



OPERATIONS AND MAINTENANCE MANUALS

Regional Lagoons Manuals - ST59 Kalbar - Sheds

Builder Thomas Coffey

> Compiled Feb 03, 2015



Table of Contents

Regional Lagoons Manuals	1
ST59 Kalbar	2
Electrical	3
Introduction	4
Assets	5
Maintenance	6
Operations & Tech Data	7
Warranties	8
Commissioning Information	9
Help & Contact	10
As Built Drawings	11
Hydraulic	12
Introduction	13
Assets	14
Maintenance	15
Operations & Tech Data	16
Warranties	17
Certificates	18
Commissioning Information	19
Help & Contact	20
As Built Drawings	21
Formwork/Reinforcement and Concrete	22
Certificates	23
Chemical dosing equipment	24
Introduction	25
Maintenance	26
Operations & Tech Data	27
Warranties	28
Certificates	29
Commissioning Information	30
Spares	31
Help & Contact	32
As Built Drawings	33
Documents	34
Sheds	35
Introduction	36
Maintenance	37
Operations & Tech Data	38
Warranties	39
Certificates	40
Help & Contact	41
As Built Drawings	42
Thomas Coffey Finalisation documents	43
Introduction	44
Warranties	45
Commissioning Information	46
Help & Contact	47
As Built Drawings	48

Introduction

Introduction

This manual has been prepared by Ausfab for the purpose of Operation and maintenance of the Kalbar portion of work of the Regional Lagoons Project. The work has been completed as per the Contract and Construction Drawings Supplied by Thomas Coffey.

Please find complete as-built Drawings in the Drawing Section of this manual.

The Following is a brief description of the scope of work.

- 1. Design and construction of the MF building.
- 2. Design and construction of the CO2 dosing building

Maintenance

Colorbond Maintenance

6 - Monthly

Simple maintenance of COLORBOND® steel and ZINCALUME® steel by regular washing with water, will not only enhance its life but maintain its attractiveness for longer periods thus protecting your asset. Applications where the paint finish is automatically washed by rainwater do not usually require this maintenance, e.g. roof cladding. Examples of applications requiring maintenance cleaning include wall cladding under eaves, garage doors and the underside of eave gutters.

Areas not regularly washed by rainwater should be hosed down at least every six months and more frequently in coastal areas where marine salt spray is prevalent, and in areas where high levels of industrial fallout occur.

In cases where the regular maintenance referred to above does not remove all dirt which may have adhered to the surface of the paint, the following procedure should be carried out:

Wash the surface with a mild solution of pure soap or mild non-abrasive kitchen detergent in warm water. Application should be with a sponge, soft cloth or soft bristle nylon brush, and should be gentle to prevent shiny spots.

The COLORBOND® steel and ZINCALUME® steel should be thoroughly rinsed with clean water immediately after cleaning to remove traces of detergent.

Never use abrasive or solvent type cleaners (turps, petrol, kerosene, paint thinners) on COLORBOND® steel and ZINCALUME® steel.

If cared for in accordance with these instructions, your building components made from COLORBOND® prepainted steel and ZINCALUME® steel will give many years of low maintenance life.

Leaf Beater Rainwater Head

1 - Monthly

The Clean Shield™ screen is mostly self cleaning. If cleaning is required simply lift the Clean Shield™ screen out by taking hold of

the quick release tabs and pull the Clean Shield™ screen upwards and outwards, then hose or brush off.

Operations & Tech Data

Leaf Beater Rain Water Head

Linked Documents



Colorbond steel

Linked Documents





Product Specifications



Products: Leaf Beater[®] Original with Clean Shield[™]

Code: RHLB01 – 90mm

RHLB02 - 100mm

The Original Compact Rain Head - now with Enhanced Performance

Product Description

Keeps your Rain Harvesting system free of mosquitoes, vermin and debris.

