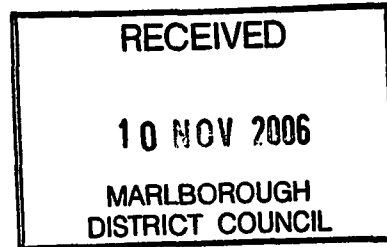


8 November 2006

The Manager
Opus International Consultants
P O Box 563
BLenheim



COPY

ATTENTION: Ms Rebecca Beals

Your Reference: U060252

Dear Rebecca

**INFORMATION ON SOILS LOGS, PLAN SHOWING EFFLUENT FIELD, AND
TYPICAL CROSS SECTION THROUGH SINGLE BED FOR SMALL & LOW
PROPERTY, LOT 11, D.P. 7670, OHINGAROA BAY, MAHAU SOUND.**

Further to our telephone conversation (Beals – Hadley) on even date the attached is a plan showing the proposed effluent field and the 100% reserve area together with a typical cross section through one of the beds in the 2/40 metre long by 1.2 metres wide subterranean disposal field.

The draughting is a bit “rough,” to say the least, but I’ve been forced to do it myself as there is a dire shortage of draughtsmen not only in Marlborough but also throughout the country. We felt that to out source the draughting to Nelson would take far too long for it would need to be fitted in to our contract draughtsman’s work schedule. This would delay the consent and, worse still, completely throw the builder’s programme into disarray.

Also attached are the results of our soil testing at the site yesterday. We obtained a copy of the format used by Jan Dimmendaal when preparing reports for Smart Associates. Hopefully, since Jan tells us that he has found Council accept this format from him, we, too, will be accorded the “privilege” of now having the appropriate boxes “ticked” by Council planners.

The design of the field remains as per our letter to you of 12 October 2006. At the moment we have shown 100 square metres of beds on the assumption that the dwelling can be re-fitted with water reduction fittings mentioned in our earlier letter. If it transpires that our clients prefer not to use water reduction fittings then we will increase the field southwards by about 10 metres to the southwest.

Please note that we will be monitoring the excavation of this subterranean field as per the attached Producer Statement for Design forwarded to Council on even date.

Accordingly, we reserve the right, as the designer, to alter the size and location of the field on site if we deem this necessary at the time of the excavations. As per the normal procedure that relates to the Building Consent, the drainlayer will be required to forward a copy of the as-built field and the reticulation from the septic tank to Council upon completion of the work of his sub-trade.

We do seem to be making a bit of progress on "engineering reports." It is heartening to know that Don Cromarty's engineering report is conditionally acceptable to Council's planners. A bit disappointing though, inferentially, to conclude our engineering report of 12 October 2006 was not acceptable to the Council's planners.

The Council planner's Condition 1 seems to be that we confirm that we have been on site. We did that in our last letter of 12 October 2006. We stated we had been on site on 19 August 2006. How many more times will a Council planner effectively demand our presence on site unnecessarily? How many more times is our **and Council's client** going to be charged for totally unnecessary engineering visits by us to the site? We were also on site on 7 November 2006 as mentioned above.

The Council planner's Condition 2 seems to require us to confirm that the "situation" has not changed since Don Cromarty's updated engineering report of 22 October 1996. We stated in our letter to you that we concurred entirely with Don Cromarty's opinion on this land, (page 3; first sentence of the third paragraph). We re-iterated this opinion, relating it to the inapplicability of Section 106(1)(a) provisions of the RMA and the inapplicability of Section 71(3) provisions of the Building Act in the first paragraph on page 5 of this same letter. Goodness me, what more does the Council planner want?

We have not changed our minds on this in any way. Perhaps we had best give the Council planner a Professional Opinion on Lot 11, D.P. 7670. Please find this attached.

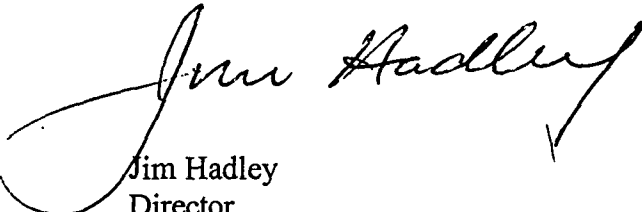
What we **cannot** and **will not do** is attest to something that is patently absurd! The "situation" has changed since Don wrote his report in 1996. A dwelling and garage has been built, the site has been landscaped, and the original land disposal system has been upgraded, to name just a few changes.

Rebecca, as discussed and as you can deduce from this communication, I am getting more than a little tired of having my professional competence and my professional integrity impugned inferentially by some of Council's less experienced planners

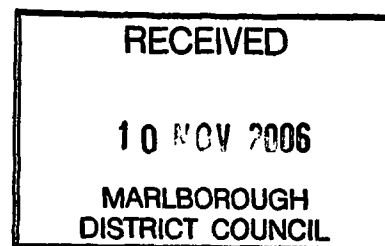
I therefore hope that this, and the attached information, is sufficient to allow you and me to sort this rather insignificant Resource Consent issue out speedily to allow the builder to get on and finish this job for our client.

