

**ENGINEERING SCHEDULE**



**Best Sheds**  
151 Smeaton Grange Road,  
Smeaton Grange, NSW, 2567

Ph: (02) 4648 7777  
Fax: (02) 4648 7700

CERTIFIED STEEL PORTAL FRAME SHED DESIGN FOR "REGION A" TERRAIN CATEGORY 2.0, 2.5 & 3.0 – IMPORTANCE LEVEL 2.

Customer: Silvia Horace

Site Address: 2497 The Northern Road , Mulgoa , NSW, 2745

Main Building: Span: 3.6, Length: 7, Height: 2.7, Roof Pitch: 11 degrees

The length being comprised of 2 bays, the largest bay is 3.5m bays.

Left LeanTo: NA

Right LeanTo: NA

INTERNAL PORTALS	
Column:	C15012
Rafter:	C15012
Knee Brace:	NA
Knee Brace Length:	NA
Apex Brace:	NA
Apex Brace Length:	NA

END PORTALS	
Column:	C15012
Rafter:	C15012
Knee Brace:	NA
Knee Brace Length:	NA
Apex Brace:	NA
Apex Brace Length:	NA
End Wall Mullion:	C15012

LEFT LEAN TO PORTALS	
Internal Column:	NA
Internal Rafter:	NA
End Column:	NA
End Rafter:	NA

RIGHT LEANTO PORTALS	
Internal Column:	NA
Internal Rafter:	NA
End Column:	NA
End Rafter:	NA

NOTE: All unclad intermediate columns are back to back always back to back (refer to drawing: Floor Plan).

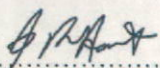
PURLINS AND GIRTS			
Eave Purlin:	C10010		
Side Wall Girts:	TH64075	Spacing: 1250	Overlap: 100mm
Front End Wall Girts:	TH64075	Spacing: 843	Overlap: 100mm
Back End Wall Girts:	TH64075	Spacing: 843	Overlap: 100mm
Roof Purlins:	TH64075	Spacing: 852	Overlap: 100mm

Fasteners	
Sleeve Anchor Bolts:	M12x80 Sleeve Anchor Yellow Zinc
Frame Bolts:	M12x30 Purlin Assembly Zinc (Mild)
Frame Screws:	Frame Screw 14x14x22
Cross Bracing Strap:	NA
Open Bay Header Height:	NA

Registered Professional Engineer 349317

Mr John Raymond Hart

MIEAust, CPEng-Civil (General)

Signature:  Date 10/10/16

**ACAME** 243 Princess Highway  
Milton NSW 2538  
ABN 28 002 465 072 Email: acame@bigpond.net.au  
Consulting Civil, Structural & Mechanical Engineers

Director: John R Hart Dip Tech (Civil Eng) MIE (Aust) CP Eng (NPER Civil) RPEQ  
Regn. No. 349317  
Registered Chartered Professional Engineer  
Registered Professional Engineer (Civil) - QLD Regn. No. 7021  
Registered Certifying Engineer (Structural) - N.T. Regn. No. 13051ES  
Registered Civil Engineer - VIC Regn. No. EC22690  
Registered Civil & Structural Engineer - TAS Regn. No. CC2789F





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## DOMESTIC & LIGHT INDUSTRIAL STEEL PORTAL FRAME SHED STRUCTURES

This structure is designed in compliance with AS4600, AS3600 and AS1170 1 to 4 as Importance Level 2 with a Live Load of 0.25kPa as "Air Leaky Structures" providing stability when openings are prevalent.

The structures are clad with corrugated pre-painted finish, 0.42mm walls and 0.42mm roof over cold formed 450 to 550mPa galvanized steel C sections primary frames.

Primary framing is fastened together with 8.8 Class galvanized bolts adequately tensioned on ground prior to erection.

Secondary framing steel bracing, with purlins and girts lapped, are all tek fastened to primary steel with a minimum of two (2) teks per connection as specified in details.

## ENGINEERING

The undersigning engineer has checked that the design of the structure complies with relevant current Australian Standards as stated above and the following i.e AS4671- 2001 Steel Reinforcing materials, AS3600 - Concrete structures. However, he will not be present during construction, neither will he conduct inspections nor construction supervision.

The class 10a buildings are designed for erection on pad footings or slab based on soil of classification "A"- "P" with minimum bearing capacity 100kPa (i.e. organic soil is to be removed to a suitable material below natural surface).

Where (suitable) fill is required to level the site, it should be placed and compacted in layers of 150mm maximum.

