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Printed: 10:01:44 13 Oct 2014

MiTek 20/20 Engineering 4.6.6.210

## PRODUCER STATEMENT for MiTek 20/20<sup>®</sup> TRUSS DESIGN - Version 4.6

ISSUED BY: **MiTek New Zealand Limited**

TO: **Christchurch Manufacturing**

IN RESPECT OF: **MiTek<sup>®</sup> Truss Designs**

This producer statement covers the MiTek 20/20<sup>®</sup> truss design and the structural performance of the GANG-NAIL<sup>®</sup> connector plate for the job reference **CD100499** and may be used by a Building Consent Authority to assist in determining compliance with the New Zealand Building Code.

The MiTek 20/20<sup>®</sup> truss design program has been developed by MiTek New Zealand Limited for the design of MiTek<sup>®</sup> timber roof, floor and attic trusses in New Zealand. The truss designs computed by MiTek 20/20<sup>®</sup> are prepared using sound and widely accepted engineering principles, and in accordance with compliance documents of the New Zealand Building Code and Verification Method B1/VM1; and internationally accepted standard ANSI/TPI 1 - 2002 as an alternative solution to satisfy the requirements of Clause B1 of the New Zealand Building Code.

**On behalf of MiTek New Zealand Limited,** and subject to:

- i) All proprietary products meeting their performance specification requirements
- ii) The provision of adequate roof bracing and overall building stability
- iii) Correct selection and placement of GANG-NAIL connector plates
- iv) Correct input of Truss Design Data as shown in the Fabricator Design Statement for this job
- v) The design being undertaken by the accredited fabricator under the terms of the software licence

**I believe on reasonable grounds** that the trusses, if constructed in accordance with the MiTek 20/20<sup>®</sup> truss design and shop drawings, will comply with the relevant provisions of the New Zealand Building Code.

MiTek New Zealand Limited holds a current policy of Professional Indemnity Insurance no less than \$500,000.

**On behalf of MiTek New Zealand Limited,**

**Date: Monday, 13 October 2014**

In Ling Ng, BE (Hons), CPEng, IntPE, MIPENZ (ID: 146585)  
**TECHNICAL SERVICES MANAGER, MiTek New Zealand Limited**

WAIMAKARIRI DISTRICT COUNCIL  
AMENDED Plan and/or Specifications APPROVED  
BC141564.01 30/10/2014 miker

Job: CD100499

Client: HORNCastle HOMES  
Phone:Site: J4146 - Turnkey  
Lot 146, KippenbergerDescription:  
Building Consent No.:  
MiTek 20/20 Engineering 4.6.6.210

ISSUED AS BUILT BC141564.01

Phone:

Printed: 10:01:44 13 Oct 2014

**MITEK FABRICATOR DESIGN STATEMENT**

This statement is issued by MiTek accredited fabricator **Christchurch Manufacturing**, being licensed to use the MiTek 20/20® software, to the client listed above and may be used by the Building Consent Authority to assist in determining compliance with the New Zealand Building Code.

**MiTek 20/20® TRUSS DESIGN DATA**

The MiTek 20/20® computer design for this job is based on the following design parameters entered into the program. The Fabricator shall ensure that these job details are current and relevant to the project for the design of the MiTek® trusses.

**Job Details****Roof Truss**

Timber Group: MSG8 DDP H1.2

**Roof**

Material: Galv Iron .5mm  
Dead Load: 0.210 kPa  
Restraints: 900 mm centres  
Live Load: Qur = 0.250 kPa  
Qc = 1.100 kN

Importance Level : 2

Pitch: 26.000 deg

**Ceiling**

Material: Standard  
Dead Load: 0.200 kPa  
Restraints: 400 mm centres  
Live Load: Qc = 1.400 kN

Design Working Life : 50 years

Nominal Overhang: 600 mm

**Wind**

Area: High (44.0 m/s )  
Pressure Coeff: Cpe = varies; Cpi = -0.30, 0.20

**Snow**

Location: at 100 m  
Open Ground Load: 0.900 kPa  
Basic Roof Load: 0.428 kPa

The timber for these MiTek® trusses shall be treated to the requirements of NZS 3602:2003 and shall be graded to the requirements of NZS 3603:1993. Unless otherwise noted, this design assumes that the steel fixings and timber connectors proposed are located in a “**closed environment**”, as defined by NZS3604:2011 Section 4.

