

Earthworks

APPLICATION FOR LANDUSE CONSENT

Applicant

Resource Application No.

Parker Homes + Garages Ltd

RC 2060855

Date Received		20.3.06
Application Fees		\$175-
Receipt/Number		
Type of Application		
Zoning of Land		
Legal Description		LOT 29 DP 61764
Property Address and Location		25 Taumatawiwi St. OPNONI - HOKIANGA
Valuation Reference No./Property ID		618-09900
Cross References	Bldg	BC 2006 1192
	RC	
Section 88 Date		
Section 92		
Amendments/dated		
Notification Date		
Closing Date		
Hearing Date		
Decision		
Monitoring		Yes <input type="checkbox"/> No <input type="checkbox"/>
Planner		Rex



**DETERMINATIONS PURSUANT TO SECTION 94 OF
THE RESOURCE MANAGEMENT ACT 1991**

(Note: for applications other than minor / straightforward ones, also complete the 3 sheet S93 / 94 Determination Form, attached to the consent template).

Applicant:..... RC.....

Activity:	Permitted	<input type="checkbox"/>	Controlled	<input type="checkbox"/>	Discretionary	<input type="checkbox"/>	Non-Complying	<input type="checkbox"/>
	Permitted	<input type="checkbox"/>	Controlled	<input type="checkbox"/>	Discretionary or Restricted Discretionary	<input type="checkbox"/>	Non-Complying	<input type="checkbox"/>

A. WRITTEN APPROVAL REQUIRED

Obtained

Name:	How Affected:	Yes	No

“THAT pursuant to Sections 94 Council considers that the above persons/no persons may sely affected by the granting of this resource consent.”

Planner Date:.....
 Date:.....

ON-NOTIFICATION

for Non-Notification:

Decision “THAT pursuant to Sections 93 and 94 Council determines, for the reasons outlined above that this application need not be notified.”

Resource Planner Date:.....
 ESM/RCM Date:.....

C. NOTIFICATION / LIMITED NOTIFICATION

Reasons for Notification:

Decision “THAT pursuant to Sections 93 and 94 Council determines, for the reasons outlined above that this application be notified / processed by serving notice.”

Resource Planner Date:.....
 ESM/RCM Date:.....

Earthworks APPLICATION FOR LANDUSE CONSENT

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Parker Homes + Garages Ltd

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Hearing Date		
Decision		
Monitoring		Yes <input type="checkbox"/> No <input type="checkbox"/>
Planner		Rex

RESOURCE CONSENT INFORMATION
Resource Planners

To be loaded into pathway by Technical Support Officer must be completed during initial assessment.

RC Number:RC 2060855

:Name: Parker Homes & Garages Ltd

RFS Type :

Hearing Date :

Activity (TDP/PDP) :

No. of lots :

Types of lots :

Zone (TDP/PDP) :

Area of Site :

Proposal :

APPLICATION:Parker Homes & Garages Ltd

RC RC 2060855

SECTION 92 CONSIDERATION

Additional Information required?

No Yes – Date Sent _____

Additional Information received – Date _____



APPLICATION ASSESSMENT – RESOURCE PLANNER

APPLICATION:Parker Homes & Garages Ltd **RC** **RC 2060855**

Refer to Section 94 form for decision regarding notification once all information has been received.

RULES IN ZONE	STANDARD		COMPLIANCE	
	TDP	PDP	TDP	PDP
Road/Primary Road Setback Internal Setback				
Water Setback				
Landscaping / Screening got Neighbours (NR)				
Relocated Buildings				
Height				
Height in Relation to Boundary/Sunlight				
Plot Ratio/Building Coverage / Bldg Scale / Imperm Surface				
Residential Intensity				
Multi Unit Development				
Scale of Activities				
Visual Amenity				
Parking				
Traffic Intensity				
Outdoor Activities				
Site Intensity				
Hours of Operation (NR)				
Keeping of Animals				
Noise				

Noise Mitigation for Residential Activities				
Bush/Vegetation Clearance				
OLU/ OLF/ ONF				
Transportation/Access				
Natural Hazards				
Earthworks – Volume P Cut Face				
Signage/Lighting				
Heritage / Heritage Precinct				
Glare				
SUBDIVISION				
Lot Size				
Allotment dimensions				
Management Plan				

MATTERS TO NOTE

Can infrastructure cope with additional demand as a result of development?

Are any financial contributions payable?

Are any esplanade reserves or strips necessary?

Are any covenants / consent notices / building line restrictions existing or necessary/

Are any amalgamation conditions required?

Are any new assets to be vested to Council?

APPLICATION ASSESSMENT Resource Consents Manager page 1 of 2

This form is to be included in all consent application files received by Council.