The Leaf Beater® Original + Clean Shield™ is the practical and versatile Rain Head, featuring the new patented Clean Shield™ (single screen) technology. The Leaf Beater® Original + Clean Shield™ Rain Head prevents debris from entering the Rain Harvesting system, improves water quality and reduces tank maintenance. The single screen incorporates Clean Shield™ technology which deflects leaves and debris away from the flow of water. This minimises maintenance and enhances catchment efficiency.

Features and Benefits

- Upgraded with new debris shedding single screen technology (Clean Shield™)
- Enhanced catchment efficiency
- collect more rainwater
- Minimal maintenance

 screen automatically sheds debris
- Higher flow rate performance

- Compact design suits smaller spaces
- A single mosquito proof stainless steel mesh screen with 0.955mm aperture
- Available in 90mm or 100mm outlet

Compliance

- Queensland Development Code MP 4.2
 - Water Saving Targets
- AS/NZS 3500.3:2003 Plumbing and Drainage
 - Stormwater Drainage
- HB230:2008 Rainwater Tank Design and Installation Handbook

- enHealth Council
 - Guidance on the Use of Rainwater Tanks
 - Preventing Mosquitoes Breeding
- Queensland Health Regulations 1996 (Part 8 – Mosquito Prevention)





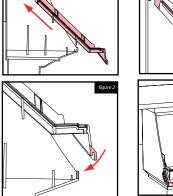
Product Specifications

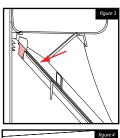
Installation

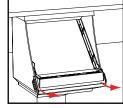
Gutter Installation

- Remove the existing Gutter Outlet from the roof guttering system.
- 2. Hold the new Gutter Outlet #3 against the fascia and the bottom of the gutter where the new outlet hole is to be, then using the gutter outlet as a template, draw around the inside of the outlet to mark the underside of the gutter for the new hole and cut out with tin snips.
- 3. Refit the Gutter Outlet #3 to the main body #1 and place a small amount of sealant in the sealant groove in #3.
- 4. Remove the Clean Shield™ screen #2 whilst fitting the Leaf Beater® Original. Simply lift the Clean Shield™ screen out (figure 4) by taking hold of the quick release tabs (red) and pull them outwards and upwards.
- 5. Slide the Leaf Beater[®] Original up against the fascia and position the Outlet #3 over the gutter outlet hole. Fasten the unit to the fascia with two rivets or screws through the back of the body 1# and into the fascia.
- 6. Insert the Clean Shield™ screen #2 into the rain head at approx 45 degrees (figure 1) until the front rubber channel is nearly over the front lip of the body. TIP: Wetting the rubber seal will help the screen slide into place.
- Fix the front of the Clean Shield™ screen #2 into place (figure 2) by sliding the rubber channel (red) over the front lip (green) of the body.
- 8. Reaching towards the back of the screen push down on the plastic frame (figure 3) so that the rear edge (red) is below the lowest notch (green) and firmly against the back wall of the Leaf Beater® Original.
- The Leaf Beater® Original is now ready for connection to the downpipe. Do NOT glue the Leaf Beater® Original to the downpipe. SECURE with a screw for easy replacement.

NOTE: Where gutters are stretched out or out of square it may be necessary to rivet the Outlet #4 to the gutter. Take care to ensure the Outlet #4 is sealed to the gutter in all situations.







Mid-Mount Installation

To improve access for cleaning the Leaf Beater[®] Original Rain Head can be mounted down the wall at a convenient height.

It is important to note that when mid-mounting, the flow directional benefits of the rectangular gutter outlet supplied with the Leaf Beater® Original will be lost. However this is to be balanced with the benefits gained from easier access for maintenance

For mid-mounting, discard the top flow-directional gutter outlet. Cut the entry downpipe and install so that the downpipe sits approximately 5mm below the inside top edge of the Leaf Beater® Original body. This ensures the end of the pipe is within the Leaf Beater® Original and water is directed onto the face of the screen.