**MiTek® Truss List**

Legend: \* = detail only, ? = input only, ✕ = failed design, Ø = non certified, Unmarked trusses = designed successfully, LB = lateral bracing required  
GB = gable brace required

Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)
V6	1	515	26.000	900	J1A	2	2362	26.000	900	T2	1	5880	26.000	900
V4	1	590	26.000	900	J1B	2	2362	26.000	900	T3	1	5880	26.000	900
*CNOG	40	855	0.000	900	J1C	1	2362	26.000	900	T11	1	5890	26.000	900
*R2	6	891	26.000	900	J1D	2	2362	26.000	900	*ET1	1	6110	26.000	900
*R1	1	1153	26.000	900	J1E	1	2362	26.000	900	T10	1	6110	26.000	900
*R3	2	1198	26.000	900	J1F	2	2362	26.000	900	*HB5	2	6776	19.028	900
*R7	1	1205	0.000	686	V2	1	2390	26.000	900	*R5	1	7310	26.000	900
V8	1	1245	26.000	900	J3	2	2407	26.000	900	*HB1	1	7986	19.028	900
*R6	9	1305	0.000	686	J3A	2	2407	26.000	900	T9	4	4270	26.000	900
*R8	12	1305	0.000	722	J3B	1	2407	26.000	900	T7	1	8460	26.000	900
V5	1	1415	26.000	900	J3C	1	2407	26.000	900	T8	4	8460	26.000	900
J2	1	1462	26.000	900	J3D	1	2407	26.000	900	TG1	1	8460	26.000	900
J2A	1	1462	26.000	900	V1	1	3290	26.000	900	TR3	1	8460	26.000	900
V3	1	1490	26.000	900	*HB3	1	3545	19.028	900	T5	1	9430	-26.000	900 LB
J4	2	1507	26.000	900	*ET2	1	4380	26.000	900	TR1	1	9430	26.000	900
J4A	2	1507	26.000	900	T12	3	4380	26.000	900	T4	1	10170	26.000	900
*HB2	1	2046	19.028	900	*HB4	1	4386	19.028	900	T4A	1	10170	26.000	900
V7	1	2145	26.000	900	*R4	1	5580	26.000	900	T6	1	9430	26.000	900
J1	1	2362	26.000	900	T1	1	5880	26.000	900 LB	TR2	1	9430	26.000	900

**Total quantity : 138**

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**The computer design input has been carried out by:**

Name of Computer Operator: Standard

Qualifications and Title: Truss Detailer

Signed:

**CARTERS****A Division of Carter Holt Harvey**

Dated: Monday, 13 October 2014

# AS BUILT LAYOUT

ISSUED AS BUILT BC141564.01



Christchurch Manufacturing  
19-21 Broughs Road, Christchurch  
03 359 2731

JOB No **CD100499**  
Client: HORNCastle HOMES  
Job Name: J4146 - Turnkey  
Address: Lot 146, Kippenberger

Pitch: 26.0deg  
Roof Material: Galv Iron .5mm  
Soffit Overhang: 600mm  
Wind Area: High  
Snow Load(factored): 0.428kPa

Trusses and rafters at 900 mm max centres unless stated otherwise.  
This layout is to be read in conjunction with the Architectural plans.

DRAWN BY Brent Yellowlees  
DATE 10 Oct,2014 PAGE 1 of 4

**FIXINGS**

**A= 47x90 JH**  
**B= 47x120 JH**  
**D= 47x190 JH**  
**E= 95x165 JH**

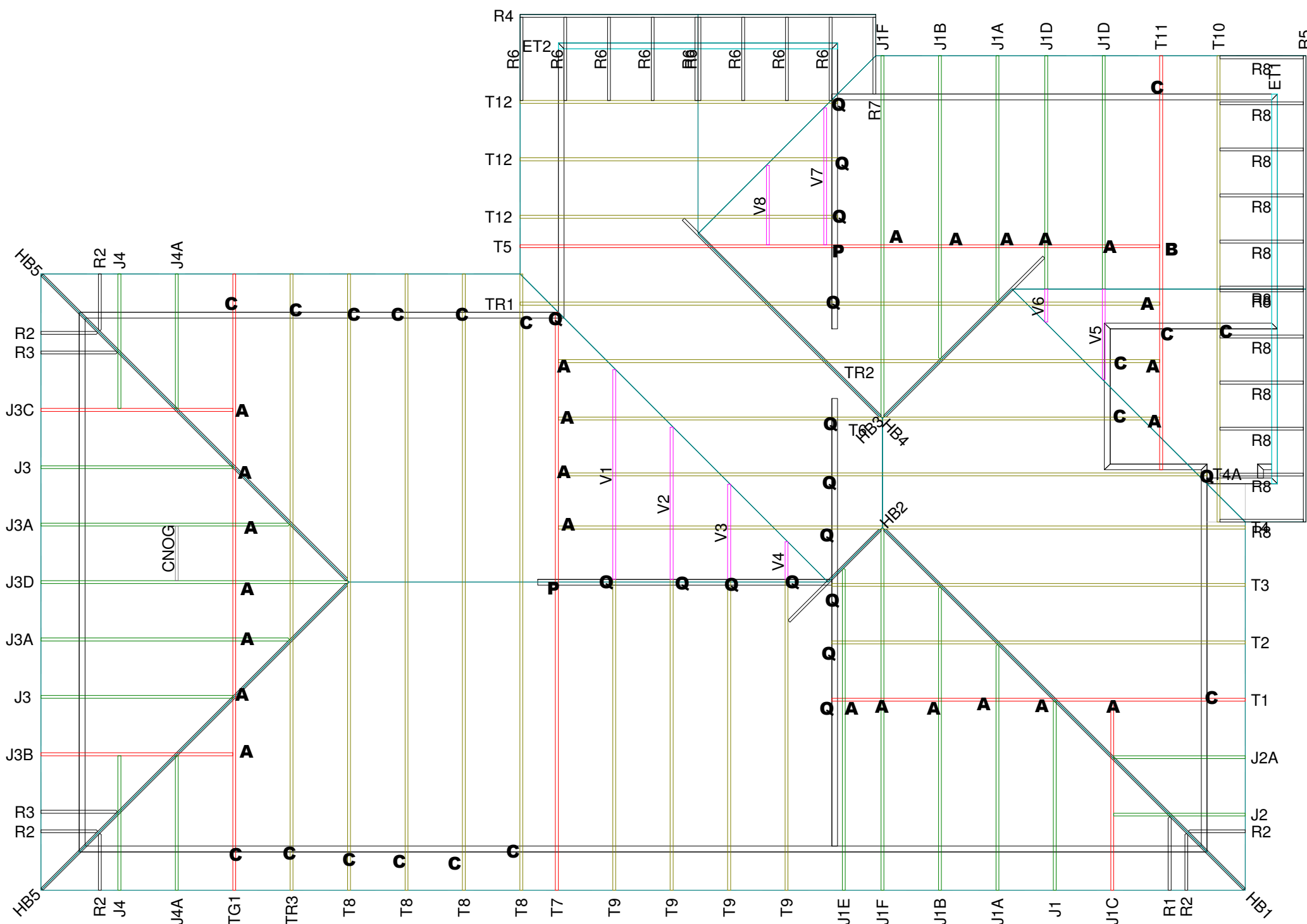
**C= CT200** (pair)  
**M= Multigrips** (pair)  
**N= Nailon Plate**  
**Q= 9kN Pack**  
**P= 16kN Pack**