Concrete pad footings and slab supply and placement is to be in compliance with AS2870-2011 Residential Slabs & Footings, AS3600-2009 Concrete Structures for A2 and B2 exposure (i.e. 25mPa strength @ 28 days strength) with recommended slump 75 to 80mm for light pneumatic tyred traffic all trafficable floors.

For sites where these conditions are considered to be inadequate, a customized foundation design for the structure can be supplied to suit a specific purpose.

## CONSTRUCTION

Erection of the structure is to be in compliance with local and state ordinances,

Occupational Health and Safety Regulations and with plans provided.

## GENERAL

The designs as portrayed on the drawings remain the intellectual property of Best Sheds Pty Ltd and are provided for building approval and construction purposes only and are only valid when blue ink signed and dated by the engineer.

Registered Professional Engineer 349317

Mr John Raymond Hart

MIEAust, CPEng-Civil (General)

Signature:  Date 10/10/16

## ACAME

ABN 28 002 465 072

Consulting Civil, Structural  
& Mechanical Engineers

Director: John R Hart Dip Tech (Civil Eng) MIE (Aust) CP Eng (NPER Civil) RPEQ  
Registered Chartered Professional Engineer Regn. No. 349317  
Registered Professional Engineer (Civil) - QLD Regn. No. 7821  
Registered Certifying Engineer (Structural) - N.T. Regn. No. 13951ES  
Registered Civil Engineer - VIC Regn. No. EC22090  
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ENGINEERING SCHEDULE



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**GENERAL SLAB DESIGN FOR DOMESTIC & LIGHT INDUSTRIAL USES**

Thickness: 100mm with minimum 30mm cover. Refer to Slab Foundation table for reinforcing specification.


Strength: 25mPa

Thickened section under columns. Refer to Slab Foundation table for footing / pier specification.

**SLAB FOUNDATIONS DOMESTIC / LIGHT INDUSTRIAL**  
(100mm minimum concrete slab included)

SOIL CLASSIFICATION (COMPACTED)	REINFORCING IN SLAB	EDGE BEAM	PIER	EDGE BEAM (slab thickness not included)	
				DEPTH	WIDTH
	MESH REINFORCING	TRENCH MESH	Ø x DEPTH		
A, S, & M	SL72	-	450 x 400	-	-
M - D	SL82	L11TM3	-	300	300
H TO H - D	SL82	L11TM3	-	400	300
E TO E - D	SL82	L11TM4	-	400	400
P (DROP EDGE BEAM OR STANDARD EDGE BEAM WITH PIERS UNDER COLUMNS 300 INTO FIRM GROUND)	SL82	L11TM4	450 Ø	400	400

Registered Professional Engineer 349317  
Mr John Raymond Hart  
MIEAust, CPEng-Civil (General)