Recommondation: When mounting the Leaf Beater®
Original, make sure that it is mounted minimum of 1.2m
above the discharge point when pushing water underground
and then up into a tank. Long runs may require more than a
1.2m head depending on the pipe length and size of the pipe
and the volume required to be moved.





Maintenance

The Clean Shield^{TM} screen is mostly self cleaning. If cleaning is required simply lift the Clean Shield^{TM} screen out by taking hold of the quick release tabs and pull the Clean Shield^{TM} screen upwards and outwards, then hose or brush off.

DISCLAIMER This product specification is not a complete guide to product usage. Further information is available from Rain Harvesting Pty Ltd and from the Installation and Operating Instructions. This specification sheet must be read in conjunction with the Installation and Operating Instructions and all applicable statutory requirement. Product specifications may change without notice. © Rain Harvesting Pty Ltd



COLORBOND® steel

Revision 13 December 2013

This literature supersedes all previous issues



Prepainted - PP

GENERAL DESCRIPTION

COLORBOND® prepainted steel, specifically designed by BlueScope Steel Limited to provide a high durability, premier cladding and roofing material for general use. To determine if warranties apply, please visit the BlueScope Steel website or contact BlueScope Steel Direct for advice.

TYPICAL USES

Roofing and accessories, wall cladding, rain water goods. For material selection advice, please contact BlueScope Steel Direct.

AUSTRALIAN STANDARDS

Substrate - AS 1397

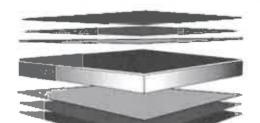
Paint Coating - AS/NZS 2728 Type 3-4

PREFERRED SUBSTRATES

ZINCALUME® G550S AM100 steel with Activate™ technology

ZINCALUME® G300S AM100 steel with Activate™ technology{Refer Note 8}

Please refer to current price list or BlueScope Steel Limited State Sales Office for availability of colours and dimensions.



CORSTRIP® protective film may be available on request {Refer Note 3}

- Flnish Coat (Finish Coat + Primer = nominal 25μm) {Refer Notes 4 & 5}
- Universal Corrosion Inhibitive Primer
- Conversion Coating
- ZINCALUME®- Zinc/Aluminium alloy coated steel with Activate™ technology Substrate
- Conversion Coating
- Universal Corrosion Inhibitive Primer
- ← Backing Coat (Backing Coat + Primer = nominal 10μm total){Refer Note 6}

ATTRIBUTES TESTED DURING MANUFACTURE

Property	Test & Evaluation Method(s)	Results
Adhosion		
Reverse Impact	AS/NZS 2728 (App. E)	≥10 joules
T-bend	AS/NZS 2728 (App. F)	Maximum 6T, Refer Note 7.
Haithess		
Pencil	AS1580.405.1	HB or harder
Specular (ilexis		
50º meter	AS/NZS 1580.602.2; ASTM D523 (test & eval)	Nominal ± 10 units

Australia #800 800 789

COLORBONDS COLORBONDS Permagards COLORBONDS Cogimax® AQUAPLATES CORSTRIPM WHITEHAVEN'S BRITEWITES DRUMSTOCKS and BlueScope are made marks of BlueScope Steel Limites ABN 16 000 011 058

Please ensure you have the current data sheet for this product as displayed at steelproducts bluescopesteel com au