All other truss fixings must have two wire dogs unless indicated as above

**NOTE**  
Please contact your local CARTERS Manufacturing Branch for any queries regarding this layout or if any on site remedial work is required.  
No modifications to Roof Trusses or Wall Frames are to be undertaken without first obtaining written authority from CARTERS Manufacturing.

**Truss Layout**

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**NOTE: If metal ceiling battens on clips are used, bottom chord bracing is required at 1800mm centres.**



NOTIFICATION OF POINT LOADED LINTELS AND POINT LOADS ON INTERNAL OR EXTERNAL WALLS WHERE THE DOWNLOAD IS HIGHER THAN 10kN.  
Note: If no point loads indicated, loading does not exceed 10kN.

ISSUED AS BUILT BC141564.01

# AS BUILT LAYOUT



Christchurch Manufacturing  
19-21 Brouchs Road, Christchurch  
03 359 2731

JOB No **CD100499**

Client: HORNCastle HOMES  
Job Name: J4146 - Turnkey  
Address: Lot 146, Kippenberger

Pitch: 26.0deg  
Roof Material: Galv Iron .5mm  
Soffit Overhang: 600mm  
Wind Area: High  
Snow Load(factored): 0.428kPa

Trusses and rafters at 900 mm max centres unless stated otherwise.

This layout is to be read in conjunction with the Architectural plans.

