ETS trenches to Fig 4.5A7 NZS1547:2000 should be specified to enable the utilisation of such soils)

6 Permanent People At 140L/person/day: *840* L/day from Appendix 4.2D AS/NZS 1547:2000

DESIGN WEEKLY FLOW: *5880* L/week

Septic tank size (min): *4500* (MDC min)

AREA REQUIRED: *235.2* m^2

LENGTH REQUIRED: *248.6* *say 249m* m . **(Refer Irrigation System Calculation sheet)**

RESERVE AREA REQUIRED: *100%* of specified drainage area

RECOMMENDATION :

KiwiTreat system and dripper line Drainage Field System.
Min 4500 litre capacity treatment and irrigation lines to be a minimum total length of 249m using 1.6 l/hr emitters Lines to be laid at 1.0m spacing to follow contours (i.e. flat), at 100mm below ground level . Installation of RAAM irrigation system to be in accordance with the ITS RAAM Installer Guide. Detailed design of the irrigation system is to be responsibility of the installer- Note: Water reduction fixtures not applicable for this site

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ACENZ

Irrigation System Calculation

Project Title: **Fin Robertson & Jane Whiston** Date: Dec-05

File Ref: R2003-854 Operator:

Acceptable daily loading rate (mm/day)	3.6
Daily influent (l/day)	840
Emitter type	Raam 17
Emitter flow rate (l/h)	1.6
Emitter Spacing (m)	1
Dripline Spacing (m)	1
Distance from Treatment system to Irrigation Field (m)	5
Field Size (m^2)	233
Field length assuming square area	15
Number of lines	16
Total Dripline Length (m)	249
Total flow Rate Required (l/h)	398

Pump Duty

Flow (l/h)	398
Head (m)	12

Head-Loss Table		
Item	**Head loss (m)**	**Comments**
Emitter	5	Minimum pressure required
Lateral	0	Head loss insignificant
Submain	1	Using Netafim Raam 17 as a submain
Main	0.06	Using 25mm LDPE x main length
Water meter	0	For a 15mm Multijet Turbine Water Meter
Filter	3	For a Semi blocked filter
Tank Depth	2	
Elevation	0	down hill slightly
Sub Total	11.06	
Total	12	including 10%

NOTE:
This design is indicative only and detailed design is the responsibility of the installer.

Project Information Memorandum Issued Upon the Application of:

Name:	I F Robertson, A J Whiston
Address:	PO Box 44 Waikawa Bay PICTON
Telephone:	03 573 7430

Property Description as Per Rates Information:

Property Location/Street Address:	Whatamango Bay QUEEN CHARLOTTE SOUND
Legal Description:	LOT 1 DP 11364
Marlborough District Council Property Number:	252615

PIM Number PIM051216

Prepared by:

Ron Wass
Corporate Information Officer
Marlborough District Council

Date: 25 November 2005

Project Information Memorandum

C. Stormwater or Wastewater

Council does not provide reticulated services to this property.

The amendment to BC040376 will result in an increase in occupancy of the building.

Proposed Plan Change No. 7 On-site Discharge of Domestic Wastewater requires a Resource Consent for a Dishcarge Permit where there is an increase in the rate of discharge due to an increased occupancy of the building that the on-site wastewater management system serves following an extension or alteration to the building.

D. Authorisations

Rfer attached Resource Consent summary and Building Consent summary for this property.

U 051248

SMART ASSOCIATES LTD

RECEIVED
3 - FEB 2006
MARLBOROUGH
DISTRICT COUNCIL

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3 February 2006

Mr Angus Laird
Resource Consent Officer
Marlborough District Council
PO Box 443
Blenheim

Dear Angus

BC051984 : PIM051216 (Ron Wass)
IF Robertson, AJ Whiston
Lot 1 DP11364
Whatamango Bay
Our ref R03-854

Further to our letter of 9 December 2005 we enclose copies of percolation tests carried out on the property, from which we assessed the Category 4 soil.

The original plan design has since been upgraded from primary to secondary standard treatment.

Yours sincerely

John Smart, Director, Smart Associates
BE, CP Eng, MIPENZ

Resource Consent
for Discharge Permit required
by PIM051216.

T H JENKINS & ASSOCIATES
C O N S U L T I N G E N G I N E E R S L I M I T E D
CHARTERED CIVIL STRUCTURAL MECHANICAL AND BUILDING SERVICES ENGINEERS

89 Seymour Street, PO Box 186, Blenheim, New Zealand
Phone 03 •578 9967, International +64 •3 •578 9967
Fax 03 •578 9983, International +64 •3 •578 9983

L6442a.doc

11 September 1997

C Catley
PO Box 199
PICTON

Dear Ms Catley

P96442 - Stability Report - Proposed Lot 6, Subdivision of Lot 1 DP 3726, Block XI Arapawa Survey District - Whatamonga Bay, Port Underwood Road, Marlborough.