Q-Pulse Id TMS1174 Active 15/05/2015

COLORBOND® steel

Revision 13 December 2013

This literature supersedes all previous issues



Prepainted - PP

PRODUCT ATTRIBUTES

Property	Test & Evaluation Method(s)	Results
Free William		
T-bend	ASTM D4145	Maximum 10T (no cracking) Refer Note 7
Redistance to obtainly		
Scratch	AS 2331 4 7 (test & eval)	Typically 2000g
with the large		
Natural well washed exposure (10 yrs)	AS/NZS 1580 457 1	No flaking or peeling Refer Notes 9 & 10
Property services and the engaging of		
Cleveland (500 hours)	ASTM D4545, AS/NZS 1580 481 1 9 (Blisters); AS1580 408 4 (Adhesion)	Blister density ≤3. Blister size ≤S2. No loss of adhesion or corrosion
Process shall be asserted by		
Salt spray (1000 hours)	AS/NZS 2728 (App. I), ASTM B117, AS 2331 3 1, AS/NZS 1580 481 1 9 (Blisters), AS 1580 408 4 (Adhesion)	Blister density ≤2 Blister size ≤S3 Undercut from score ≤2mm. No loss of adhesion or corrosion Refer Note 2
Kesternich (SO2) (50 cycles)	DIN 50018	Edge creep <4mm Refer Note 2
Represents to entertablish		
Natural well washed exposure (10 yrs)	AS/NZS 1580 457 1 & ASTM D2244 (Colour)	AE cielab 2000 Light colour ≤4 units, Intermediate colour ≤6 units, Dark colour. ≤10 units. Refer Notes 9 & 10
QUV (2000 hours)	ASTM G154 & ASTM D2244 (Colour)	ΔE cielab 2000 Intermediate colour ≤5 units
Ancheron to stretting		
Natural well washed exposure (10 yrs)	AS/NZS 1580 457 1 & AS/NZS 1580 481 1 11 (Chalk Method B)	Chalk rating ≤4. Refer Notes 9 & 10.
QUV (2000 hours)	ASTM G154 & AS/NZS 1580 481 1 11 (Chalk Method B)	Chalk rating ≤4
Floring to Explorates		tion and the second second
Exposure	ASTM D1308 (3 1 1) & ASTM D2244 (Colour), AS/NZS 1580 481 1 9 (Blisters)	No discolouration or blistering Refei Notes 9 & 11
flysiowing to adds		
Exposure	ASTM D1308 (3 1 1) & ASTM D2244 (Colour), AS/NZS 1580 481 1 9 (Blisters)	No discolouration or blistering. Refer Notes 2 & 11
File Hallegraph, Boyalt offer		
Exposure	ASTM D1308 (3 1 1) & ASTM D2244 (Colour), AS/NZS 1580 481 1 9 (Blisters)	No discolouration or blistering Refer Notes 2 & 11
Physical Company of the Company of t		
Exposure	AS/NZS 1530 3 (test & eval.)	Ignitability index 0 rating in scale of 0-20 Spread of Flame index 0 rating in scale of 0- 10 Heat evolved index 0 rating in scale of 0- 10 Smoke evolved index 0-1 rating in scale of 0-10
Reference of Mari		
Exposure 100°C continuous (500 hrs)	ASTM D2244 (Colour)	Colour change ΔE cielab 2000 ≤3 units

Australia 1890 800 789

COLORBOND**, COLORBOND** Permagard**, COLORBÓND**, Coolinax**, AQUAPLATE®, DORSTRIPS*, WHITEHAVEN**, BRITEWITE**
DRUMSTOCK® and BlueScope are trade misks of BlueScope Steel Limited ABN 18 000 011 058.

Please ensure you have the current data sheet for this product as displayed at steelproducts bluescopesteel comisu