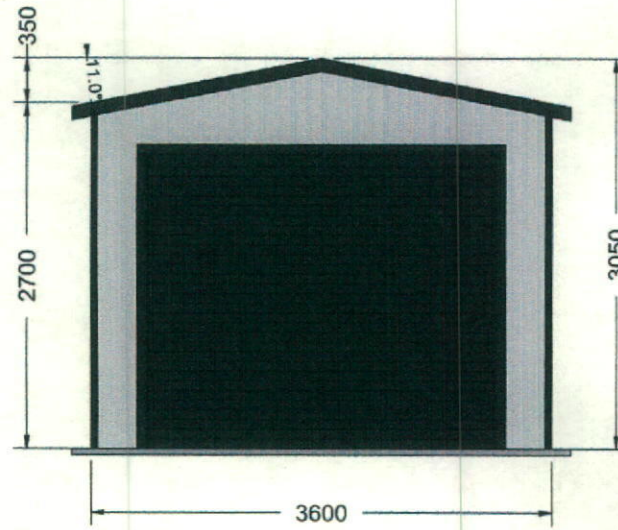
Signature:  Date 10/10/16

**ACAME**

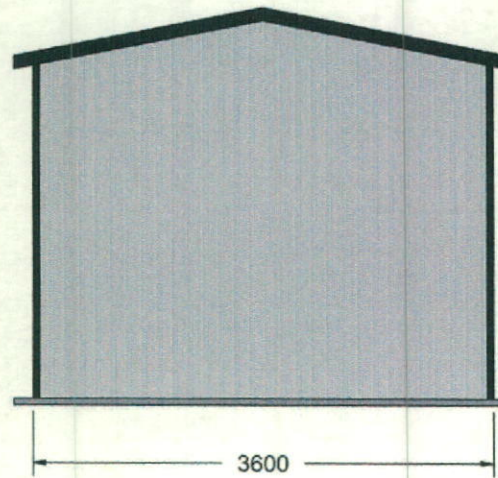
243 Princess Highway  
Milton NSW 2538  
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Director: John R Hart Dip Tech (Civil Eng) MIE (Aust) CP Eng (NPER Civil) RPEQ  
Registered Chartered Professional Engineer Regn. No. 249317  
Registered Professional Engineer (Civil) - QLD Regn. No. 7021  
Registered Certifying Engineer (Structural) - N.T. Regn. No. 13051ES  
Registered Civil Engineer - VIC Regn. No. EC22090  
Registered Civil & Structural Engineer - TAS Regn. No. CC2789F





FRONT ELEVATION



REAR ELEVATION



151 Smeaton Grange Road,  
Smeaton Grange, NSW, 2567  
Phone: 02 4848 7777  
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Email: sales@bestsheds.com.au

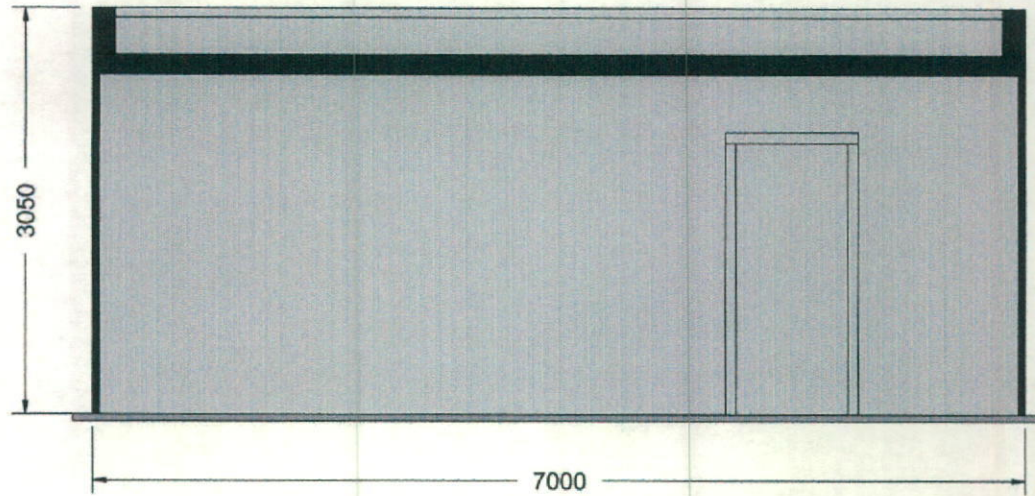
**ACAME** 243 Princess Highway  
ABN 28 592 485 972 Wilton NSW 1535  
Consulting Civil, Structural & Mechanical Engineers  
Professional Engineers (Civil) 1535  
Professional Engineers (Structural) 1535  
Professional Engineers (Mechanical) 1535

Registered Professional Engineer 349217  
Mr John Raymond Hart  
NSW Civil (Civil) - Civil (General)  
Signature: [Handwritten Signature]  
Registered on the NSW in the care of practice of Civil (General)  
National Professional Engineers Register

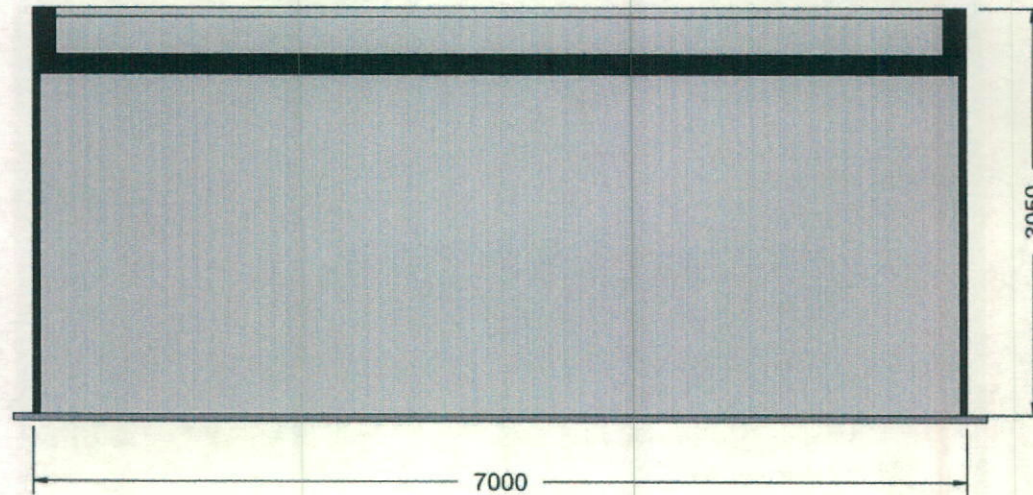
Customer Name: Silvia Horace  
Site Address: 2497 The Northern Road  
Mulgoa,  
NSW, 2745