If there is anything else that needs sorting out please telephone me for an explanation.

Kind regards
HADLEY CONSULTANTS


Jim Hadley
Director

cc Mr P Small and Ms B Low
Mr Brent Rule
Mr Dai Jones



COPY

Reserve Area
200 sq. m. shown
dotted.

approx position
of existing 4,500
litre septic tank

approx position
of existing splitter
box to second
pump chamber.

approx position
of existing house
Lot 12 DP 7670

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PLAN OF EXTENSIONS
TO EFFLUENT FIELD
AT SMALL DWELLING
758 KENEPURU RD.

0 0.018km

Lot 1 DP 8447

761
2/40 m x 1.2 m dia
beds

759

Lot 1 DP 12278

KENEPURU ROAD

Lot 11 DP 7670

Lot 10 DP 7670

Lot 9 DP 7670

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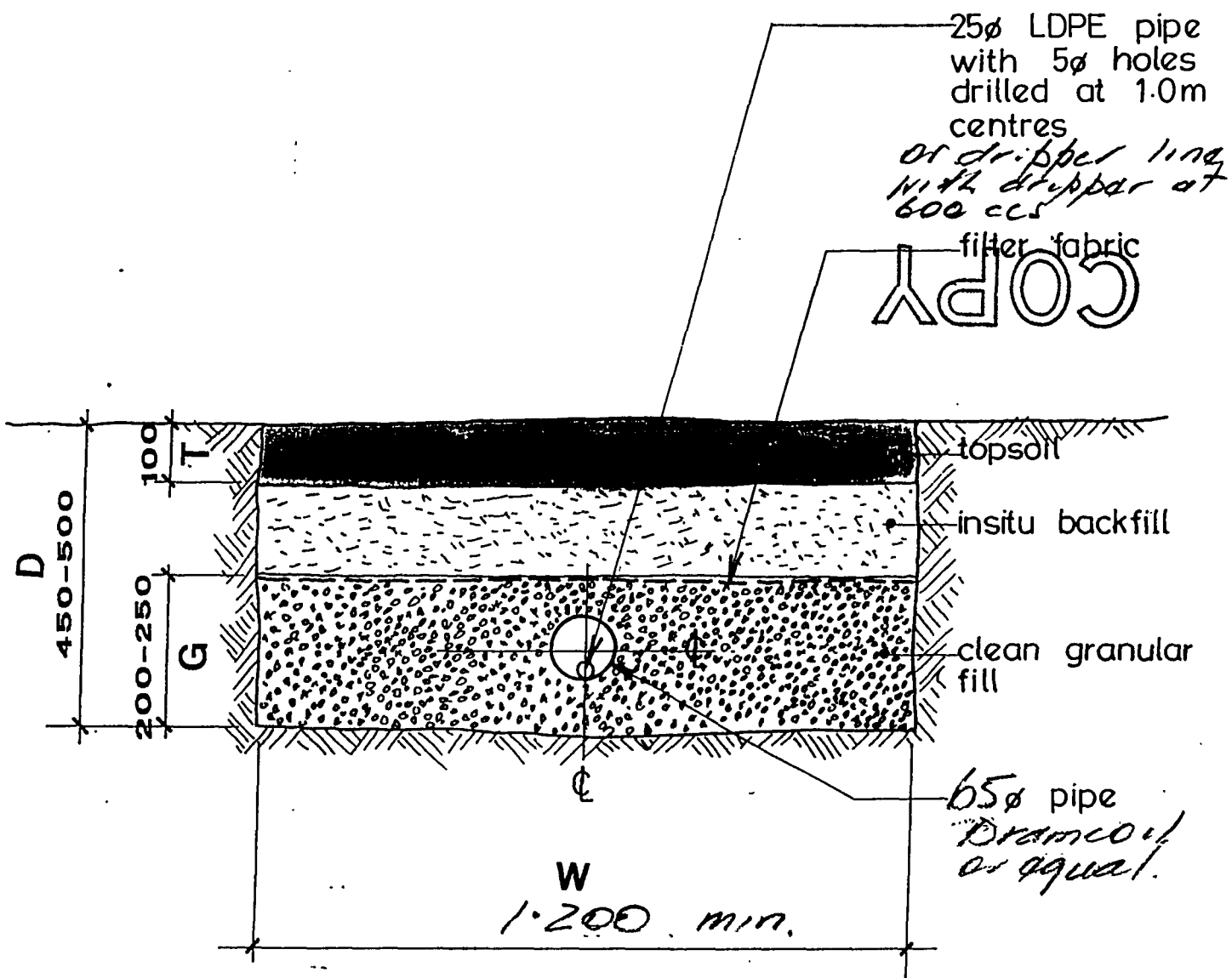
The accompanying material has been released by Council from its information repositories. Council does not accept any responsibility for the initial and ongoing accuracy to the material. It is the responsibility of the recipient to make such checks as the recipient considers appropriate to ensure accuracy. Services layers are schematic only and actual positions and level should be confirmed from Council's hard copy records.