1.0 Introduction

1.1 In accordance with instructions received from Ms Catley and Mr F Robertson (the purchaser of proposed lot 6), we have undertaken investigations to determine the stability and suitability of a proposed building site, on a property along Port Underwood Road at Whatamonga Bay, for the construction of a single dwelling. This report should not be relied upon for any other purpose.

1.2 Ms Catley and Mr Robertson defined the brief, during a meeting with Mr Tim Smit of T H Jenkins & Associates on site on 9 September 1997, as follows:

1.2.1 To prepare a building site stability and suitability report to the satisfaction of the Marlborough District Council.

1.2.2 This report is to investigate site stability for construction of a single dwelling; suitability of the site for effluent disposal; stormwater disposal; water availability; power and telephone services; and site access.

7.2 Initial calculations based on an average mean annual precipitation of 2000 mm/year and a total roof area of 150 m^2 indicate that an adequate water supply would exist for an average family living full-time on the site. In the event of a shortfall during a dry year, additional water would be carted in by truck and the tanks filled.

8.0 Sewage Disposal and Soakage Field

8.1 Percolation tests were carried out in accordance with NZS 4610:1986, *Household Septic Tank Systems*, to establish the soil's ability to adequately absorb and dispose of septic tank effluent. This standard recommends a septic tank of 2700 litres for a dwelling with one to five people.

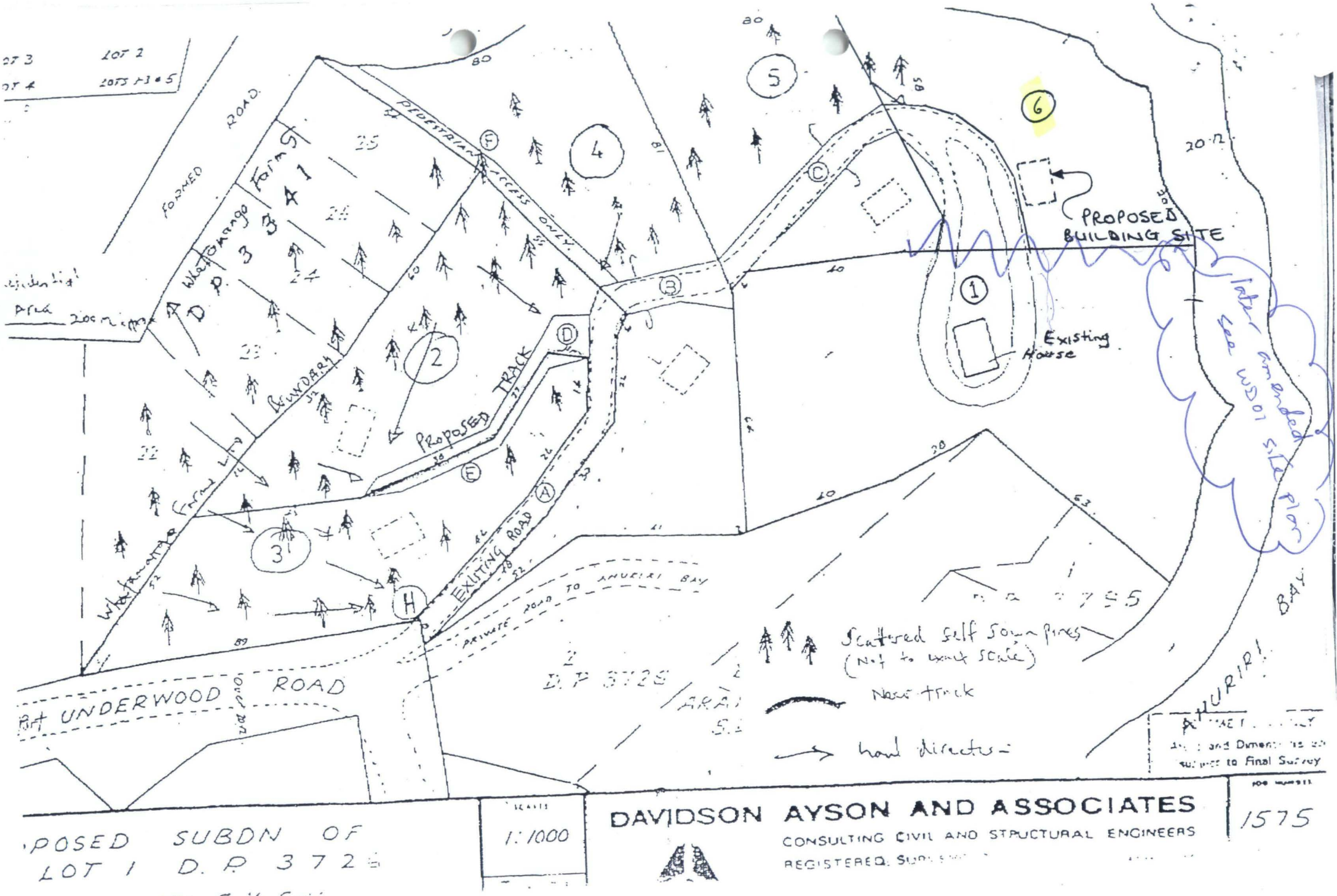
8.2 The percolation tests were carried out with three test holes spaced uniformly over the proposed soakage field (refer Appendix C, Site Plan). The holes were dug on 9 September 1997 and filled with water overnight. The tests were carried out on 10 September 1997. The results are attached in Appendix F, Percolation Test Results.