Drawing Title: End Elevations  
Scale: 1:36.993  
Date :05-10-2016  
Job Number: 600800  
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LEFT ELEVATION



RIGHT ELEVATION



151 Smeaton Grange Road,  
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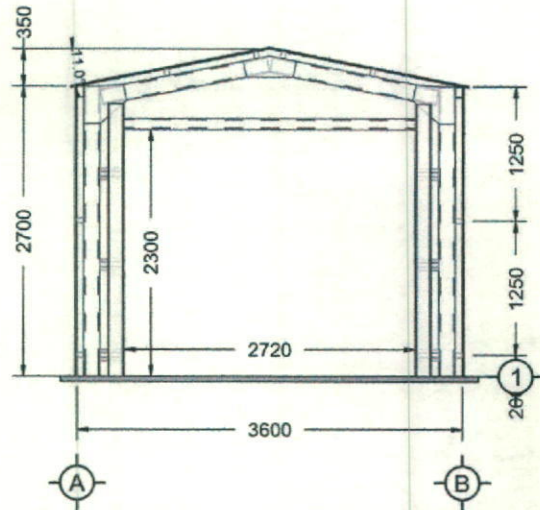
**ACAME** 343 Princess Highway  
Milton NSW 2320  
Consulting Civil, Structural  
& Mechanical Engineers  
Professional Engineer (Structural) No. 12457  
Professional Engineer (Mechanical) No. 12458  
Professional Engineer (Civil) No. 12459  
Professional Engineer (Electrical) No. 12460  
Professional Engineer (Plumbing) No. 12461  
Professional Engineer (Refrigeration) No. 12462

Registered Professional Engineer 349317  
Mr John Raymond Hall  
NSW Civil Engng - Civil (General)  
Signature: J.R. Hall  
Registered on the rolls in the state of practice of  
Civil (General)  
Member of Structural Engineers Australia

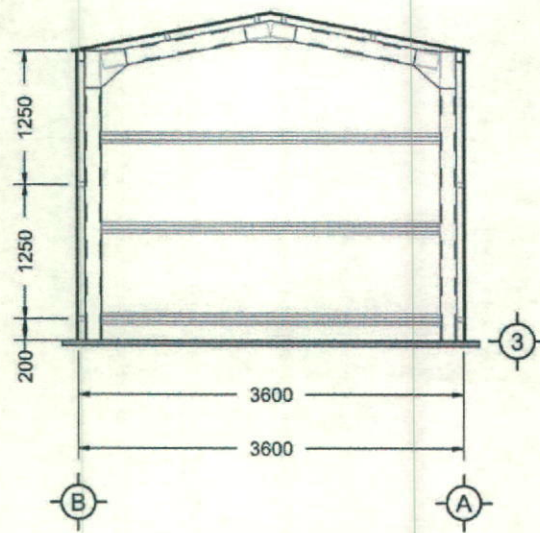
Customer Name: Silvia Horace  
Site Address: 2497 The Northern Road  
Mulgoa,  
NSW, 2745

Drawing Title: Side Elevations  
Scale: 1:35.584  
Date :05-10-2018  
Job Number: 600800  
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FRONT ELEVATION