DRAWN BY Brent Yellowlees

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## NOTE

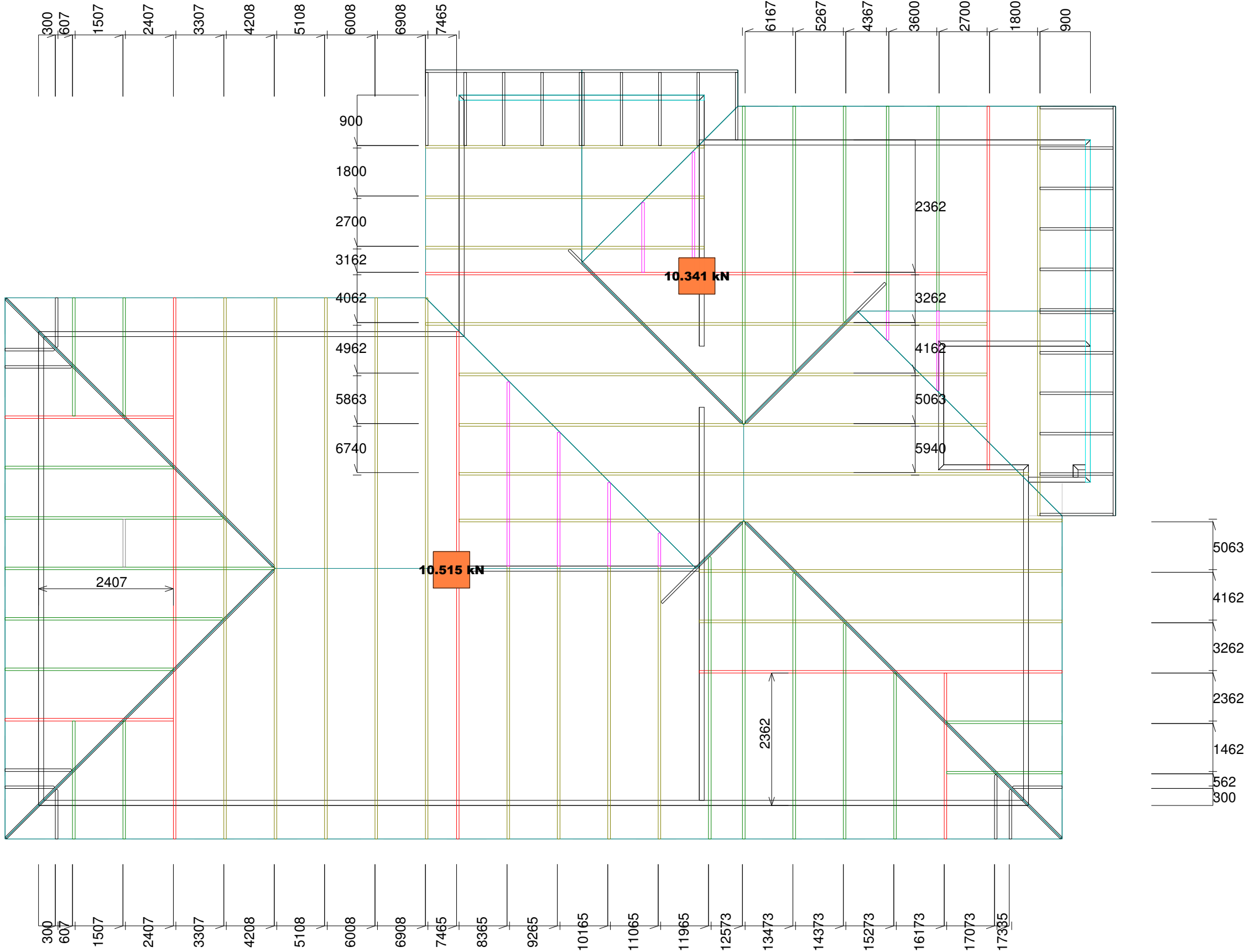
Please contact your local CARTERS Manufacturing Branch for any queries regarding this layout or if any on site remedial work is required.

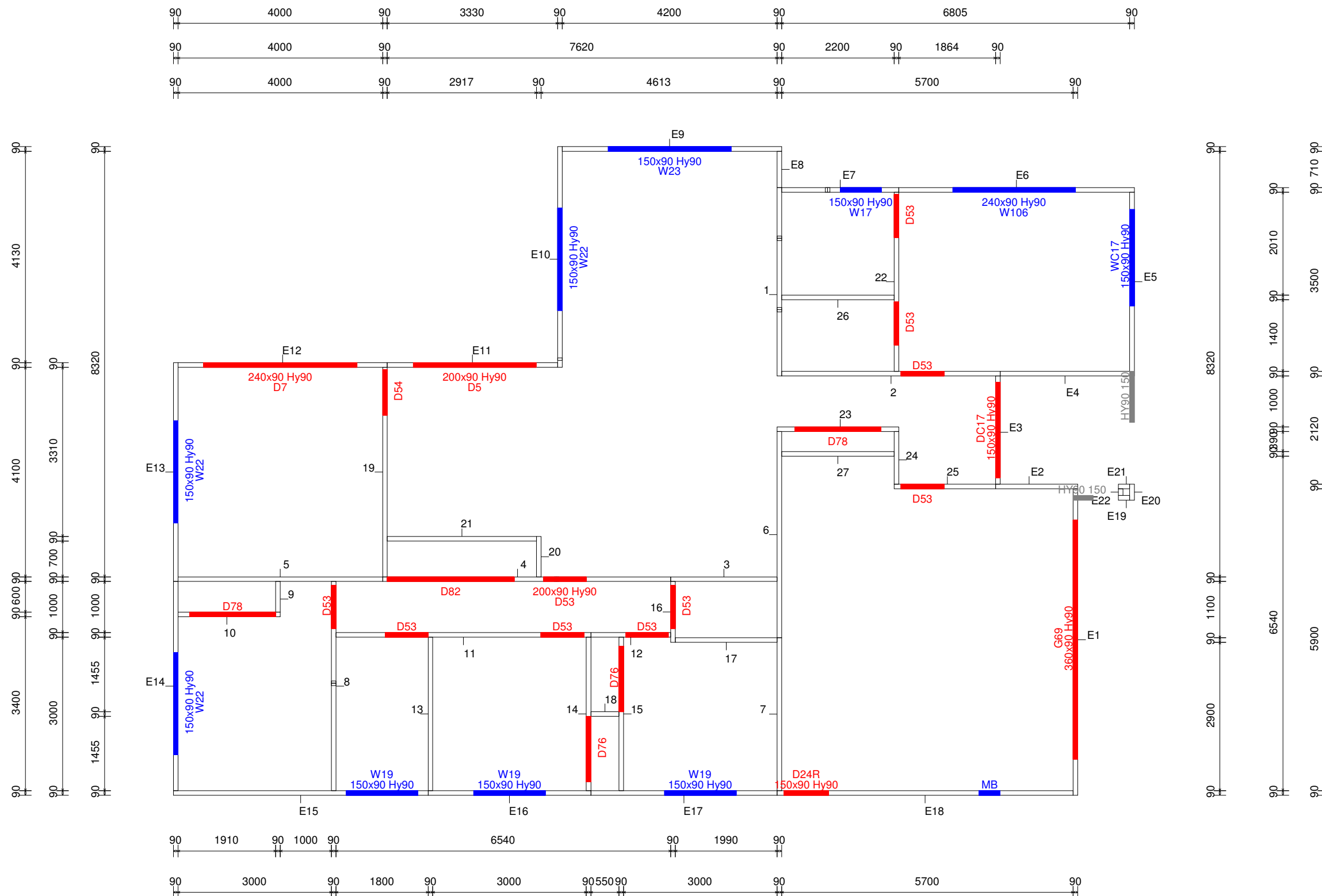
No modifications to Roof Trusses or Wall Frames are to be undertaken without first obtaining written authority from CARTERS Manufacturing.