Locality Map Print



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Approximate Scale only.
A4 Portrait template.
Date: 8-11-2006 14:44:45



- notes:- Connect 25ø LDPE pipe directly to sludge pump in pumping chamber.
 - 5ø holes in LDPE pipe only occur in absorption trench.

typical section thru absorption field for Small and low, 758 Kenepuru Rd.

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Soils Bore Hole Logs for Small and Low Property, Lot 11, D.P. 7670 at 758 Kenepuru Road, Mahau Sound.

Six test holes were bored with a 50 mm diameter auger at the site in the proposed effluent disposal area and their locations are shown on the site plan. The representative soil properties are:

COPY

BH 1 - 12 m off northeast bdy and 4 m off Kenepuru Road bdy

(m)	Horizon and boundary	Soil Type	Description							Drainage Category
			Colour	Field Texture	% + 2mm Fragments	Compactness	Consistency	Structure	Moisture condition	
0.15	1 gradual	Topsoil	Dark grey	Topsoil	< 5	Loose	Soft	Strong	Moist (raining)	2
0.60	2 gradual	Topsoil sandy & gravel silt	Pale grey & yellow	Loam	10 - 15	Medium to dense	Firm	Strong & very friable	Slightly moist	2
0.85	3 abrupt	Silty clay	Yellow	Silty clay	None	Medium To Dense	Firm	Moderate	Dry to moist	3 - 4

BH 2 - 25 m off northeast bdy and 6 m off Kenepuru Road bdy

(m)	Horizon or Layer and boundary	Genesis	Description							Drainage Category
			Colour	Field Texture	% + 2mm Fragments	Compactness	Consistency	Structure	Moisture condition	
0.10	1 abrupt	Topsoil	Dark grey	Topsoil	< 5	Loose	Soft	Strong	Moist (raining)	2
0.60	2 gradual	Sandy gravels & silts	Pale grey & yellow	Loam	10 - 15	Medium to Dense	Firm	Strong & friable	Slightly moist	3
0.85	C gradual	Residual	Yellow mottled brown	Silty clay	< 5	Medium to dense	Firm	Moderate	Dry to moist	4

BH 3 - 40 m off northeast bdy and 4 m off Kenepuru Road bdy

(m)	Horizon and boundary	Soil Type	Description							Drainage Category
			Colour	Field Texture	% + 2mm Fragments	Compactness	Consistency	Structure	Moisture condition	
0.30	1 gradual	Topsoil	Dark grey	Topsoil	None	Loose	Soft	Strong	Moist (raining)	2
0.70	2 gradual	Topsoil & sandy silt	Pale grey & yellow	Loam	< 5	Medium to dense	Firm	Strong & very friable	Slightly moist	3
0.90	3 abrupt	Silty clay	Yellow	Silty clay	None	Medium to dense	Firm	Moderate	Dry to moist	4

BH 4 - 55 m off northeast bdy and 6 m off Kenepuru Road bdy

(m)	Horizon or Layer and boundary	Soil Type	Description							Drainage Category
			Colour	Field Texture	% + 2mm Fragments	Compactness	Consistency	Structure	Moisture condition	
0.10	1 abrupt	Topsoil	Dark grey	Topsoil	None	Loose	Soft	Strong	Moist (raining)	2
0.60	2 gradual	Sandy gravels & silts	Pale grey & yellow	Loam	10 - 15	Medium to Dense	Firm	Strong & friable	Slightly moist	3
0.85	C gradual	Residual	Yellow mottled brown	Silty clay	< 5	Medium to Dense	Firm	Moderate	Dry to moist	3

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BH 5 - 32 m off northeast bdy and 2 m off Kenepuru Road bdy

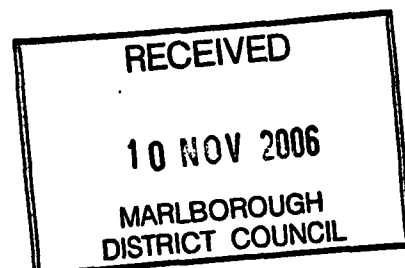
(m)	Horizon and boundary	Soil Type	Description							Drainage Category
			Colour	Field Texture	% + 2mm Fragments	Compactness	Consistency	Structure	Moisture condition	
0.20	1 gradual	Topsoil	Dark grey	Topsoil	< 5	Loose	Soft	Strong	Moist (raining)	2
0.60	2 gradual	Topsoil sandy & gravel silt	Pale grey & yellow	Loam	10 - 15	Medium to dense	Firm	Strong & very friable	Slightly moist	2
0.90	3 abrupt	Silty clay	Yellow	Silty clay	None	Medium to dense	Firm	Moderate	Dry to moist	3 - 4