REAR ELEVATION



151 Smeaton Grange Road,  
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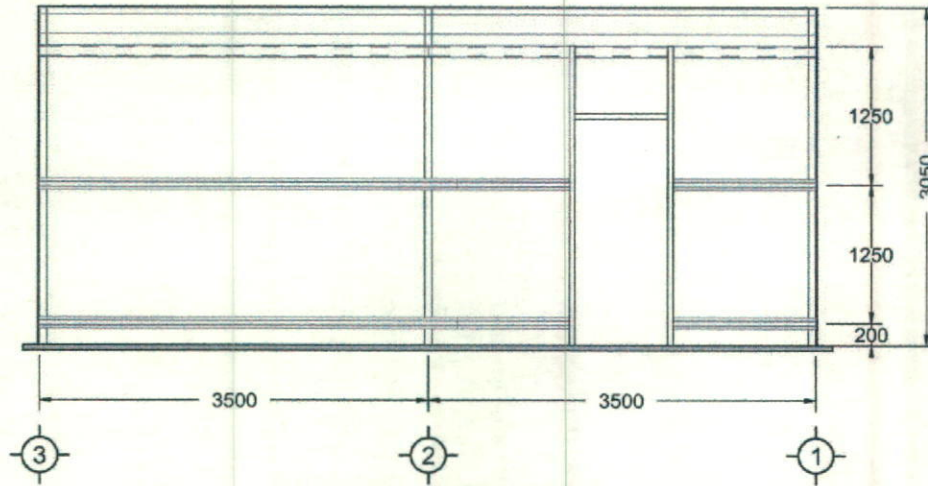
**ACAME** 243 Princess Highway  
Milton NSW 2325  
Consulting Civil, Structural  
& Mechanical Engineers  
Engineers Australia (EA) Member  
Registered Professional Engineer - Civil (General)  
Registered Professional Engineer - Mechanical (General)  
Registered Professional Engineer - Structural (General)  
Registered Professional Engineer - Electrical (General)  
Registered Professional Engineer - Instrumentation (General)  
Registered Professional Engineer - Process (General)  
Registered Professional Engineer - Water (General)

Registered Professional Engineer 349317  
Mr John Raymond Hatt  
MCAust CPDy - Civil (General)  
MPEA  
Signed: J.R.H.  
Registered to the NSW & Vic areas of practice of  
Civil (General)  
Member of Engineers' Australia, Engineers Australia

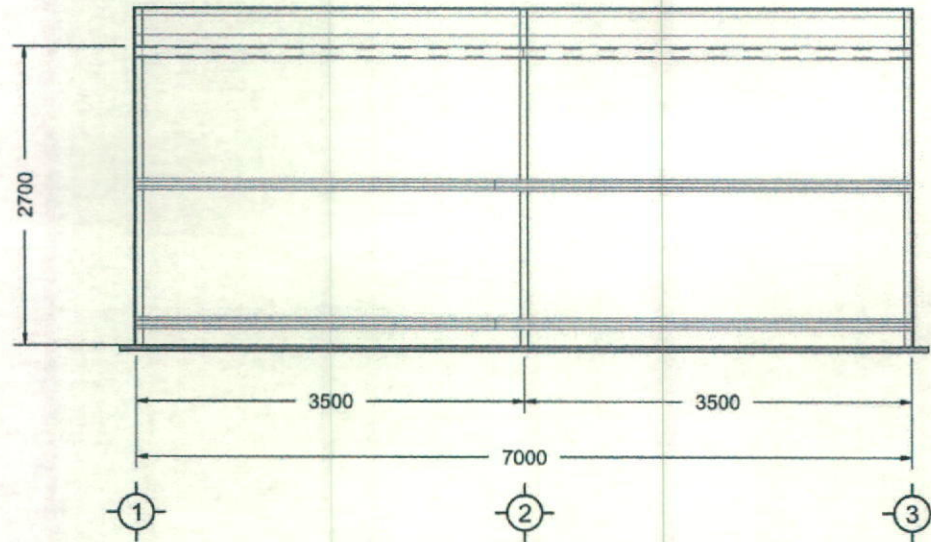
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Site Address: 2497 The Northern Road  
Mulgoa,  
NSW, 2745

Drawing Title: End Frame Elevations  
Scale: 1:44.215  
Date: 06-10-2016  
Job Number: 600800  
Page: 3 of 8