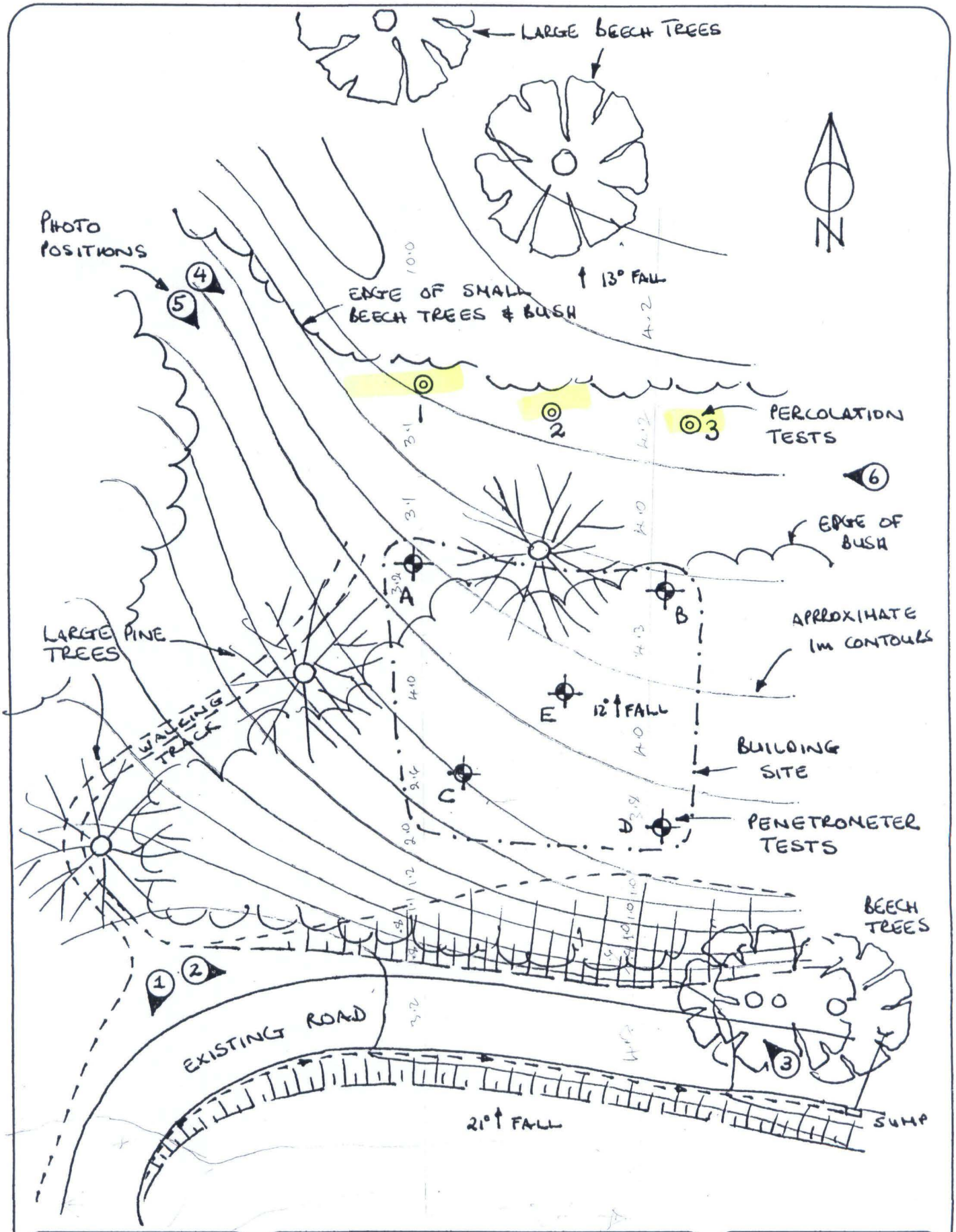
8.3 Percolation rates varied significantly over the three test holes. Tests 1, 2 and 3 resulted in percolation rates of 25, 10 and 18 mm/hour respectively. When compared to NZS 4610 Table Two, these results show the soil may be categorised as Type DE, being soil with Severe Limitation and slope greater than 15%.