## Truss Dimensions



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# AS BUILT LAYOUT

Refer to the Details Page  
for the lintel and stud to top  
plate fixing guide

Christchurch Manufacturing  
19-21 Broughs Road, Christchurch  
03 359 2731

JOB No **CD100499**

Client: HORNCastle HOMES  
Job Name: J4146 - Turnkey  
Address: Lot 146, Kippenberger

This layout is to be read in conjunction  
with the Architectural plans.

DRAWN BY Brent Yellowlees

DATE 10 Oct, 2014 PAGE 4 of 4

These lintels have been sized using  
one of the following :

The GANGLAM 04/2008 and  
FLITCH BEAM 12/2007  
selection manuals from MiTek NZ Ltd.

hy90 and hyONE lintels have been sized  
using designIT v5 NZ software  
(Incl. sub versions) or selection manuals,  
hy90 Edition 1, and hyONE April 2008,  
as provided by CHH Woodproducts.

Unless otherwise stated the timber grade  
for all lintels is MSG8. Lintels not shown  
are to be selected as per NZS3604: 2011.

All walls shown on this layout are  
considered to be load bearing.

## Lintel Fixings

Type E - 1.4 kN

Type F - 4.0 kN

Type G - 7.5 kN

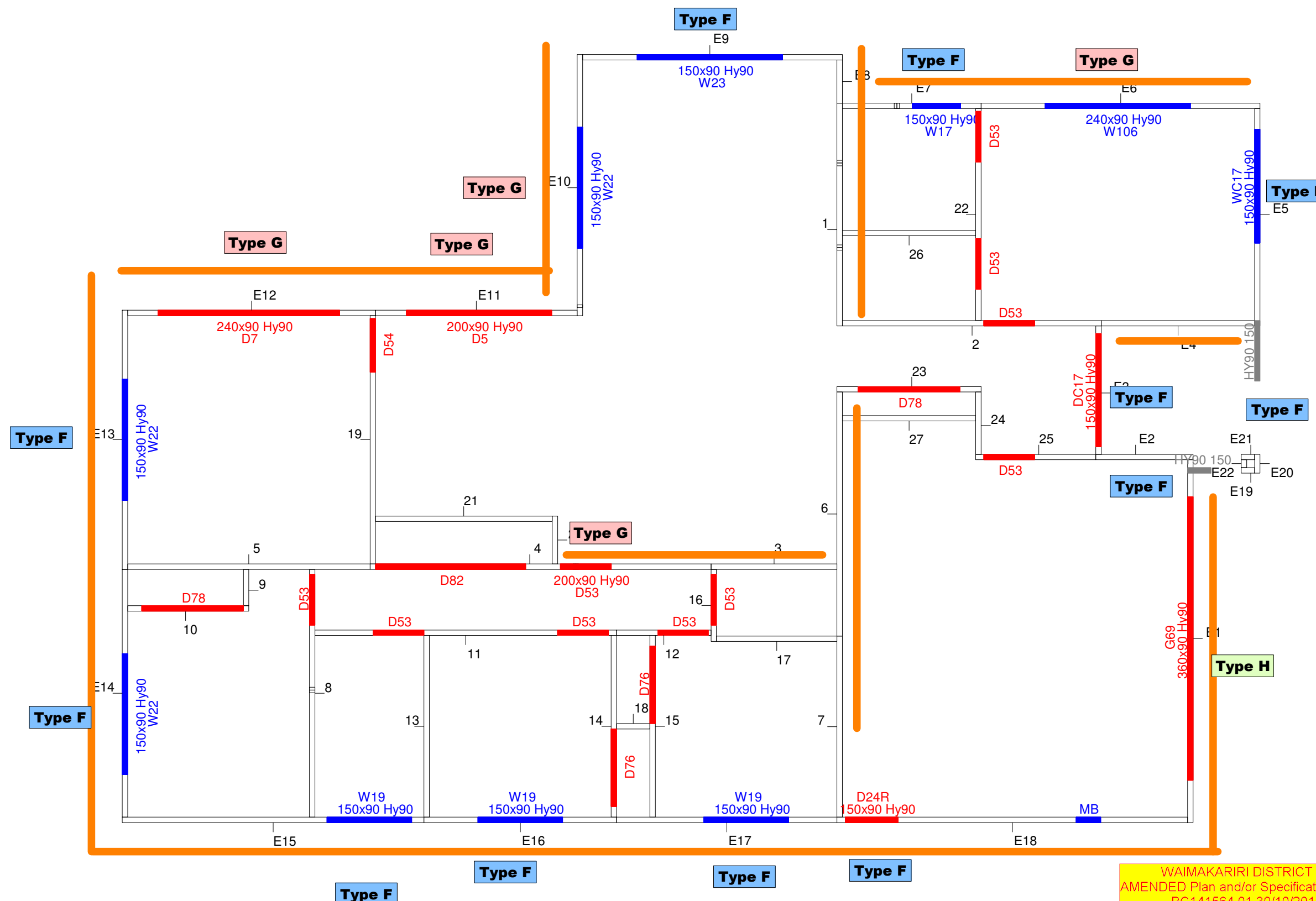
Type H - 13.5 kN