BH 6 - 20 m off northeast bdy and 10 m off Kenepuru Road bdy

(m)	Horizon or Layer and boundary	Soil Type	Description							Drainage Category
			Colour	Field Texture	% + 2mm Fragments	Compactness	Consistency	Structure	Moisture condition	
0.10	1 abrupt	Topsoil	Dark grey	Topsoil	< 5	Loose	Soft	Strong	Moist (raining)	2
0.60	2 gradual	Sandy gravels & silts	Pale grey & yellow	Loam	< 5	Medium to Dense	Firm	Strong & friable	Slightly moist	3
0.85	C gradual	Residual	Yellow mottled brown	Silty clay	None	Medium to Dense	Firm	Moderate	Dry to moist	4

HADLEY CONSULTANTS


 J A Hadley
 Director



8 November 2006

COPY

The General Manager
Marlborough District Council
P O Box 443
BLENHEIM

ATTENTION: Mr John Kennedy

Your Reference: Prop. No. 214252

Dear John

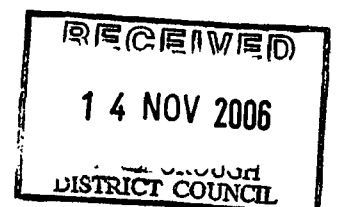
STATEMENT OF PROFESSIONAL OPINION ON SUITABILITY OF LAND FOR REPLACEMENT EFFLUENT DISPOSAL SYSTEM.

I, James Alexander Hadley, Director, of Hadley Consultants, Consulting Civil and Structural Engineers, 21B Percy Street, Blenheim, with respect to an application for Resource Consent and Building Consent for the increased loading from the pergola on existing concrete patio slabs supported by existing foundations and the increased foul effluent loading on the existing and additional subterranean absorption field area on Lot 11, D.P. 7670, at 758 Kenepuru Road, Mahau Sound, owned by Mr P Small and Mrs B R Low hereby confirm that:

1. The above named is a Registered Engineer experienced in the field of soils engineering and more particularly land and foundation stability, and our firm is covered by a current policy of Professional Indemnity insurance to a minimum value of \$250,000, and that,
2. We understand that the purpose of this professional opinion is to assist the Marlborough District Council in fulfilling its statutory obligations under the Building Act 2004 and the Resource Management Act 1991, and that,
3. Based upon our inspections of the site, our knowledge of local conditions, and our observations on 19 August and 8 November 2006 and the information contained in our engineering report of 12 October and our letter of 8 November 2006, numbered 06032, on the allotment referred to above, and that,
4. This opinion is based upon the assumption that the information obtained from our inspection and observations is representative of the whole area under consideration and it is our opinion that it is reasonable for Council to accept this assumption as valid, and that,
5. We have sighted the existing dwelling and drawings for its proposed development on Lot 11, D.P. 7670 being a five bedroom residential dwelling house and ancillary facilities, and that,
6. In our professional opinion, not to be construed as a guarantee, this allotment sustaining the loads from the pergola and the existing septic tank and an additional area of subterranean absorption field system meeting the requirements of NZS 1547:2000, without destabilising the land in any way, provided all construction works are built in accordance with accepted trade and engineering principles and practice, and provided that the requirements contained in our aforementioned engineering report are adopted, and that,
7. This professional opinion is furnished to the Marlborough District Council for its purposes alone. It may not be relied upon by any other person or entity. It is based on the conditions presently found on the site at the time of our inspection and is consistent with standards and/or engineering principles and practices currently being applied to engineering work of this nature, and that,
8. This professional opinion shall remain current for a maximum period of two years.

Yours faithfully
HADLEY CONSULTANTS


J. A. Hadley
Director



8 November 2006

COPY

The General Manager
Marlborough District Council
P O Box 443
BLLENHEIM

ATTENTION: Mr Graham Roberts**Your Reference:** Prop. No. 214252 & BC060188

Dear Graham

**ADDITIONAL SUBTERRANEAN ABSORPTION FIELD FOR SMALL & LOW
DEVELOPMENT ON LOT 11, D.P. 7670, AT 758 KENEPURU ROAD,
MAHAU SOUND.**

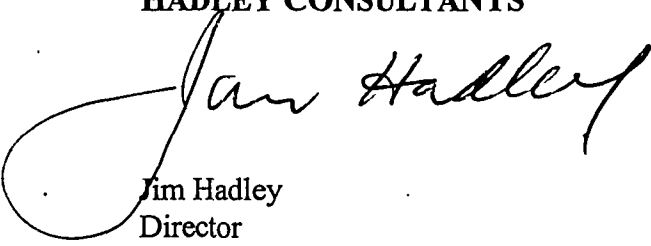
The attached is a copy of our two engineering reports together with our Producer Statement for Design on the suitability of the additional subterranean effluent disposal beds for the enlarged Small and Low dwelling at 758 Kenepuru Road, Mahau Sound.