LEFT ELEVATION



RIGHT ELEVATION



151 Smeaton Grange Road,  
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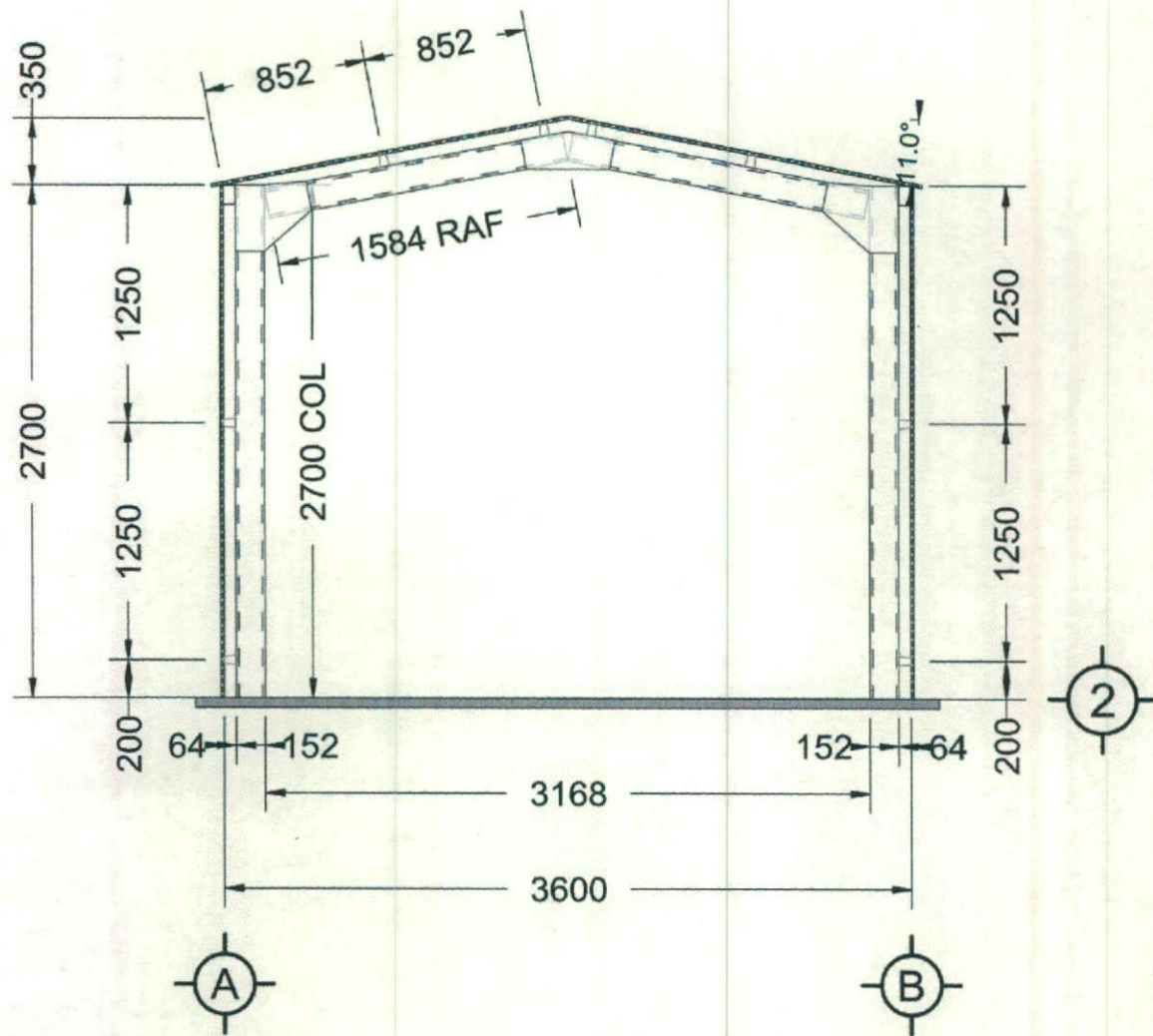
**ACAME** 343 Pyrites Highway  
Milton NSW 2359  
ABN 28 592 465 972  
Consulting Civil, Structural  
& Mechanical Engineers

Registered Professional Engineer 348371  
Mr John Raymond Hunt  
NSW Civil (Struct) - Civil (Struct)

Customer Name: Silvia Horace  
Site Address: 2497 The Northern Road  
Mulgoa,  
NSW, 2745

Drawing Title: Side Frame Elevations  
Scale: 1:42.806  
Date: 05-10-2016  
Job Number: 600800  
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# INTERMEDIATE ELEVATION



151 Smeaton Grange Road,  
Smeaton Grange, NSW, 2567  
Phone: 02 4548 7777  
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Email: sales@bestsheds.com.au