APPLICATION: Parker Homes & Garages Ltd __ RC: RC 2060855

ADMINISTRATION CHECKLIST – Standard letters (as advised by RCM)

- Application Complete Application Incomplete
- Time Recording Letter Required
- S88 Letter
- Planner *Rev*
In Pathway
Tick "completed"
Tick "allocated to Planner"
- Interested Parties List Attached - Tick off**
- Department of Conservation Northland RC
- Community Board Other _____
- Application advised of applicant receipt – date 27/3/06
- Copy of application to Engineer – date _____



Interested Parties List

	Name	Address1
	NZ Historic Places Trust	P O Box 2629 WGTN 6015
	NZ Historic Places Trust	P O Box 836 Kerikeri
	Development Engineer- Utilities	Attention: Tanya Nowell
	Environmental Engineer (Rex Shand)	C/-FNDC
	Te Runanga a Iwi o Ngapuhi	P O Box 263 Kaikohe
	Northland Regional Council	Po Box 9021 Whangarei
	Department of Conservation	P O Box 842 Whangarei
	Te Runanga a Iwi o Ngati Kahu	P O Box 392, Kaitaia
	KeriKeri Irrigation	P O Box 343, Kerikeri
	Doubtless Bay Water Company	P O BOX 165, Kaitaia
	ANNISON, Florence	13 Kerikeri Grove Kerikeri
	Belinda Ward	P O BOX 182, Paihia
	TURNER Doug - Eastern	Rangitane R D 2, Kerikeri
	Sue Hodge - Reserves	FNDC
	Fiona King	Awanui, R D 2, Kaitaia 0500
	Willy Van der SLUIS	Harbour View Rd, Houhora
	Tony Norman	P O BOX 295, Mangonui
	Environmental Health Officer	The Professional Centre
	Transit New Zealand	P O Box 1459, Auckland
	Catterall Engineers	C/- Kta Service Centre
	The General Manager-Top Energy	P O Box 243 Kaikohe
	Legal Services FNDC	Attention: Robert Manuel
	Sally Macauley - Western	P O Box 269, Kaikohe
	BARRY WEBB	C/- FNDC
	Q E II TRUST- The Director	PO Box 3341, Wellington
	Q E II TRUST- Greg Blunden	P O Box 541, Kerikeri
	Kororareka Marae Society- Helen Pick	36 Matauuwhi rd, Russell
	GHD Management Engineering Enviroment	8 Allen Bell Drive, Kaitaia
	District Telecom Centre	P O box 442, Whangarei
	NZ RAILWAYS CORPORATION	P O Box 593, Wellington
	LIQUOR LICENSING INSPECTOR	Kerikeri Service Centre
	Win Stephens	P O Box 443, Kaikohe
	ROADING MANAGER – Greg Ingham	FNDC
	GHD Management Engineering Enviroment	P O Box 672, Kaikohe
	BOI Coastal Watchdog Inc	c/- Helen Pick
	Nora Rameka, Ngati Rehia	P O Box 49, Kerikeri



SCHEDULE A APPLICATION FOR EARTHWORKS PERMIT

Name of Applicant: Parker Homes & Garages Ltd. A- Paul Miller.

Address of Applicant: 135 Meadowbank Rd, Meadowbank, Auckland

Address of Proposed Earthworks: 25 Taumatawiri Street, Oporori

Legal Description: Lot 29 DP 61764 BLK VII HOKIANGA SD Valuation Number: 618-09900

Name of Contractor or Plant operator: TBA

Address of Contractor or Plant operator: TBA

Nature of Earthworks: Site Scrape for new dwelling & an excavation of 1.2m to 0 over 7m for new garage. [Plan to be attached]

And Purpose: Refer above.

Applicant's Signature: [Signature] Date: 17 March 06

Fee \$175.00

Please Note: Additional information may be required if that supplied with this application is not adequate to fully assess the impacts of the proposed works.

Parker Homes & Garages Ltd

135 Meadowbank Road
Meadowbank
Auckland 1005
Phone: 09-521 2137
Fax: 09-521 2137
www.parkergarages.co.nz



17 March 2006

Victoria Araba
Far North District Council
Private Bag 752
Memorial Ave
KAIKOHE 0400

Dear Victoria

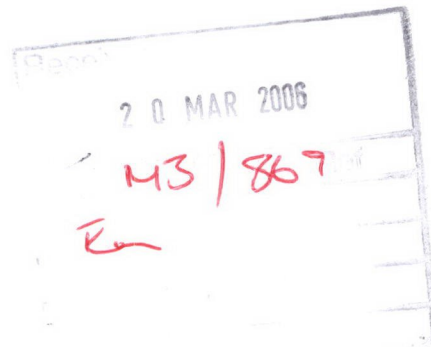
RE: BUILDING CONSENT NUMBER BC-2006-1192 – 25 TAUMATAWIWI STREET, OPINONI 0452 – APPLICATION FOR EARTHWORKS PERMIT

Please find attached Schedule A – Application For Earthworks Permit for the above address.