Presently the existing septic tank has sufficient capacity to handle the possible future loads from five bedrooms but the subterranean absorption beds need to be increased in area. The attached plan drawings and typical cross section show the present proposal for the size and location of the additional beds.

Please note that because the position of the additional subterranean absorption trench, installed in about 2000, is unknown at this juncture we will be monitoring the excavations for the additional absorption beds required to enable the effluent loads from the extended dwelling to meet NZS 1547:2000. This may mean that the position and size of the two new 40 metre long beds may need to be altered on site.

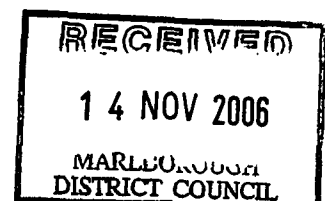
We will provide Council with a Producer Statement of Construction Review for this work on completion and advise the drainlayer to provide Council with an updated plan of the foul drainage reticulation.

Kind regards

HADLEY CONSULTANTS

Jim Hadley
Director

cc Mr P Small and Ms B Low
Mr Brent Rule
Mr Dai Jones



COPY

PRODUCER STATEMENT for DESIGN

ISSUED BY: J A Hadley, Director, of Hadley Consultants, 21B Percy Street, Blenheim.

TO: Marlborough District Council, P O Box 443, Blenheim.

IN RESPECT OF: The specific engineering design of the effluent loads from the altered existing dwelling presently proposed and possible future loads that will be treated in the existing 4,500 litre septic tank and discharged to land into the existing and a new subterranean absorption field of a minimum base area of 100 square metres, making the total field area 145 square metres to the west of existing dwelling parallel to Kenepuru Road on Lot 11, D.P.7670, all constructed in strict accordance with NZS 1547:2000 and the Council Guidelines for New On-site Wastewater Management Systems, all for the proposed developments at the Small and Low property.

AT: 758 Kenepuru Road, Mahau Sound.

LEGAL DESCRIPTION: Lot 11, D.P. 7670.

DESIGN FIRM: Hadley Consultants, 21B Percy Street, Blenheim

CLIENT: P Small and B R Low, Lynton Downs, R.D.4, Kaikoura.

The Client has engaged the Design Firm to undertake the calculations for the above described non-proprietary parts of the system to be used for effluent disposal to land from the new additions to the Small & Low dwelling at 758 Kenepuru Road., Mahau Sound, to ensure that the parts of the work covered by this Statement comply with the relevant requirements of the New Zealand Building Regulations 1992.

The requirements of the New Zealand Building Code 1993, in particular, the sections of Clause B1 and G13 have, where the provisions of these Clauses are applicable, been met in the design.

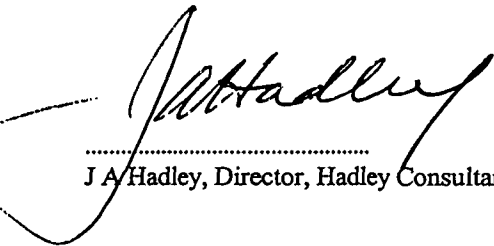
The engineering design has been prepared using the following New Zealand Standards as Verification Methods and/or Acceptable Solutions as set out in the Building Code. These New Zealand Standards are NZS 1547:2000.

The design work has been detailed and/or specified in the Hadley Consultants engineering reports and letters dated 12 October and 8 November 2006, numbered 06032 and the attachments, along with alternative proposals for the work not covered by this statement as they have yet to be confirmed as practicable.

As an independent design professional covered by a current policy of Professional Indemnity Insurance to a minimum of \$250,000, I believe on reasonable grounds, that subject to:

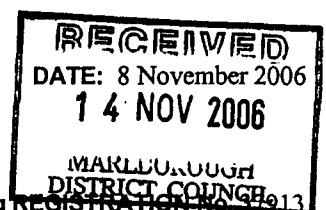
- (i) all proprietary products meeting performance specifications requirements, and
- (ii) all work being carried out in accordance with NZS 1547:2000, and best trade practice, and,
- (iii) the work associated with the above described additional effluent subterranean absorption field being monitored at appropriate times by the undersigned or his authorised representative,

the engineering reports and letters and attachments according to which the system is proposed to be constructed comply with the Building Code and the Building Regulations.