## Stud to Top Plate Fixings

Fixing Type B

## Level 1 Fixings

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If Barrier Ply is used and nailed in accordance with the Ecoply Barrier System Fact Sheet  
it replaces the need for the Stud to Top Plate Fixings Type B



### Stud to Top Plate Fixings

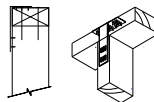
All Fixings are Type A  
(2x90mm x 3.15 dia. plain  
steel wire nails driven vertically  
into stud) unless shown as  
Fixing Type B

#### Fixing Type B

2 x 90mm x 3.15 dia. plain steel wire  
nails driven vertically into stud.

AND

Plus LUMBERLOK  
Stud Strap  
(One face only)



To apply the correct number of B type  
fixings, divide the wall length by the stud  
centres and add 1 to this figure. Attach  
this number of fixings to the studs as  
evenly as possible along the wall length  
(include first and last stud).

Stud Strap Only when  
Top Jack is under  
75mm

Under  
75mm

#### Top Jack Option A ( Under 75mm )

400mm Sheet Brace Strap  
with 6 x 30x3.15 nails  
each end

75 - 200mm

#### Top Jack Option B (75 - 200mm)

Stud Strap

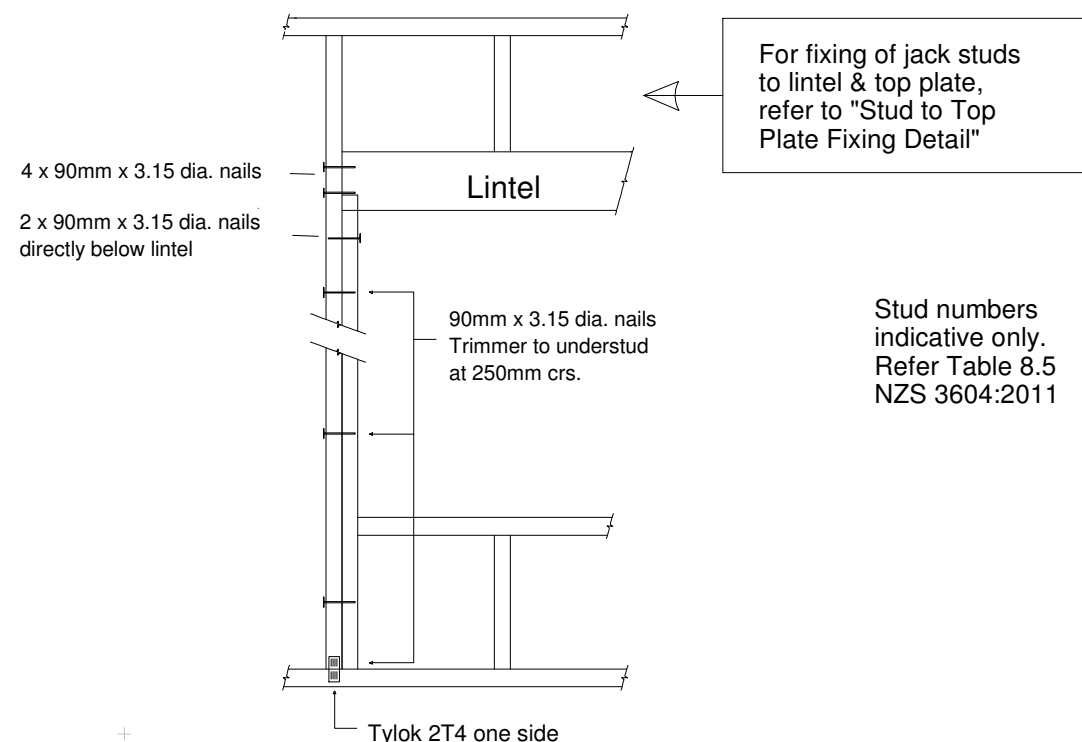
200mm Sheet Brace  
Strap with  
6 x 30x3.15 nails