We trust this meets with your approval. Should you have any queries please contact the undersigned 021 75 22 45.

Yours Faithfully
Parker Homes and Garages Ltd

Paul Miller
Project Manager





Far North
District Council

Application No: RC-2060855-RMAEWK

27 March 2006

Parker Homes & Garages Ltd
C/O Paul Miller Meadowbank Road
Meadowbank
Auckland 1005

Private Bag 752, Memorial Ave
Kaikohe 0400, New Zealand
Freephone: 0800 920 029
Phone: (09) 405 2750
Fax: (09) 401 2137
Email: ask.us@fndc.govt.nz
Website: www.fndc.govt.nz

Dear Sir / Madam

Acknowledgement of Receipt of Resource Consent Application - Parker Homes & Garages Ltd

Thank you for your application for Earthworks Permit Applications.

This letter serves as an acknowledgement of receipt of your application, and to advise you that the application has been allocated to the following Planner with a number for future reference:

Rex Shand RC-2060855-RMAEWK

We are currently checking your application to ensure that we have all the information we require to properly assess your proposal. In the event that further information is required, you will be advised within 10 working days of the date of this letter. The processing of your application will stop until all the requested information has been received.

In the event that a site visit is required, the Planner will contact you to verify the time and place of the visit.

Once we are satisfied that we have all the information necessary, we will decide how your application will be processed. Either your application will be publicly notified or will be processed without public notification (non-notified).

If the application is to proceed on a non-notified basis, you will most likely receive a decision within 20 working days from either the date we receive any further information requested, or if we did not request further information, the date we received your application.

If you have any further queries regarding the process or progress of the application, please contact the assigned Planner.

Yours faithfully

Queenie Harding

Technical Support Officer - Regulatory & Customer Services Department



COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952



R. W. Muir
Registrar-General
of Land

Search Copy

Far North District
Council
Received

Identifier **NA19C/786**
Land Registration District **North Auckland**
Date Issued 21 September 1970

Prior References
NA4B/646

Estate Fee Simple
Area 680 square metres more or less
Legal Description Lot 29 Deposited Plan 61764
Proprietors
Frances Gwendoline Cameron and Michael Shane Cameron

Interests
Fencing Provision in Transfer A497782 - 21.9.1970

Association
Consulting
Engineers of
New Zealand

New Zealand
Institute of
Architects

Institution
Professional
Engineers of
New Zealand

P.I.M. No. _____
Building
Regulation
Clause(s) _____
HGCL Project No. **1011-017670-01**

PRODUCER STATEMENT - DESIGN

Far North District
Council
Received

Issued by **HARRISON GRIERSON CONSULTANTS LIMITED**

To: **Parker Garages**

In Respect of **New Zealand non specific location**

At **New 3 bedroom standard building Taumatawiri st**

Lot: 29 DP: 61764 SO: SO NO. Opanoni

Harrison Grierson Consultants Limited has been engaged by Parker Garages to provide Structural Design Services for structural frame and foundations as presented on Harrison Grierson Consultants Limited calculation, in respect of the requirements of Clause B1 of the Building Regulations 1992 for

All Part Only as specified of the building work.

The design has been prepared in accordance with B1/VM1 and B1/VM4 (respectively) of the approved documents issued by the Building Industry Authority and the work is described on **STRUCTURAL CALCULATIONS - PAGES S1-20S16b PROJECT NO. 1011-017670-01** and the specification and other documents accordingly to which the building is proposed to be constructed.

As an independent design professional covered by a current policy of Professional Indemnity Insurance to a minimum value of \$200,000, I BELIEVE ON REASONABLE GROUNDS that subject to:

- i) Good ground in accordance with NZS 3604; Site with maximum ultimate wind speed of 37.2m/s.
- and
- ii) All proprietary products meeting the performance specification requirements, the drawings, specifications and other documents according to which the building is proposed to be constructed comply with the relevant provisions of the Building Code.

Signature:  Date **20 December 2005**
(Signature Suitably Qualified Design Professional)

Name **Andrew j Thompson**

Professional Qualifications **BE(Civil) MIPENZ CPeng** CPENG. No. **149819**

Member ACENZ IPENZ NZIA

Harrison Grierson Consultants Limited
PO Box 5760
Wellesley Street
AUCKLAND

This form to accompany Form 9 of the Building Regulations 1992 for the application of a Building Consent

Parker Garages Ltd

135 Meadowbank Road
Meadowbank
Auckland 1005
Phone: 09-521 2137
Fax: 09-521 2137
www.parkergarages.co.nz

Far North District
Council
Received



01 March 2006

J Kaio
Building Officer
Far North District Council
Private Bag 752
Kaikohe 0400

Fax: 09-401 2137

Re: Building Consent Application BC-2006-1192 New Dwelling 25 Taumatawiwi St Opoponi 0452

Dear Sir / Madam

Thank you for your letter dated 23 February 2006 requesting more information.