.....
J A Hadley, Director, Hadley Consultants

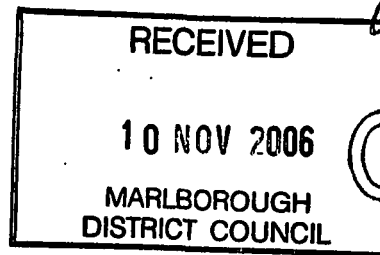
QUALIFICATIONS: M.E., B.Sc., M.I.P.E.N.Z.(Civil & Struct), CPEng., IntPE(NZ),

CPEng REGISTRATION NO. 32913



12 October 2006

The Manager
Opus International Consultants
P O Box 563
BLENHEIM



ATTENTION: Ms Rebecca Beals

Your Reference: U060252

Dear Rebecca

**REPORT ON SYSTEM FOR DISPOSAL OF EFFLUENT TO LAND AND PERGOLA
FOUNDATION STABILITY AT THE SMALL & LOW PROPERTY,
LOT 11, D.P. 7670, OHINGAROA BAY, MAHAU SOUND.**

Further to our telephone conversation (Beals – Hadley) on even date we confirm that we will re-design the existing wastewater disposal system at the above property so that it complies with NZS1547:2000. Thank you, too, for the faxes of your letter of 19 April 2006 and the two floor plans showing the extent of the alterations.

These plans certainly help put in perspective your and Council's concerns that the dwelling could quite easily be converted into a five bedroom and possibly even six bedroom dwelling at some later date.

The attached aerial photograph downloaded from the MDC website shows the Small property inside the white boundary lines that enclose the year the aerial photograph was taken, 2002. It lies between the properties with the Fire No.'s 752 and 754. The existing Small dwelling and garage can be clearly seen in this photograph. Both the dwelling and the garage are on an elevated platform. This platform has been cut from the moderate slope of the hillside above. The access road to the property with the Fire No. 754 can be seen outside the east boundary of the subject property.

The platform cut for the dwelling and garage is quite large and the dwelling has been largely founded on undisturbed soils on its western side. This has meant that a high cut has been made in the hillside. This cut has been benched and is supported by two post and plank timber retaining walls, the lower of which is about 1.2 metres high and the upper wall is about 0.8 metres high. These walls run along the uphill side of the driveway to the garage that shows on the aerial photograph as a whitish wide line.

As best we can recall this retaining wall starts before the house where the driveway widens to provide a turning area and continues past the dwelling to the garage.

This also means that the pergola foundations will be into undisturbed soils on all three of its sides for the plans show this as being constructed along the south, east and west walls of the dwelling. The loads imposed on these undisturbed soils from the pergola structure are extremely light compared to those imposed by the dwelling.

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Land Stability

It is correct that this area is shown as unstable on the Planning Maps. It is not correct, though, that the land is unstable per se.

Mr Don Cromarty, a respected local Registered Engineer, addressed the stability of this property in his Engineering Report dated 22 October 1995. This Engineering Report and Mr Cromarty's Professional Opinion on the stability of Lot 11, D.P. 7670 are on Council's property file for this property.

We concur entirely with Mr Cromarty's opinion on this land. We, too, are confident that neither building of a pergola around the dwelling or the discharge of foul effluent to land will affect the stability of the land or any surrounding it in any way. Refer also to the penultimate paragraph in this letter.

Effluent Treatment and Disposal

Dealing now with the issue of the foul waste from the dwelling, there are two issues needing to be resolved. The first is the adequacy of the volume of the septic tank and the second is the adequacy of the base area of the soakage trenches.

As discussed in our telephone conversation this morning during our last site visit on Saturday, 19 August 2006, we have not sized the tank nor been able to identify the position of the soakage trenches constructed from the junction box site in the middle of the lawn that is sited just above the last 2 in 2002 on the aerial photograph.

Septic Tank

Since talking with you earlier today we have been able to determine through the builder, Mr Brent Rule, of Ohingarua, that the original owner of the property was Mr Ian Taylor who had the existing dwelling built. Mr Taylor and his family, 6 adults and 1 child, occupied the dwelling as a family home for several years after it was built.

Mr Rule has now opened up and measured the concrete septic tank that was installed on the property. He has found the plan dimensions of the top to be 1.2 metres wide by 2.4 metres long. The top of the tank has outwards sloping sides that are not included in the above dimensions. The depth of the tanks is 2 metres. From the description given it seems likely that the tank is one of Crafar & Crouch's standard 4,500 litre tanks. Making no allowance for the side and end tapers that occur on both the top and bottom of the Crafar & Crouch tank as well as no allowance for the wall thickness, then an approximate capacity is $1.2 \times 2.4 \times (2.0 - 0.45) = 4.464$ cubic metres or about 4,500 litres. The 0.45 metres is the approximate level of the outflow below the top of the tank.