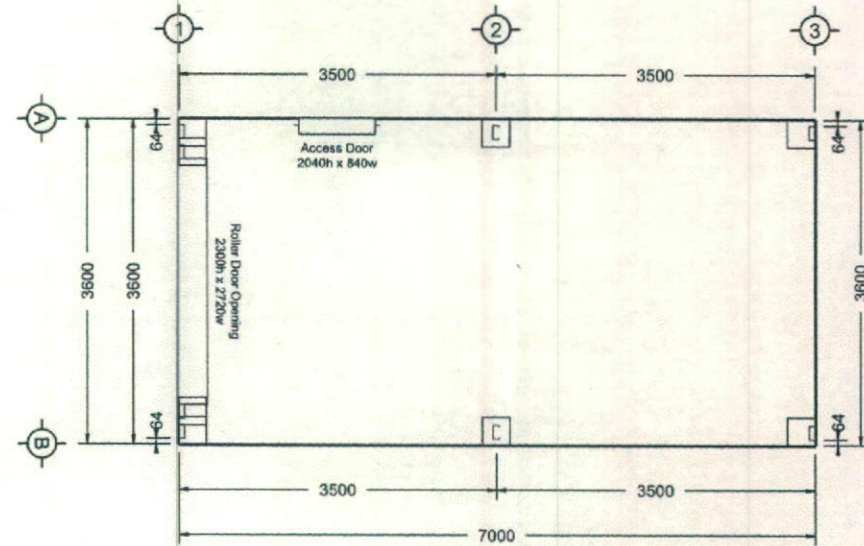
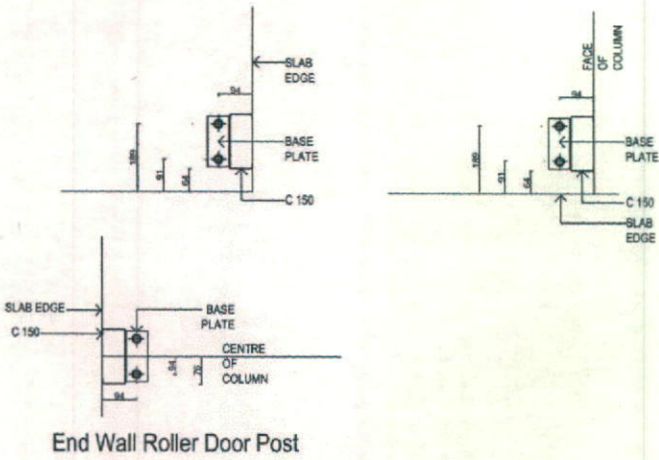
**ACAME**  
ABN 28 562 455 872  
Consulting Civil Structural  
& Mechanical Engineers  
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Registered Professional Engineer 348317  
Mr John Raymond Hare  
NSW Act 1992 - Civil (General)  
NSW Act 1992 - Civil (General)  
NSW Act 1992 - Civil (General)  
NSW Act 1992 - Civil (General)  
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Customer Name: Silvia Horace  
Site Address: 2497 The Northern Road  
Mulgoa,  
NSW, 2745

Drawing Title: Cross Section  
Scale: 1:24.798  
Date: 05-10-2016  
Job Number: 600800  
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FLOOR PLAN



151 Smeaton Grange Road,  
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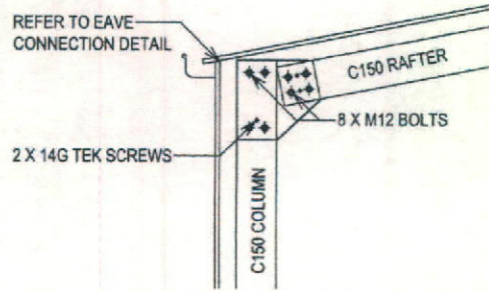
**ACAME**  
243 Princess Highway  
Milloo, NSW 2528  
ABN 28 582 453 072  
Consulting Civil, Structural  
& Mechanical Engineers  
Registered Professional Engineers (NSW) No. 12157  
Registered Professional Engineers (ACT) No. 12157  
Registered Professional Engineers (VIC) No. 12157  
Registered Professional Engineers (WA) No. 12157

Registered Professional Engineer 348313  
Mr John Raymond Hunt  
NSW Actd Offng - Civil (General)  
*JRH*  
Signed on the 18th of June, 2016  
Registered on the 18th of June, 2016  
NSW Actd Offng - Civil (General)  
National Professional Engineers Register

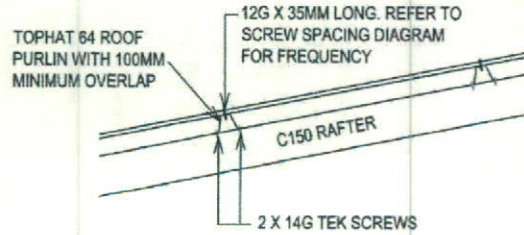
Customer Name: Silvia Horace  
Site Address: 2497 The Northern Road  
Mulgoa,  
NSW, 2745

Drawing Title: Floor Plan  
Scale: 1:52.208  
Date: 05-10-2016  
Job Number: 600800  
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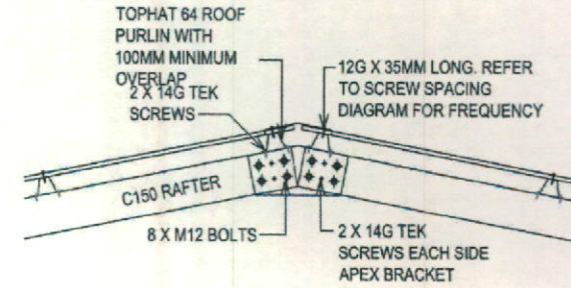