8.4 The recommended disposal field has been designed in accordance with NZS 4610 and utilising the results from the tests to determine an average percolation rate of 18 mm/hour.

8.5 The disposal field should consist of three parallel media filled seepage trenches. Each trench should be a minimum of 20 metres long, allow for a 0.25 metre high surface sidewall and they should be a minimum of two metres between edges apart. The trenches are to be constructed parallel to the surface contours and in accordance with NZS 4610 (refer Appendix G, Standard Trench Construction and Layout).

8.6 It is further recommended that vegetation cover be reintroduced over the soakage field to assist with the effluent disposal.


LOT 3
LOT 4
LOTS 1 & 5
LOT 2
FORMED ROAD
Farm St
WAITAMANGO
D.P. 3
A 1
PEDESTRIAN ACCESS ONLY
PROPOSED BUILDING SITE
Existing House
Later amended see WSO1 site plan
PROPOSED TRACK
BOUNDARY
EXISTING ROAD
PRIVATE ROAD TO ANUHIRI BAY
Scattered self sown pines (Not to exact scale)
Near track
Haul direction
D.P 3725
AREA
ANUHIRI BAY
Pt UNDERWOOD ROAD
POSED SUBDN OF
LOT 1 D.P 3725
SCALE
1:1000
DAVIDSON AYSON AND ASSOCIATES
CONSULTING CIVIL AND STRUCTURAL ENGINEERS
1575



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89 SEYMOUR STREET BLENHEIM
P.O. BOX 186 PH. (03) 578 9967