With regards to this, I would like to answer as follows:

Planning Aspect

Please find enclosed a current certificate of title for this address.

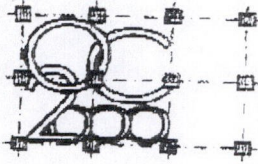
Building Aspect

1. We are not installing a fireplace to this dwelling. What we have done is create and architectural feature, which looks like a fireplace, but is solely there for the purposes to house a built-in 42" television.
2. The means of waterproofing the block wall to the garage, will have a 75mm overflow pipe, scoria backfill, against a waterproof matting, and the blocks will have three coats of tanking.
3. The R value for the ceiling is 2.7. This is done by way of building paper and batts.
4. The type of insulation for the walls is Amroc cavity system, R Rating 2.5.
5. The type of insulation for the floor is Amroc.
6. Connections for the RSH Portal flange to the concrete pile is two M16 bolts. Minimum 125mm into the concrete pile.

Please find enclosed a copy of Osbourne Consultants calculation for insulation barriers.

Yours faithfully

Jimmy Parker
ANZIA

**Osborne Consultants 2000 Ltd.**
Structural Engineers

21 Maui Grove • Newmarket • Auckland • New Zealand
Tel: +649-522 0697 • 524-6096 • Fax: +649-522 0697 •
E-mail: OC2000@xtra.co.nz

OUR REF: A02-001-R2

Amroc New Zealand Ltd
135 Meadowbank Road
Meadowbank
Auckland 1005

Attention: James Parker

Date: 28 February 2006

Dear Sir**Re: Product Appraisal – Assemblies utilising Amroc Panels****1. Introduction.**

Osborne Consultants Ltd have been asked to express a professional opinion on the utilisation of Amroc panels and assemblies built with such panels for residential and light commercial projects. This assessment has been prepared within the context to outline an alternative solution in terms of NZBC 2004 as part of the documentation suitable for lodgement for building consent.

2. Product.

Amroc panels are cement bonded particleboard panels manufactured under pressure from pine particles, Portland cement, mineral compounds and water.

Typical Amroc panel assembly comprises a cold formed steel frame with Amroc sheeting either side.

This appraisal is prepared for use in residential and light commercial building. The assemblies can be used for load bearing walls, partitions, floor structures and roof panels in specifically designed buildings. Fire and sound barriers (walls) can also be constructed using such panels.

2...

2...

Architectural design, Engineering and Construction are carried out by Amroc NZ Ltd or under their technical supervision and quality control. Construction process is carried out by accredited building contractors under franchise agreement.

3. Building Regulations.

In our opinion Amroc Panels and assemblies incorporating Amroc Panels if used, installed, and maintained in accordance with the statements and conditions of this appraisal will meet or contribute to meeting the following provisions of the NZBC 2004.

- Clause C3 – Spread of Fire
- Clause H1 – Energy efficiency.
- Clause C6 – Airborne and Impact Sound.

These provisions are discussed below:

C3 – Spread of Fire.

From the technical literature provided by AMROC and comparison with similar assemblies using GIB Fireline it can be concluded that the Amroc panels exhibit similar or better fire resistance compared to Gib Fireline. Thermal analyses of sample walls with Amroc panels and GIB Fireline panels with identical thickness produced similar results.

It is therefore concluded that the standard wall construction with 12mm Amroc panels would have a fire rating in excess of 30/30/30 generally required for individual residential dwellings.

H1 – Energy Efficiency

Parallel Method Thermal Anasis was carried out. The details are outlined below:

- Thermal envelope as per NZS4218:2001
- Roof with steel purlins – Conventional insulation has to be used. In this case Amroc Panels are used as ceiling lining only. Target R-value - 1.9. Achieved R-Value – 1.9.
- Floor with 18-100-8 configuration. Target R-value -1.3. Achieved R-value accounting for thermal bridges with carpet - 1.34.

C6 – Airborne and Impact Sound

The acoustic properties of Amrock Panels for Airborne Sound are listed in the literature. Based on these the following STC rating were determined:

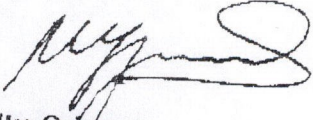
- External wall with 12-18-8-48-12 configuration. Target STC rating 35. Achiever STC rating through voids – 41
- Floor with 18-100-8 configuration. Target STC rating 36. Achiever STC rating through voids – 43.