200mm +

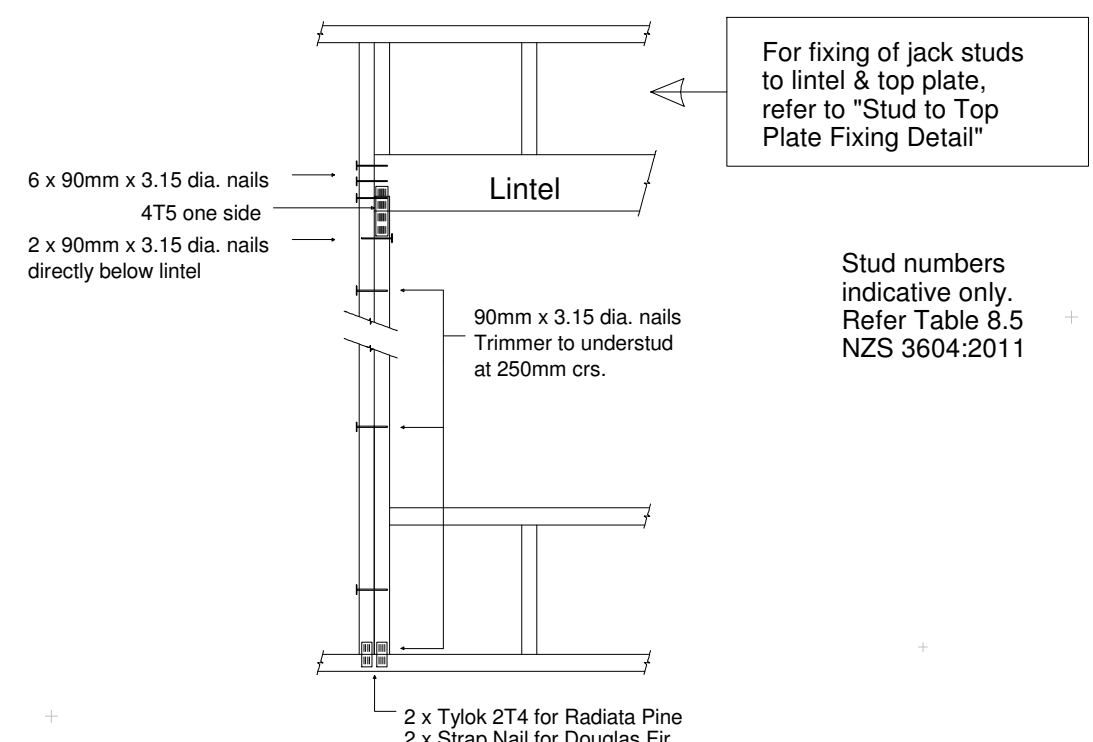
#### Top Jack Option C ( 200mm and Over )