Ms C CATLEY
STABILITY REPORT - WHATAMONGA BAY
SITE PLAN

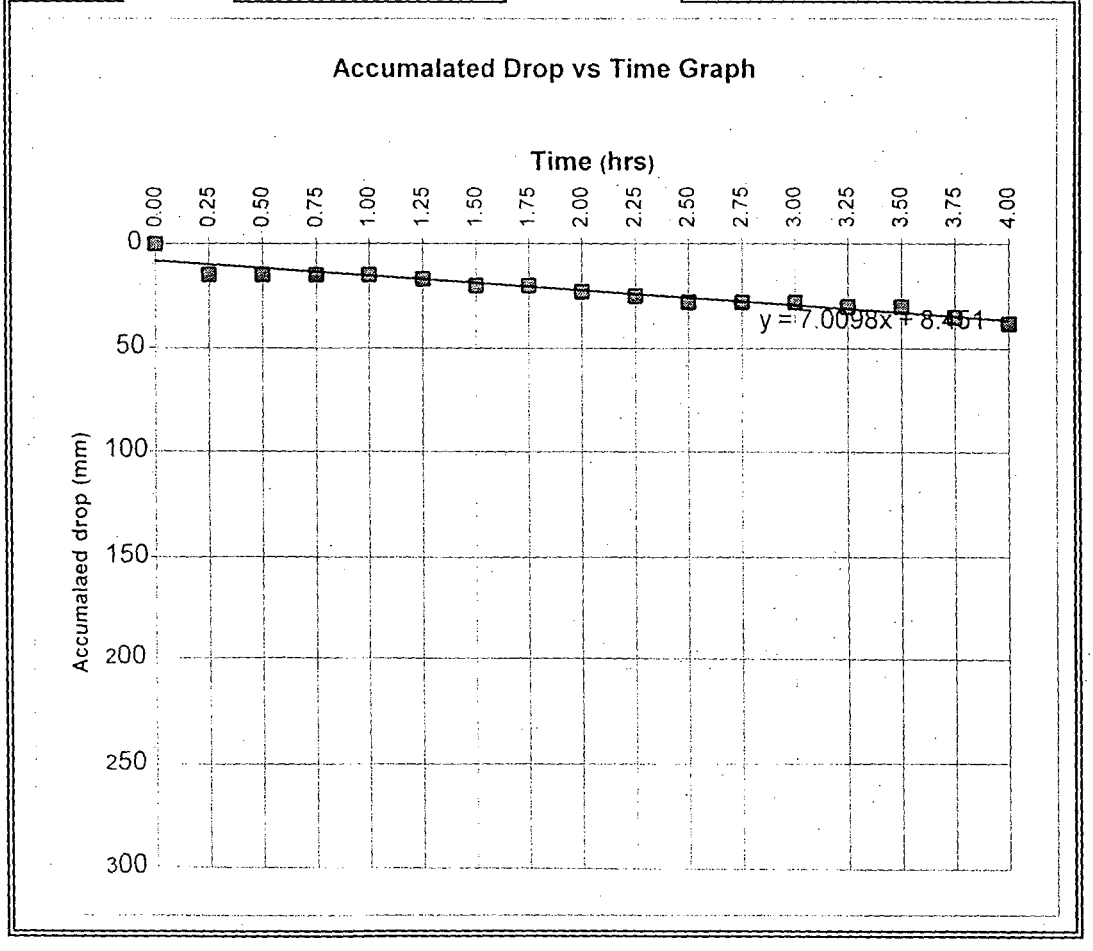
SCALE (A4) 1:200

COM No. LOCALITY	© COPYRIGHT
PROJECT NUMBER. 96442	APPENDIX NUMBER. C

PERCOLATION TEST
Test Results

Name of Property Owner	Chris Catley		
Address of Property	Port Underwood Road, Watamango Bay		
Job number		Test number	2 of 3
Name of Person making Test	PJK	Date	10/09/97

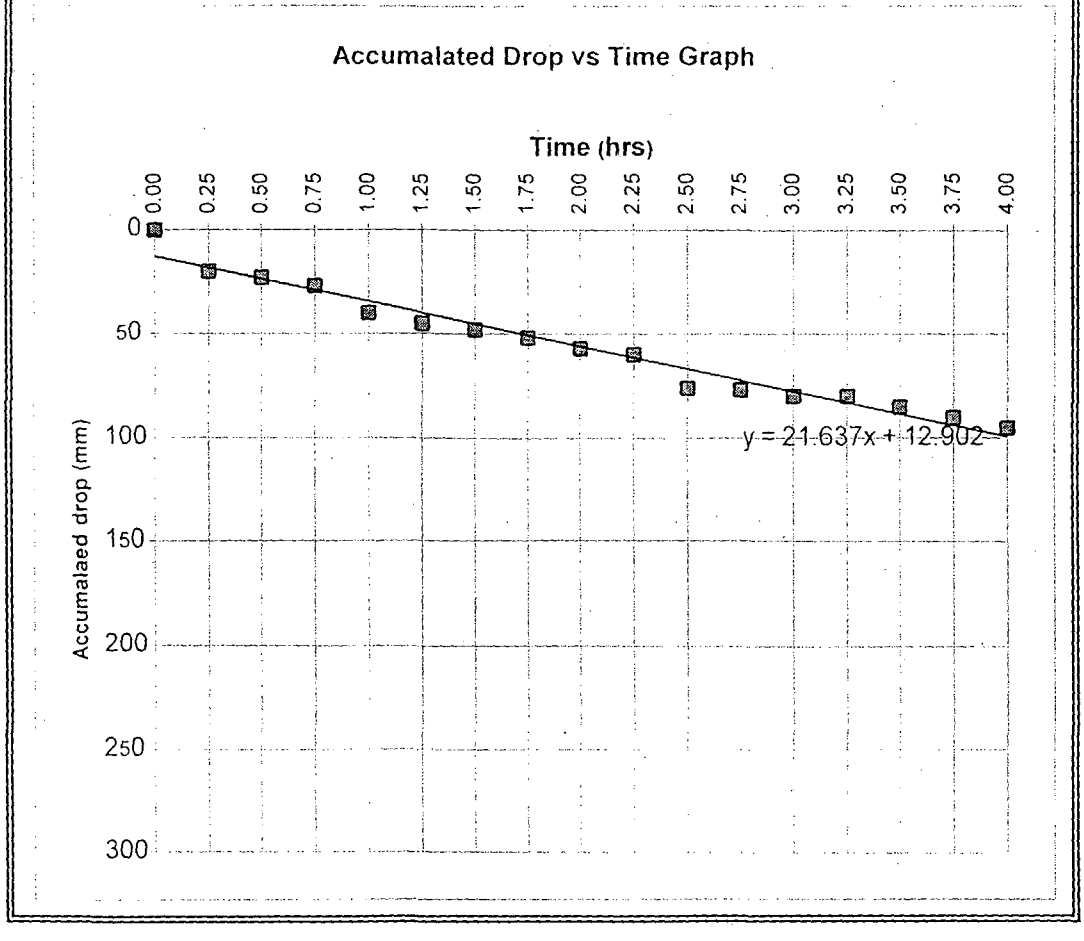
Reading No.	Time	Time Lapsed (Hr)	Accumalated Time Lapsed (Hr)	Start Depth (mm)	End Depth (mm)	Drop (mm)	Accumalated Drop (mm)	Percolation Rate (mm/Hr)
1	9:30 AM		0.00		370			
2	9:45 AM	0.25	0.25	370	385	15	15	60
3	10:00 AM	0.25	0.50	385	385	0	15	0
4	10:15 AM	0.25	0.75	385	385	0	15	0
5	10:30 AM	0.25	1.00	385	385	0	15	0
6	10:45 AM	0.25	1.25	385	387	2	17	8
7	11:00 AM	0.25	1.50	387	390	3	20	12
8	11:15 AM	0.25	1.75	390	390	0	20	0
9	11:30 AM	0.25	2.00	390	393	3	23	12
10	11:45 AM	0.25	2.25	393	395	2	25	8
11	12:00 PM	0.25	2.50	395	398	3	28	12
12	12:15 PM	0.25	2.75	398	398	0	28	0
13	12:30 PM	0.25	3.00	398	398	0	28	0
14	12:45 PM	0.25	3.25	398	400	2	30	8
15	1:00 PM	0.25	3.50	400	400	0	30	0
16	1:15 PM	0.25	3.75	400	405	5	35	20
17	1:30 PM	0.25	4.00	405	408	3	38	12