Thus, subject to confirmation by us, it seems the capacity of the septic tank, if 4,500 litres, is likely to meet with the requirements of NZS 1547:2000.

Effluent Soakage Trenches

As a result of our inspection of the junction box on 19 August 2006 we do know that three lines run from this junction box. One appears to run almost due south, another runs almost due north and a third runs towards the boundary with Kenepuru Road.

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Mr Taylor told Mr Rule today that only two soakage trenches were initially installed. These were the lines that run to the north and to the south from the junction box. Mr Taylor also advised that to the best of his recollection these trenches were built to Mr Cromarty's specification, i.e. 30 metres long by 0.6 metres wide and 0.45 metres deep.

In all probability the pipes laid in these trenches were set at a gradient of about 1 in 200 and had notches cut in the base of the pipe at about 0.5 metre intervals. These were the requirements that complied with the then NZS 4610:1982 entitled Household Septic Tank Systems.

It seems that some time after the house was built it was discovered that the two 30 metre long soakage trenches running north and south were insufficient to cope with the load from the dwelling in that the trenches emitted effluent and smell at their downstream ends. As a consequence another 30 metre long line of the same dimensions as the first two lines was installed to just inside the boundary with Kenepuru Road. We understand that this line runs southwest parallel to the boundary line from about the centre of the property. Mr Rule estimates this work was completed some time in the year 2000, though he is not positive about this period.

From all accounts we have heard this additional soakage trench eliminated all of the previous problems with two earlier soakage trenches.

As discussed this morning to minimise costs, and in the light of the builder planning to start work shortly, it seems to us that at this stage we are best to design a system that meets NZS 1547:2000 and install any additional trenches required after the site has been opened up while the builder is on site.

The present dwelling is supplied with potable water from a reticulated system from a nearby creek. The dwelling has been assumed not to have water reduction fittings as this is the best of our recollection when we inspected the dwelling at the time we designed the structural alterations. Thus, if we design the effluent disposal system for five bedrooms then the daily wastewater load is $5 \times 2 \times 180 = 1,800$ litres per day.

If the Smalls were to install water reduction fittings such as 11/5.5 litre water closets, shower-flow restrictors, aerator faucets (taps) and a water conserving automatic washing machine then the daily wastewater load would reduce to 1,450 litres per day.

During our last site visit on Saturday 19 August 2006 we inspected the ground over the lawn area from the holes that Mr Rule dug in the lawn and assessed the soil category as being moderate to highly structured Category 4 clay loam. The conservative daily loading rate for this soil is 10 millimetres per square metre per day. The above test holes were dug on the expected lines of what now seems were the original two trenches, i.e. the two running to the north and south.

No holes were dug close to the boundary fence as we had no idea where on the section the third trench was located. Therefore we have assumed that the soils are consistent over the whole site. This may well prove to be an erroneous assumption for from our previous experience in the area we know that the soils on the northwest side of the Kenepuru Road are more permeable than those exposed on the Small property on 19 August 2002. Thus, if additional trenches are required as we already expect will prove necessary then we need to inspect the soils closer to Kenepuru Road and possibly revise the soil classification to a more permeable soil category.

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However, based on the soils being Category 4 clay loams as above the base area of the soakage field required for a daily load of 1,800 litres is 180 square metres of soakage trench, while that for a daily load of 1,450 litres is 145 square metres.

The area of the current trenches is $3 \times 30 \times 0.6 = 54$ square metres so that a minimum additional trench base area is 91 square metres if the dwelling contains water reduction fixtures or is re-fitted with water reduction fixtures.

If the dwelling either does not contain water reduction fixtures or is not re-fitted with these fittings then the minimum area of additional trench base area required is 126 square metres.

There is ample area in which to install the new trenches or beds in the triangular lawn between the garden track below the dwelling and the Kenepuru Road boundary. This can be seen on the aerial photograph attached. The scale of this aerial is about 25.4 millimetres = 88 metres, or 1 mm = 3.46 metres. The triangular area of lawn is therefore about 2,600 square metres. This relates reasonably well to the gross area of the allotment of 5,914 square metres.

Therefore, there is ample room on the lawn area below the dwelling to install a soakage area of 180 square metres and have plenty of room to have a reserve area of a further 180 square metres if ever required.

There is another method that may ensure that the existing soakage trenches function more efficiently. If the pipe work in the existing trenches is UPVC then inserting a 20 to 25 millimetre dose loading pipe drilled with small holes at about 500 centres into the UPVC pipe could assist in ensuring an even spread of effluent along these pipes and a more even distribution of the effluent along the base of the trenches. From our recollection of the junction box it may well be practicable to install a float switched submersible pump into this junction box so that all trenches can be dose loaded.