Q-Pulse Id TM\$1174 Active 15/05/2015 Page 9 of 72

COLORBOND® steel

Revision 13 December 2013

This literature supersades all previous issues



Prepainted - PP

IMPORTANT NOTES

- All warranties for a product, if any, are subject to eligibility. Terms and conditions apply. Nothing in this document is intended by BlueScope Steel to extend, modify or otherwise affect any stated product warranty. To find out more, please visit the BlueScope steel website or contact Steel Direct for advice.
- Product may not be suitable if it is intended to use COLORBOND® steel in an exterior application within 1km of salt marine locations, severe industrial or abnormally corrosive environments; in areas not washed by rain, or in applications where it will be wholly or partly buried in the ground. For selection of the most appropriate COLORBOND®steel product, please refer to Technical Bulletins TB1a, TB1b, CTB16, CTB21 and CTB22. Before purchase, you should check on suitability by visiting the BlueScope Steel website or by contacting BlueScope Steel Direct for advice.
- 3 The CORSTRIP® protective film should be removed from the painted steel strip immediately on installation. Sunlight can increase adhesion of the protective film to the painted surface if left uncovered outside.
- 4 Finish Coat the coating applied to the exposed surface of the prepainted coil which is expected to meet the Performance Requirements.
- 5 The product is supplied with a nominal 25 unit (60°) gloss Finish Coat
- Backing Coat- a thin coating applied to the reverse surface of the prepainted coil. It also gives additional durability to the reverse surface during the service life of the product, but for aesthetic reasons is not recommended for exposure to sunlight. Performance Requirements are generally not applicable to backing coats. Where specific Performance Requirements are deemed necessary for the reverse surface coating, a "double sided" product should be specified, in which case a topcoat of full nominal thickness will be applied.
- 7 The minimum internal bend diameters for forming processes to achieve no paint cracking (visible using x10 magnification) and to avoid paint adhesion issues are specified by the T-bend flexibility and T-bend adhesion results respectively- where 1T equals the total coated thickness (tct) in mm of the material. These results are based on testing at 20-25°C.
- 8 For most products, the metallurgical ageing process which is inherent in the paint stoving cycle will result in some loss of ductility compared with unpainted product. However, minimum strength levels designated by relevant standards will still be applicable.
- 9 Improper storage or use of non-approved roll-forming lubricants may cause brand transfer and paint blushing, and may adversely affect colour and long term durability. Product in coil or sheet pack form must be kept dry. If the coil or sheet pack becomes wet, it must be separated and dried (refer AS/NZS 2728 Appendix L, and also Technical Bulletin TB7). Contact Steel Direct to obtain advice on appropriate rollforming lubricants.
- 10 Values quoted are for panels exposed in accordance with AS/NZS 2728. Variations for in-situ performance may occur due to complexity of building design and location.
- 11 COLORBOND® steel has good resistance to accidental spillage of solvents such as methylated spirits, white spirit, mineral turpentine, toluene, trichloroethylene and dilute mineral acids and alkalis. However, all spillages should be immediately removed by water washing and drying.

Australia 1800 800 785

COLORBONO®, DOLORBONO® Parmagainta, COLORBOND® Coolinax®, AQUAPLATE®, CORSTRIR®, WHITEHAVEN®, SRITEWITE® DRUMSTOCK® and BlueScope are trade marks of PlueScope Stoel Limited ABN 16 000 011 058

Please ensure you have the current data sheet for this product as displayed at sheelproducts bluescopested com au



Warranties

Colorbond Warranty

AusFab Workmanship Warranty

Ausfab warrant their works from the date of practical completion for 12 months as per the terms and conditions of their contract with Thomas & Coffey.

Thomas & Coffey will warrant the works until the end of the defect liability period.