PERCOLATION TEST
Test Results

Name of Property Owner	Chris Catley		
Address of Property	Port Underwood Road, Watamango Bay		
Job number		Test number	1 of 3
Name of Person making Test	PJK	Date	10/09/97

Reading No.	Time	Time Lapsed (Hr)	Accumalated Time Lapsed (Hr)	Start Depth (mm)	End Depth (mm)	Drop (mm)	Accumalated Drop (mm)	Percolation Rate (mm/Hr)
1	9:30 AM		0.00		645			
2	9:45 AM	0.25	0.25	350	370	20	20	80
3	10:00 AM	0.25	0.50	370	373	3	23	12
4	10:15 AM	0.25	0.75	373	377	4	27	16
5	10:30 AM	0.25	1.00	377	390	13	40	52
6	10:45 AM	0.25	1.25	390	395	5	45	20
7	11:00 AM	0.25	1.50	395	398	3	48	12
8	11:15 AM	0.25	1.75	398	402	4	52	16
9	11:30 AM	0.25	2.00	402	407	5	57	20
10	11:45 AM	0.25	2.25	407	410	3	60	12
11	12:00 PM	0.25	2.50	410	426	16	76	64
12	12:15 PM	0.25	2.75	426	427	1	77	4
13	12:30 PM	0.25	3.00	427	430	3	80	12
14	12:45 PM	0.25	3.25	430	430	0	80	0
15	1:00 PM	0.25	3.50	430	435	5	85	20
16	1:15 PM	0.25	3.75	435	440	5	90	20
17	1:30 PM	0.25	4.00	440	445	5	95	20



Jane Whison
PO Box 44
Waikawa Bay,
Picton

051253

Dear Ron,

Our application for "Discharge Permit". John Smart, engineer, has been speaking to you & would have sent in his paperwork seperately.

Many thanks.

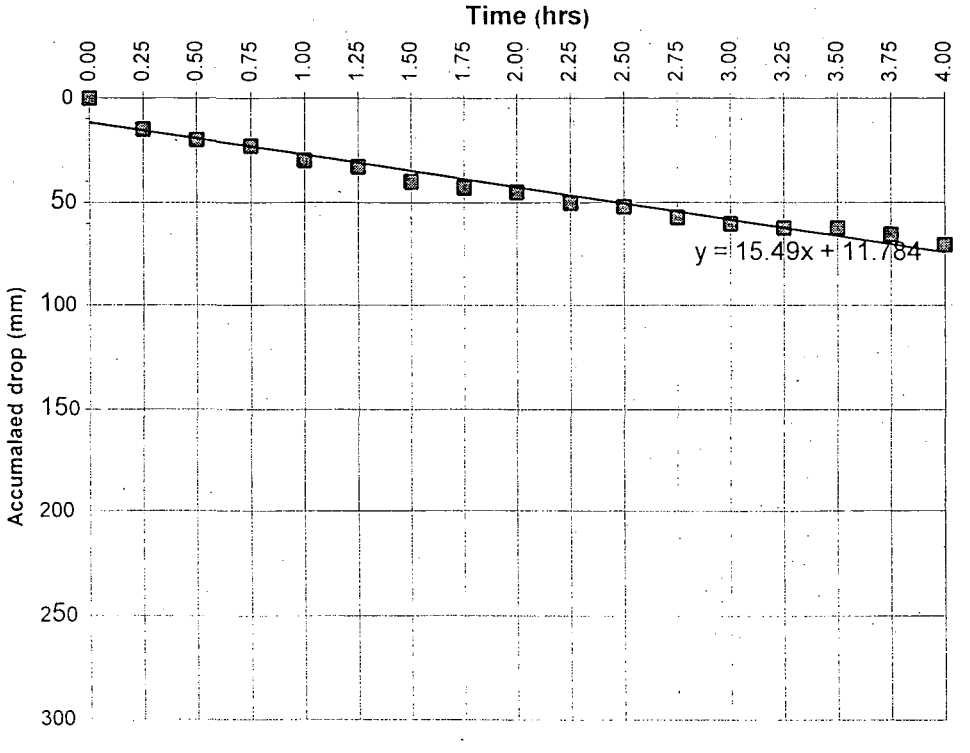
Jane Whison.