Conclusions

As we discussed we are reluctant to spend yet more time in investigating the existing system without the aid of earth moving machinery that can be arranged to be on site when the additional trenches that will be required are being installed.

As you can see from the above, the arithmetic is not in any complex and can be done on site by us while the machine is working.

We would then be in a position to make the necessary calls on the required trench areas based upon the daily loading finally established for the dwelling, i.e. whether water reduction fixtures are included or not.

We would also be in a better position to assess the change, if any, in the category of the soils lower on the site towards the Kenepuru Road boundary.

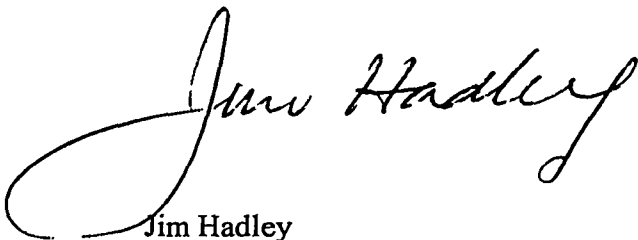
We would respectfully suggest that you make it a condition of consent that the effluent field is to be upgraded to NZS 1547:2000 and the work necessary to complete this upgrade be monitored by us. We will undertake to provide Council with a reliable site plan that locates all of the pipe work and the subterranean trenches for its records.

Finally, it is our opinion, as a result of our inspection and investigation of Lot 11, D.P. 7670, that the further development of this land, by way of a pergola and a septic tank and additional subterranean absorption trench(es) or bed(s) to bring the disposal system up to the standards required in NZS 1547:2000, will not render this land, or any land surrounding it that could be considered to affect this land, subject to, or likely to be subject to, any of the conditions listed in Section 106(1)(a) of the Resource Management Act 1991 or Section 71(3) of the Building Act 2004 nor will the use of this land as described, accelerate, worsen, or result in any of the conditions listed in Section 106(1)(b) of the Resource Management Act 1991 or Section 71(3) of the Building Act 2004.

We trust this and the attached information is sufficient for your purposes and that it enables Council to issue Resource Consent for Discharge to Land on this property.

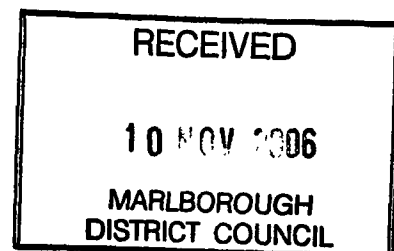
However, should you require any clarification of the matters raised in the report please feel free to contact us directly.

Kind regards
HADLEY CONSULTANTS



Jim Hadley
Director

cc Mr and Mrs Small
Mr Brent Rule
Mr Dai Jones



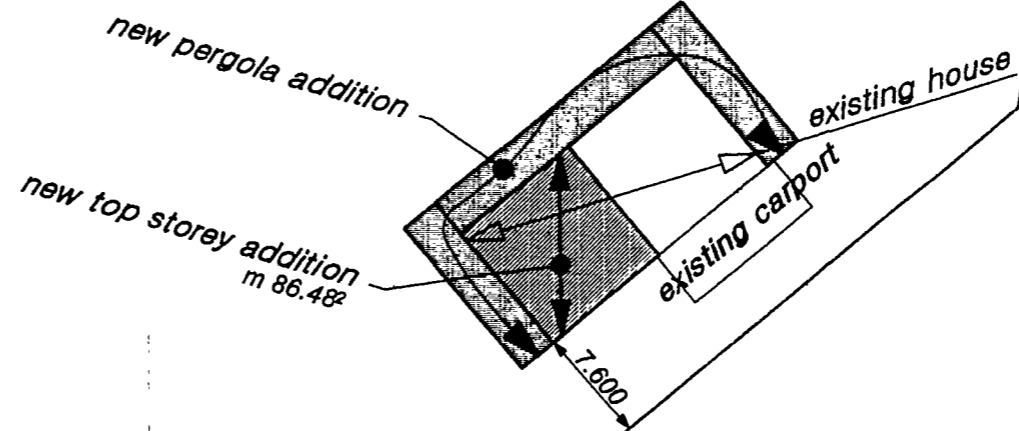
o h i n g a r o a b a y

TO HAVELOCK

k e n e p u r u r o a d

TO PERLOUS

lot 11
dp 7670
area 5914 m
(or thereabouts)



SITE PLAN 1:500

RECEIVED
15 MAR 2006
MARLBOROUGH DISTRICT COUNCIL

NEW RENWICK ROAD BLENHEIM Ph 57 80 777 Fx 578 9999 72

SITE PLAN

PROPOSED TOP STOREY
MR P MRS B SMALL
OHINGAROA BAY
MARLBOROUGH SOUNDS

DATE	Dec 05
DESIGNED	DAI G JONES
JOB No	9348
DRAWING No	bc /10