3...

3...


I trust this information is adequate for its purpose. Should you require further information please do not hesitate to contact us directly.

Yours Faithfully,



Mike Osborne
M IPENZ, CPEng, - Principal

Appendices: - 8 Pages with Notes and Calculations

 Osborne Consultants 2000 Ltd. Structural Engineers	JOB NAME: Amroc NZ Ltd		PAGE No:
	SECTION: Regulations - Section # 3		3.12
	Thermal Resistance of Amroc Panel		
	JOB No: A02-001	DESIGNED: MO	
DATE: Feb-06	CHECKED: MO		

CALCULATION SHEET

4.1. Energy Efficiency:

4.1.1. Thermal Envelopes

Consider Thermal Envelope with following parameters (NZS 4218; 2001)

Structure Element	Min R Value
Non Solid Walls	1.5
Floor	1.3
Roof	1.9
Glazing (Less than 30%)	0.13

4.1.2. Thermal Resistance

4.1.2.1 Roof

Required R-Value - 1.9
 Use Pink Bats R = 2.2 - OK!

4.1.2.2. Walls

Component	
1 Outdoor Air Film	- 0.04
2 12mm Amroc Panel	0.012/0.35 - 0.04
3 Reflected Air Space - Vent. - 16mm	0.36
4 8mm Amroc Panel	0.008/0.35 - 0.03
5 Reflected Airspace - Non V. 48mm	1.92
6 12mm Amroc Panel	- 0.04
7 Indoor Air Film	- 0.12
	2.55



Osborne Consultants 2000 Ltd.
Structural Engineers

JOB NAME:	Amroc NZ Ltd	PAGE No:	
SECTION:	Regulations - Section # 3		3.13
Thermal Resistance of Amroc Panel			
JOB No:	A02-001	DESIGNED:	MO
DATE:	Feb-06	CHECKED:	MO

CALCULATION SHEET

Consider Amrock Studs - External:

$$R_{\text{cavity}} = 1 / [P / \text{stud} / R_{\text{stud}} + P_{\text{air}} / R_{\text{air}}]$$

$$R_{\text{stud}} = 0.018 / 0.35 = 0.051$$

$$R_{\text{cavity}} = 1 / [0.33 / 0.051 + 0.66 / 0.36]$$

$$= 1 / (6.41 + 1.83) = 0.121$$

Consider Amrock Studs - Internal:

$$R_{\text{stud}} = 0.048 / 0.35 = 0.137$$

Stud Area:

$$\text{For } 1 \text{ m}^2 - 6 / 0.6 = 10 \text{ Blocks}$$

$$\text{Each Block} - 50 \times 50 \text{ mm}$$

$$10 \text{ Blocks} - A = 0.05 \times 0.05 \times 10 = 0.025$$

$$R_{\text{cavity}} = 1 / [0.025 / 0.137 + 0.975 / 1.92] =$$

$$= 1 / [0.18 + 0.507] = 1.45$$

Revised Thermal Resistance considering studs using Parallel Method:



Osborne Consultants 2000 Ltd.
Structural Engineers

CALCULATION SHEET

JOB NAME:	Amroc NZ Ltd		PAGE No:
SECTION:	Regulations - Section #	3	3.14
Thermal Resistance of Amroc Panel			
JOB No:	A02-001	DESIGNED:	MO
DATE:	Feb-06	CHECKED:	MO

Component:

1. Outdoor Air Film	- 0.04
2. 12mm Amroc Panel	- 0.04
3. External Cavity	- 0.121
4. 8mm Amroc Panel	- 0.03
5. Internal Cavity	- 1.45
6. 12mm Amroc Panel	- 0.04
7. Indoor Air Film	- 0.12

$$ER = 1.84$$

4.1.2.3 Floor

Component

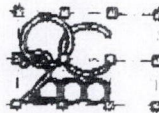
1. Indoor Air Film	- 0.12
2. 18mm Amroc Panel	- 0.05
3. 100mm Reflected Air Space ^{N.V.}	- 4.00
4. 8mm Amroc Panel	- 0.03
5. Outdoor Air Film	- 0.04

$$ER = 4.24$$

Consider Box Section Steel Studs: 100x50x3
R stud = 0.121 (Recommended by Branz)

$$\text{For 1 m} \quad - \frac{1000}{400} \times 0.05 \times 1 = 0.125$$

$$R_{\text{cavity}} = 1 / \left(\frac{0.125}{0.121} + \frac{0.875}{4.00} \right)$$



Osborne Consultants 2000 Ltd.
Structural Engineers

JOB NAME:	Amroc NZ Ltd	PAGE No:	
SECTION:	Regulations - Section # 3		3.15
Thermal Resistance of Amroc Panel			
JOB No:	A02-001	DESIGNED:	MO
DATE:	Feb-06	CHECKED:	MO