PERCOLATION TEST
Test Results

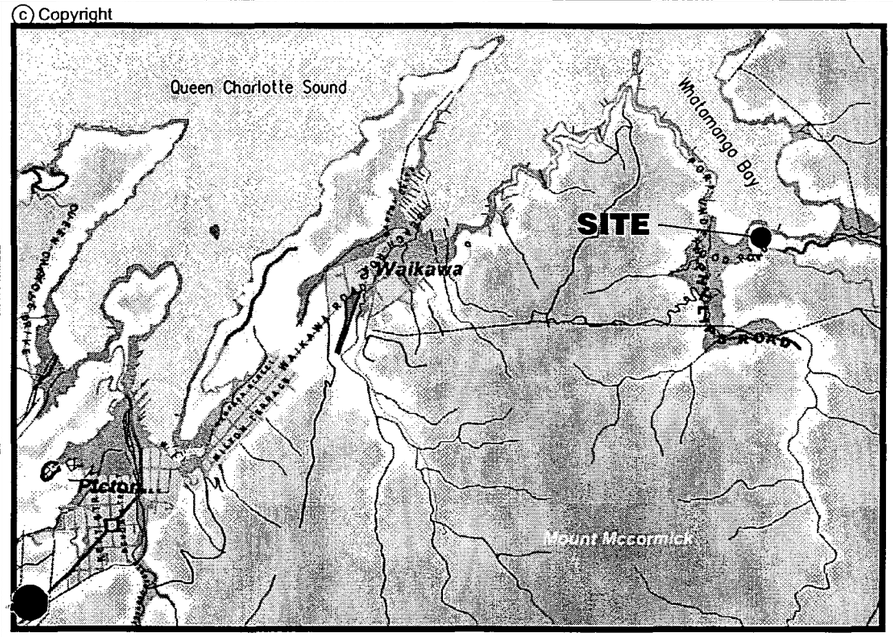
Name of Property Owner	Chris Catley		
Address of Property	Port Underwood Road, Watamango Bay		
Job number		Test number	3 of 3
Name of Person making Test	PJK	Date	10/09/97

Reading No.	Time	Time Lapsed (Hr)	Accumalated Time Lapsed (Hr)	Start Depth (mm)	End Depth (mm)	Drop (mm)	Accumalated Drop (mm)	Percolation Rate (mm/Hr)
1	9:30 AM		0.00		550			
2	9:45 AM	0.25	0.25	320	335	15	15	60
3	10:00 AM	0.25	0.50	335	340	5	20	20
4	10:15 AM	0.25	0.75	340	343	3	23	12
5	10:30 AM	0.25	1.00	343	350	7	30	28
6	10:45 AM	0.25	1.25	350	353	3	33	12
7	11:00 AM	0.25	1.50	353	360	7	40	28
8	11:15 AM	0.25	1.75	360	363	3	43	12
9	11:30 AM	0.25	2.00	363	365	2	45	8
10	11:45 AM	0.25	2.25	365	370	5	50	20
11	12:00 PM	0.25	2.50	370	372	2	52	8
12	12:15 PM	0.25	2.75	372	377	5	57	20
13	12:30 PM	0.25	3.00	377	380	3	60	12
14	12:45 PM	0.25	3.25	380	382	2	62	8
15	1:00 PM	0.25	3.50	382	382	0	62	0
16	1:15 PM	0.25	3.75	382	385	3	65	12
17	1:30 PM	0.25	4.00	385	390	5	70	20