Certificates

Kalbar MF and Dosing Shed Form 15

Linked Documents



Kalbar MF Building Form 16

Linked Documents



Kalbar pH Building Form 16

Linked Documents



Galvanizer Certificates

Linked Documents



Kalbar MF and Dosing Building Slab Design Form 15

Linked Documents

12687 Kalbar STP-FORM 15.pdf

MF and Dosing Building Structure Design Form 15

Linked Documents

Shed Design- Form 15.pdf

Compliance Certificate for building Design or Specification

15

NOTE	This is to be used for the purposes of section 10 of the <i>Building Act 1975</i> and/or section 46 of t <i>Building Regulation 2006</i> . RESTRICTION: A building certifier (class B) can only give a compliance certificate about wheth building work complies with the BCA or a provision of the QDC. A building certifier (Class B) can not give a certificate regarding QDC boundary clearance and site cover provisions.		
1. Property description This section need only be completed if details of street address and property description are applicable. EG. In the case of (standard/generic) pool design/shell manufacture and/or patio and carport systems this section may not be applicable. The description must identify all land the subject of the application. The lot & plan details (eg. SP / RP) are shown on title documents or a rates notice. If the plan is not registered by title, provide previous lot and plan details. 2. Description of component/s certified Clearly describe the extent of work covered by this certificate, e.g. all structural aspects of the steel roof beams.	Street address (include no., street, suburb / locality & postor Heit Road KALBAR QLD Lot & plan details (attach list if necessary) Lot 2 In which local government area is the land situated? Scenic Rim Regional Council	Postcode 4309	
3. Basis of certification Detail the basis for giving the certificate and the extent to which tests, specifications, rules, standards, codes of practice and other publications, were relied upon.	AS 1170.1, AS 1170.2, AS 4100, AS 4600 Structural Importance Level 3		

LOCAL GOVERNMENT USE ONLY		
Date received	Reference Number/s	Approved form 15 Version 2 11/11

Form 15 continued				
Reference documentation Clearly identify any relevant documentation,	Drawing Nos: WK12-0541 / 1C, 21	В		
e.g. numbered structural engineering plans.	by Osborn Lane Consulting	Engineers		
5. Building certifier reference number	Building certifier reference number			
6. Competent person details	Name (in full)			
A competent person for building work, means a person who is assessed by the building certifier	Robert K Lane	0.4.4		
for the work as competent to practise in an aspect of the building and specification design, of the building work because of the individual's	Company name (if applicable) Osborn Lane Consulting Engineers	Contact pe		
skill, experience and qualifications in the aspect. The competent person must also be	Phone no. business hours Mobil		Fax no.	
registered or licensed under a law applying in the State to practice the aspect.		7 644 039	07 4660 3310	
If no relevant law requires the individual to be	Email address warwick@osbornlane.com			
licensed or registered to be able to give the help, the certifier must assess the individual as	Postal address			
having appropriate experience, qualifications or skills to be able to give the help.	PO Box 495			
If the chief executive issues any guidelines for assessing a competent person, the building	Warwick Qld		Postcode 4370	
certifier must use the guidelines when assessing the person.	Licence or registration number (if applicable)			
assessing the person.	RPEQ 4084			
7. Signature of competent person	Signature,	Dal	le	
This certificate must be signed by the individual assessed by the building certifier as competent.		0	8 th March 2013	
	/ -			

The *Building Act 1975* is administered by the Department of Local Government and Planning



Inspection Certificate / Aspect Certificate / QBSA Licensee Aspect Certificate

16

NOTE			oses of section 10(c) and 23 ne <i>Building Regulation</i> 2006.	9 of the Building Act 1975 and/or
1. Indicate the type of certificate	×	Inspection Certificate for		
The stages of assessable building work are listed in section 24 of the <i>Building Regulation 2006</i> or as conditioned by the building certifier. An aspect of building work is part of a stage (e.g. waterproofing).	□	Stage of building work (for (indicate the stage) Aspect of building work (indicate the aspect)	or single detached class 1a or class 10	D building or structure) KALBAR PH BUILDING
	QBSA Licensee Aspect Certificate Scope of the work Scope of the work covered by the licence class under the Queensland Building Services Authority Regulation 2003 for the aspect being certified, e.g. scope of work for a waterproofing licence is "installir waterproofing materials or systems for preventing moisture penetration". An aspect being certified may include "wet area sealing to showers". THE SUPPLY AND INSTALL OF STRUCTURAL BEAMS AND ROOFING			
2. Property description	Street add	ress (Include no., street, subur	b / locality & postcode)	
The description must identify all land the subject of the application.	Kalbar STP I	Lot 2 off Heit Rd KALBAR		
The lot & plan details (eg. SP / RP) are shown on title documents or a rates notice. If the plan is not registered by title, provide previous lot and plan details.	Lot & plan	details (Attach list if necessar))	Postcode 4309
	In which local government area is the land situated?			
		1		
3. Building/structure description	Building/str	ructure description		Class of building / structure
		AND PROCESSING BUILDING		
4. Description of component/s certified Clearly describe the extent of work covered by this certificate, e.g. all structural aspects of the steel roof beams.	BEAMS AND	D ROOFING		
LOCAL GOVERNMENT USE ONLY			,	
DATE RECEIVED		REFER	ENCE NUMBER/S	Approved form 16 Version 3, 11/11