CALCULATION SHEET

$$R_{cavity} = 1 / (1.03 + 0.22) = 0.80$$

Component

1 Indoor Air Film	- 0.12
2 18mm Amroc Panel	- 0.05
3 Cavity - Non Ventilated	- 0.80
4 8mm Amroc Panel	- 0.03
5 Outdoor Air Film	- 0.09
	$\Sigma R = 1.00$

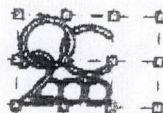
Add Flooring

6. Carpet Underlay	- 0.17
7. Carpet	- 0.17

$Total R = 1.34$

Summary:

	<i>Required</i>	<i>Actual</i>
Roof -	1.9	1.9
Walls -	1.5	1.84
Floor -	1.3	1.34
Glazing	0.13	0.13



Osborne Consultants 2000 Ltd.
Structural Engineers

CALCULATION SHEET

JOB NAME:	Amroc NZ Ltd	PAGE No:	
SECTION:	Regulations - Section # 3		3.16
Thermal Resistance of Amroc Panel			
JOB No:	A02-001	DESIGNED:	MO
DATE:	Feb-08	CHECKED:	MO

Roof:

Components


1. Outdoor Air Film	—	0.04
2. Metal Roof	—	0.00
3. Cavity	—	1.10
4. 12mm AMROC	—	0.04
5. Indoor Air Film	—	0.12
		1.30

Can not use single framing.

Cavity:

$$R = 1 / (0.083 / 0.121 + 0.917 / 2.2) =$$

$$= 1 / (0.686 + 0.417) = 0.906$$

 Osborne Consultants 2000 Ltd. Structural Engineers	JOB NAME : Amroc NZ Ltd	PAGE No: 4.02
	SECTION : Regulations - Section # 4	4.02
<i>Fire Resistance of Amroc Panel</i>		
JOB No: A02-001	DESIGNED: MO	
DATE: Feb-06	CHECKED: MO	

CALCULATION SHEET

A.1. Fire Resistance of Amroc Panels

A.1.1. Material Specifications

Refer Amroc Manual - Page 26.

90' Rating Out 30' Rating In

Wall Construction:

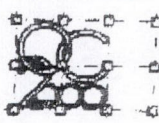
- Layer 1 - BLUCAD 10mm - Finish Layer
- Layer 2 - AMROC 16mm
- Layer 3 - Framing - 90x45
- Layer 4 - Kronoply - 12mm
- Layer 5 - Standard GIB 10mm Finish Layer

30' Rating

Compare with GIB solutions

GBTL90

- Layer 1 - 16mm GIB Fireline
- Layer 2 - Framing 90x45
- Layer 3 - 16mm GIB Fireline

	Osborne Consultants 2000 Ltd. Structural Engineers		JOB NAME: Amroc NZ Ltd	PAGE No.
			SECTION: Regulations - Section # 4	4.03
			Fire Resistance of Amroc Panel	
	JOB No: A02-001	DESIGNED: MO		
DATE: Feb-06	CHECKED: MO			

CALCULATION SHEET

From Wall Configurations above:

Amroc panels exhibit similar property as 61B Fireline.

Standard Amroc Panel: (External)

12mm Amroc Panel

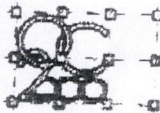
48mm Amrock Studs

8mm Amrock Panel

18mm Amroc Studs

12mm Amroc Panel

Expected FRR is 60/60/60;

	Osborne Consultants 2000 Ltd. Structural Engineers	JOB NAME: Amroc NZ Ltd	PAGE No: 5.02
		SECTION: Regulations - Section # 5	
CALCULATION SHEET		Acoustic Resistance of Amroc Panel	
		JOB No: A02-001	DESIGNED: MC
		DATE: Feb-06	CHECKED: MC

5.1. Acoustic Resistance

Literature Parameters:

Airborne sound:

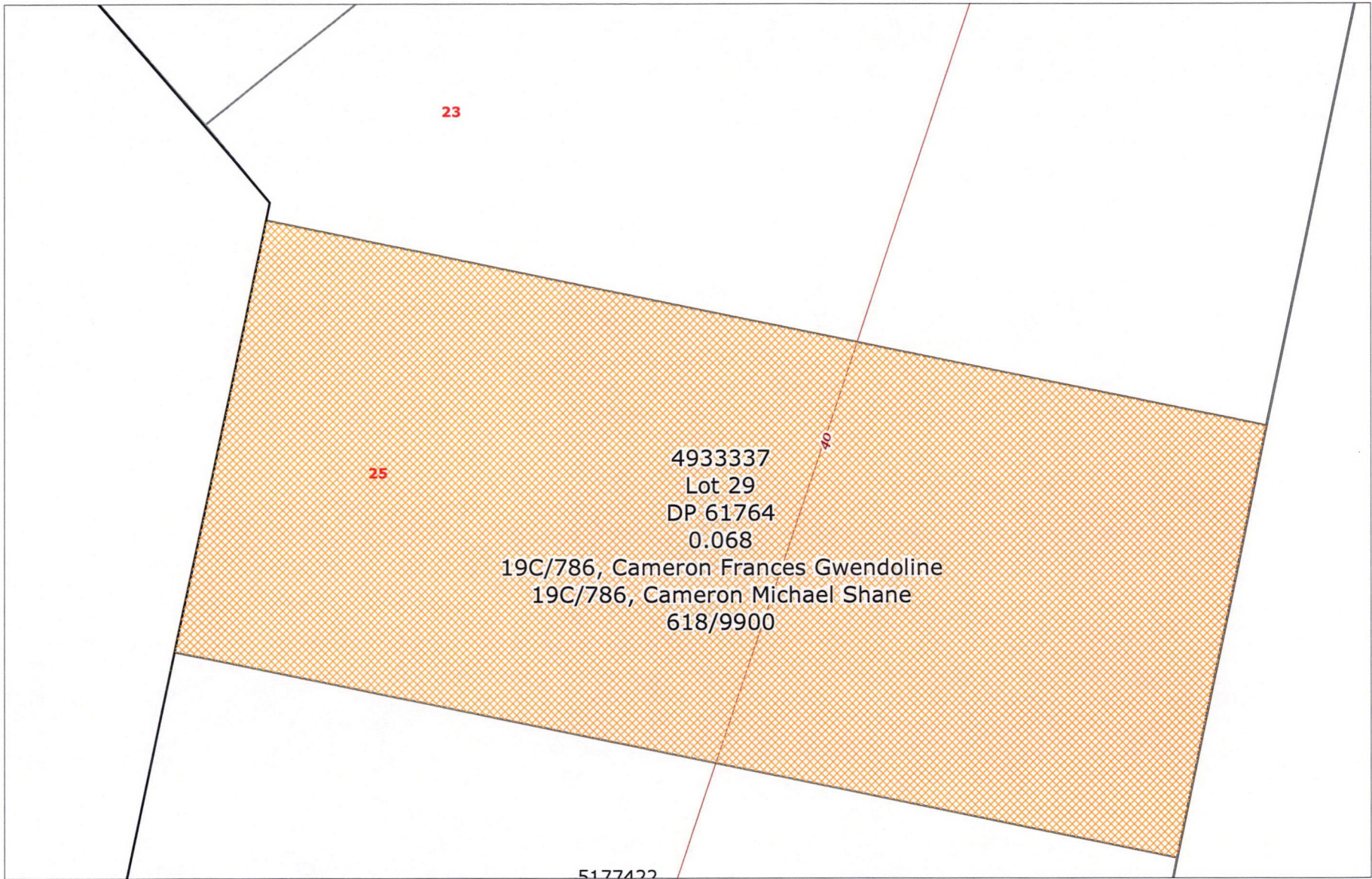
8 mm Board	-	30 dB
12 mm Board	-	32 dB
16 mm Board	-	33 dB
18 mm Board	-	34 dB