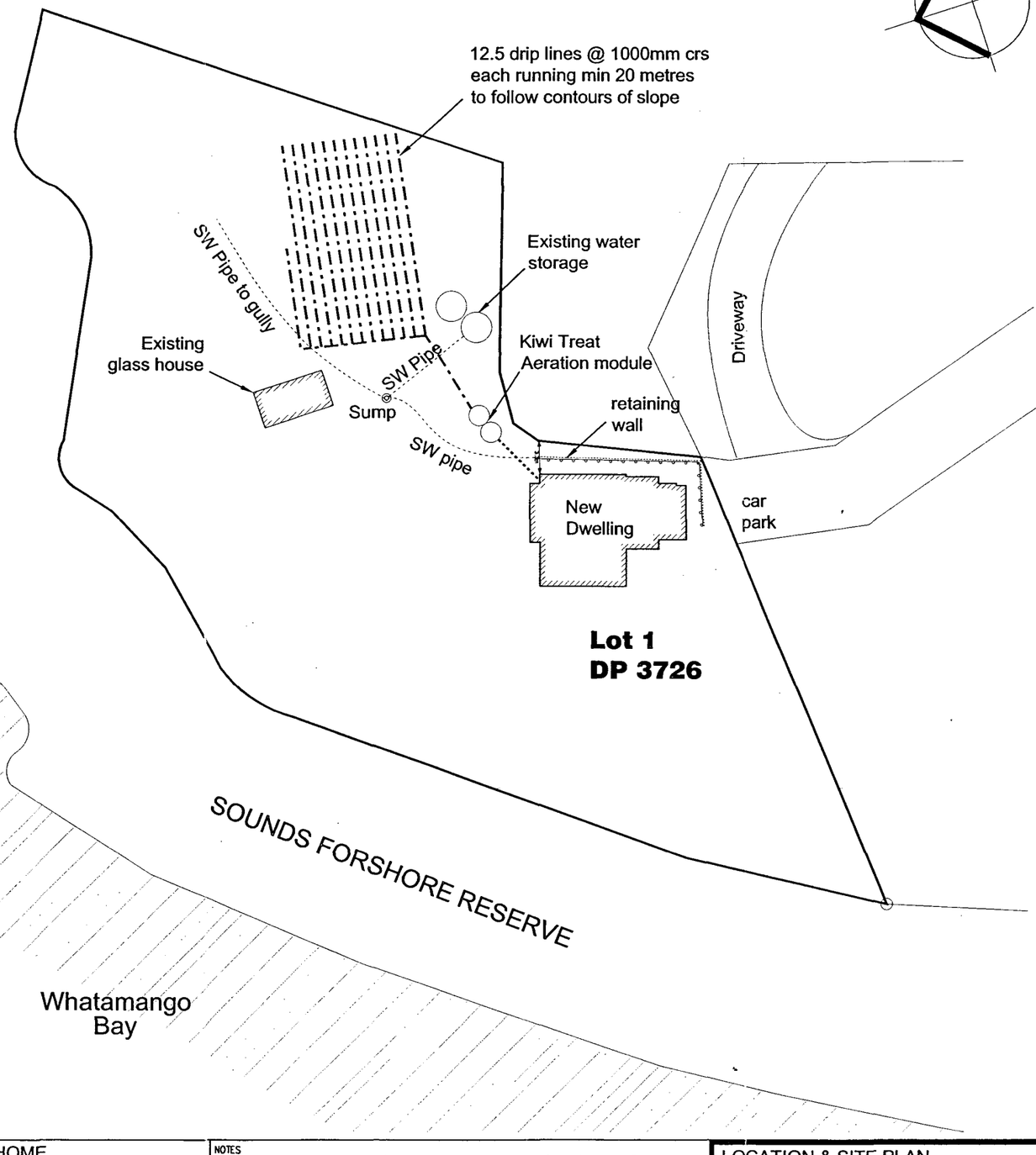
Accumalated Drop vs Time Graph



REVISIONS



1 LOCALITY PLAN
NTS



1 2 DEC 2005

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PROPOSED 3 BEDROOM HOME
PORT UNDERWOOD ROAD, WHATAMANGO BAY
for FIN ROBERTSON & JANE WHISTON

PROJECT No. **R2003-754**

NOTES
Do not scale from this drawing. Only figured dimensions are to be taken from this drawing. The contractor must verify all dimensions on site before commencing any ordering of materials, work or shop drawings. The contractor must report any discrepancies to the Engineer before commencing work. If this drawing exceeds the quantities taken in any way, the Engineer is to be informed before the work is started. This drawing is Copyright and must not be reproduced without the consent of Smart Associates Ltd. The Engineer is to be given at least 2 weeks notice of the beginning of construction works, and at least 48 hours notice of critical items (eg concrete pours, prefining etc). The Engineer reserves the right to alter the design in light of site circumstances including previously unforeseen design issues.

LOCATION & SITE PLAN

DRAWING No. **WD01**

DRAWN rrp/nb/mp | CHECKED jis | SCALE (A3) As Shown | DATE 09/12/05

COMPUTER FILE: drawings\ | REVISION B