### Lintel Fixings

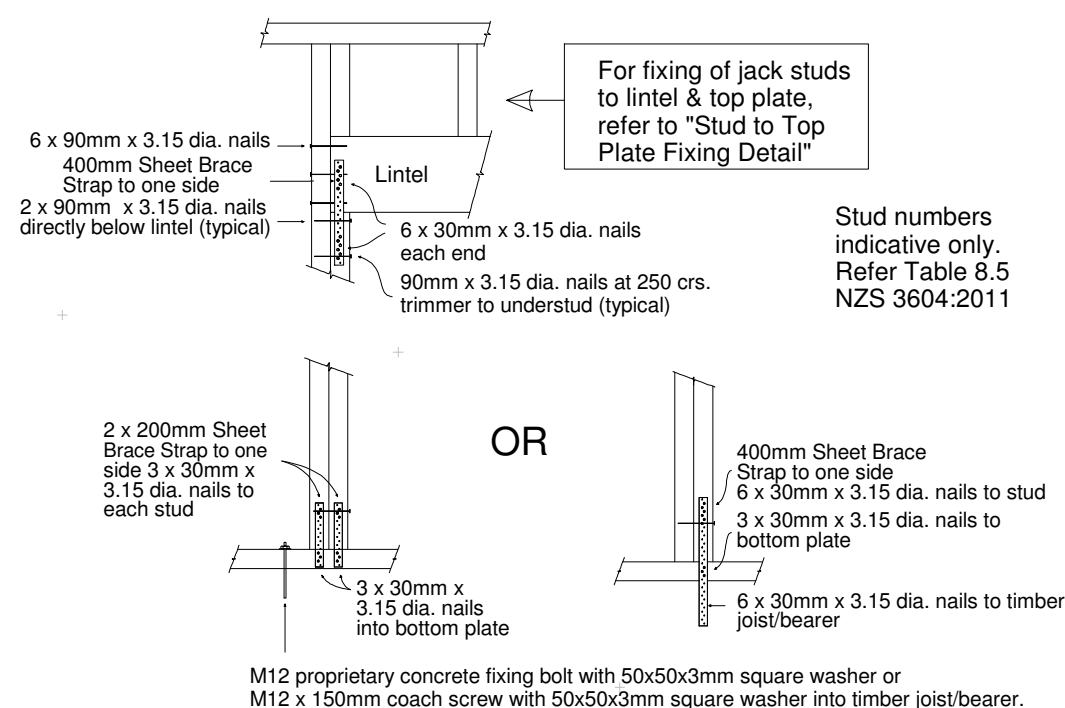
#### Type E - 1.4 kN



#### Type F - 4.0 kN

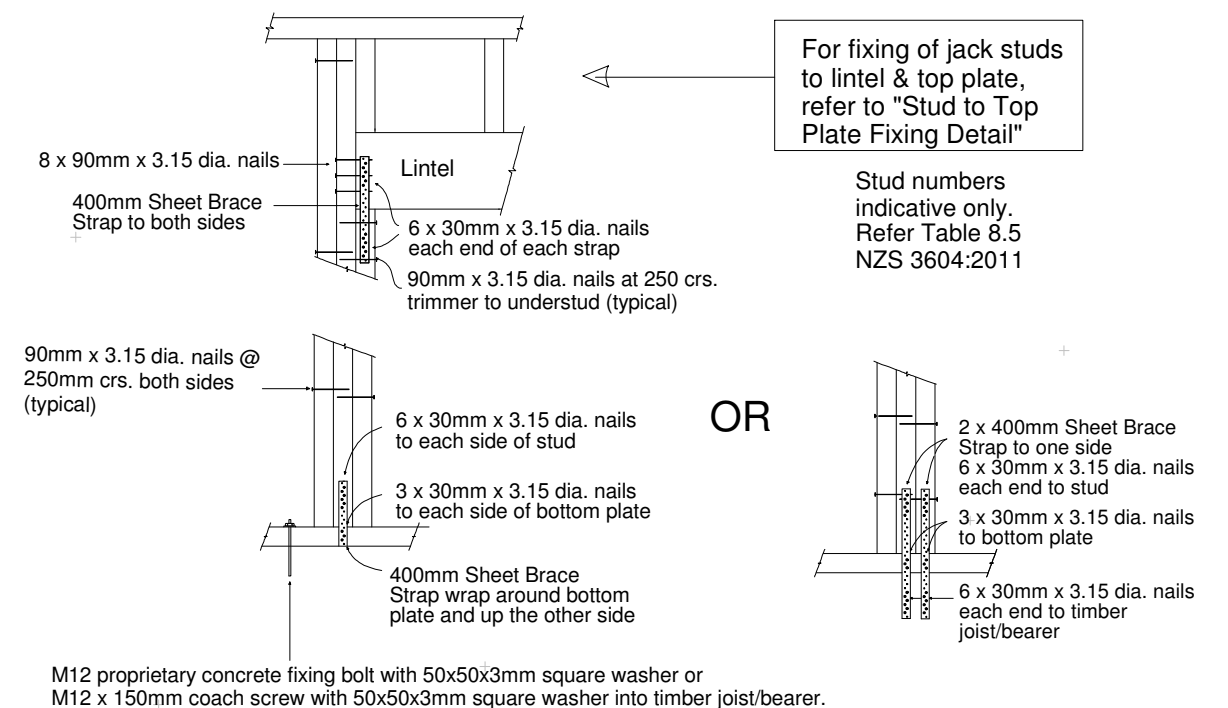


#### Type G - 7.5 kN



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#### Type H - 13.5 kN



NOTE: These fixings are suggested fixings only. Alternative fixings may be used provided the indicated hold-down is achieved. For alternative fixings, refer to the "MiTek Structural Fixings On-Site Guide 2012 Edition" or "NZStandards3604-2011".



## ***Manufacturing Statement***

This statement, supplied to the Carters customer listed below, has been provided to assist a Building Consent Authority in determining compliance with the NZ Building Code and is issued subject to Carters Standard Terms and Conditions of Sale. (available at [www.carters.co.nz](http://www.carters.co.nz))

**13-October-2014**

**HORNCastle HOMES**

**LOT 146 KIPPENBERGER, RANGIORA**

**CD100499**

### **Roof Trusses**

Roof trusses supplied by Carters to the above project have been manufactured as per any Producer Statement Design issued by MiTek for consent purposes on the above project using verified timber grades that meet the requirements of NZS3603 and NZS3622. Any laminated veneer lumber that has been supplied as part of a roof truss meets the requirements of AS/NZS4357 and NZS3603. Carters is a licensed MiTek fabricator.

### **Pre Nailed Wall Frames**

Pre-nailed Wall frames supplied by Carters to the above project have been manufactured using verified timber grades, where required, that meet the requirements of NZS3603 and NZS3622. Any Laminated veneer lumber lintels that have been supplied as part of a pre-nailed wall frame meet the requirements of AS/NZS4357 and NZS3603.

### **Timber Treatment**

All treated timber products used in any items manufactured by Carters in the above project, are not less than the minimum levels specified in the plans, specifications and information supplied by the customer.

### **NZ Standards**

NZ Standards listed in this statement are cited as acceptable solutions in the approved documents NZBC B1/AS1 Structure or B2/AS1 Durability as a means of complying with the NZ Building Code.

***John Bannon***

**MANUFACTURING MANAGER**

**CHRISTCHURCH**

**Carters, a division of Carter Holt Harvey.**

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