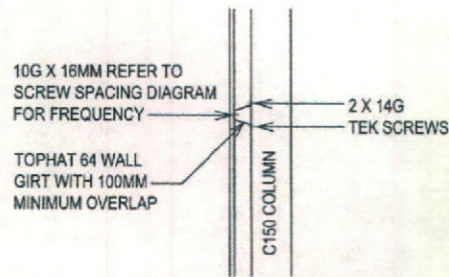
3 COLUMN AND EAVE DETAIL



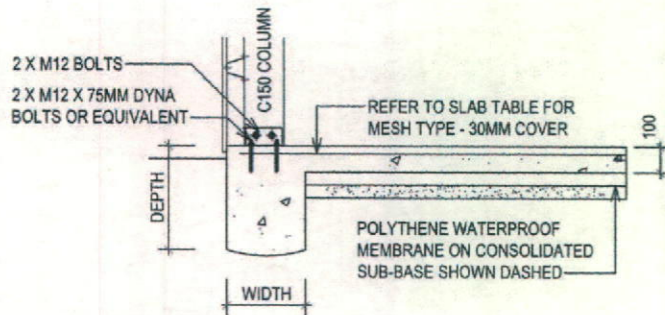
4 ROOF PURLIN DETAIL



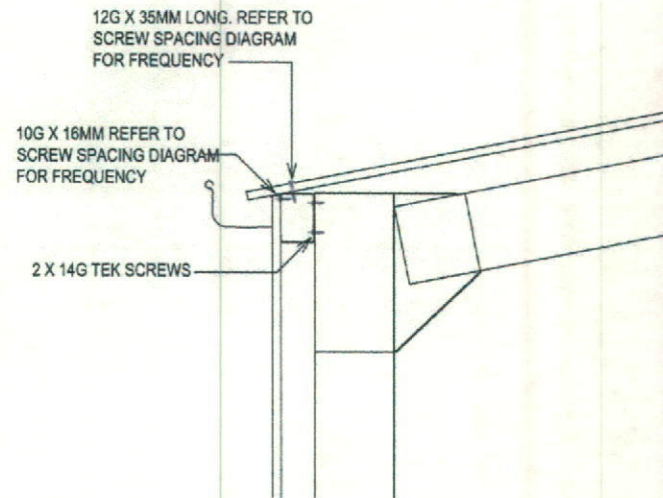
5 APEX DETAIL



2 WALL GIRTS DETAIL



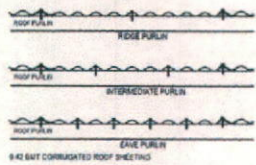
1 CONCRETE SLAB AND FOOTING DETAIL



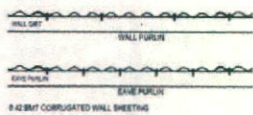
10 EAVE CONNECTION DETAIL



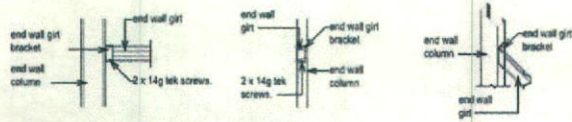
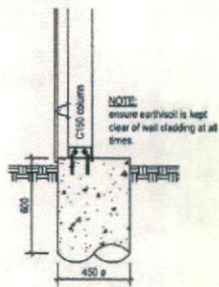
**ROOF SCREW SPACING DIAGRAM**  
126 x 41 x 36mm LONG ROOF SCREWS



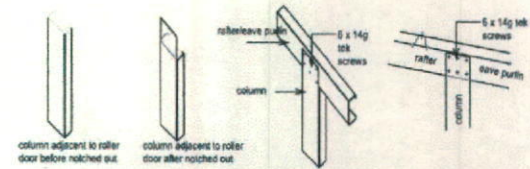
**WALL SCREW SPACING DIAGRAM**  
104 x 16mm LONG WALL SCREWS



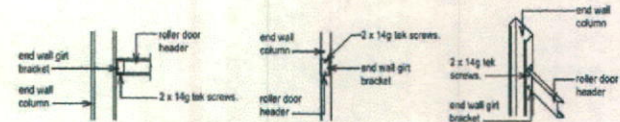
**CALDDING FIXING DETAILS**



**END WALL GIRT CONNECTION**



**COLUMN ADJACENT TO END WALL ROLLER DOOR**



**ROLLER DOOR HEADER DETAILS**