Wall Construction

12 mm Board	
90 mm Framing	= $32(1 + \lg 2) = 41 \text{ dB}$
12 mm Board	

Floor Construction

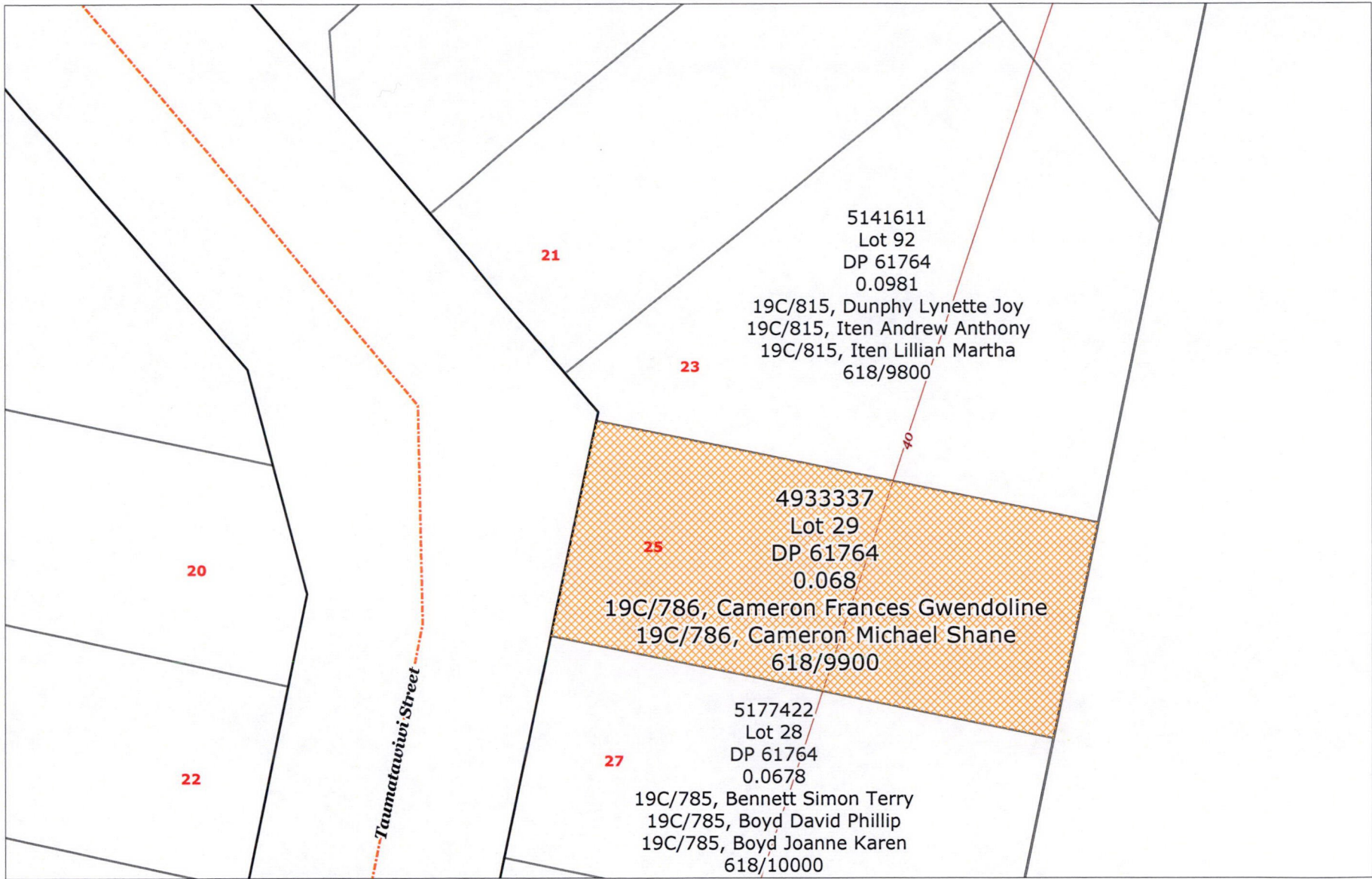
18 mm Board	
100 mm Joists	= $34(1 + \lg 1.88) = 43 \text{ dB}$
8 mm Board	



Scale: 1:218

23.3 metres





Scale: 1:436

46.5 metres



Far North District Council
GST No 52-004-926

Private Bag 752, Memorial Ave
Kaikohe 0400, New Zealand
Freephone: 0800 920 029
Phone: (09) 405 2750
Fax: (09) 401 2137
Email: ask.us@fndc.govt.nz
Website: www.fndc.govt.nz

Private Bag 752
Memorial Ave Phone: 0800 920029
Kaikohe 0400 09 4052750

/VOICE ONLY

Receipt No 680711
Date: 23-MAR-2006 Drawer: KHCS1

DEBTOR No: 50053867
INVOICE DATE: 22 March 2006
PAYMENT REF: 238346
RMA NUMBER: RC-2060855-RMAEWK

Parker Homes & Garages Ltd
C/O Paul Miller Meadowbank Road
Meadowbank
Auckland 1005

PERMITS APPLICATION CHARGES

dwelling and excavation for new garage
set, Opononi 0452

			\$ Amount
DAP 53867			
238346		175.00	
G F CAMERON	Cheq	-175.00	
Receipt Amount:		175.00	175.00
Amount Tendered:		175.00	
Change Issued:			
Rounding Amount:			

*Includes GST

This Invoice includes GST of \$ 19.44

TOTAL \$ 175.00

Where the standard charges fixed by Council are inadequate to enable the Council to recover its actual and reasonable costs in respect of a particular application, the Council shall require the applicant to pay an additional charge.

"An applicant required to pay an additional charge has a right of objection to the Council in respect of that requirement, and has a right of appeal to the Environment Court in respect of the Council's decision on that objection.

"An applicant shall upon request be entitled to an itemised breakdown of costs."

NAME OF A/C:

Parker Homes & Garages Ltd
C/O Paul Miller Meadowbank Road
Meadowbank
Auckland 1005

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