Form 16 continued 5. Basis of certification ALL DRAWINGS AND WORK COMPLETED IN ACCORDANCE WITH AS1428, AS1554, AS1100, AS4100 & AS/NZS 4680 Detail the basis for giving the certificate and the extent to which tests, specifications, rules, standards, codes of practice and other publications, were relied upon. 6. Reference documentation AS BUILT DRAWINGS ATTACHED Clearly identify any relevant documentation, e.g. numbered structural engineering plans. 7. Building certifier reference number Building certifier reference number Development approval number and development approval number 8. Building Certifier, competent person Name (in full) or QBSA licensee details NIGEL WEIS A competent person must be assessed as competent before carrying out the inspection. Company name if applicable Contact person The builder for the work cannot give a stage AUSFAB CONSTRUCTIONS NIGEL WEIS certificate of inspection. Mobile no. Phone no. business hours Fax no. A competent person is assessed by the building certifier for the work as competent to 1300 995 970 0438 502 072 1300 998 983 practice in an aspect of the building and Email address specification design, because of the individual's skill, experience and qualifications. The nigel.weis@ausfabconstructions.com.au competent person must be registered or licensed under a law applying in the State to Postal address practice the aspect. 40 KENILWORTH STREET WARWICK If no relevant law requires the individual to be licensed or registered, the certifier must assess Postcode the individual as having appropriate Licence class Licence number experience, qualifications or skills to be able to give the help. STRUCTURAL STEEL 1207479 If the chief executive issues any guidelines for Date approval to inspect received from building certifier assessing a competent person, the building certifier must use the guidelines when assessing the person. 9. Signature of building certifier, competent person or QBSA licensee

The Building Act 1975 is administered by the Department of Local Government and Planning

Signature

Motivas

Note: A building certifier must sign this form for temporary swimming pool fencing under

section 4 of Schedule 1 of QDC MP 3.4.



Date

26/06/2013

INDUSTRIAL GALVANIZERS (BRIS.)

A division of Industrial Galvanizers Corporation Pty. Ltd. ACN 000 545 415 ABN 40 000 545 415 010

You're better off with ...

Telephone: (07) 3632 7700 Facsimile: (07) 3632 7797

Cnr. Boundary & Cobalt Streets, Carole Park. Queensland

Receiving/Despatch Office Facsimile: (07) 3718 2598 Cnr Holt St & Curtin Ave, Pinkenba, Queensland Receiving/Despatch Office Facsimile: (07) 3632 7795

P O Box 1131

Eagle Farm Qld 4009



A valmont of COMPANY

Q.A Compliance Status:

Dear Valued Customer,

Industrial Galvanizers (Brisbane) plants at Pinkenba and Carole Park are AS/ISO 9001: 2008 accredited.

All steel work received is processed for galvanizing as described within our Inspection Test Point (ITP) listed in our Quality Assurances System

Our quality plan is a visible inspection after galvanizing to determine that the coating is continuous and has adhered.

Weekly analysis of all chemical and zinc bath composition is undertaken to ensure our process are in accordance with AS/NZ 4680:2006.

Should you require any further information please contact the undersigned.

Yours Faithfully

Industrial Galvanizers (BRISBANE)

S.C. Wins

Gavin Warner

OA Coordinator OLD.



This is to certify that:

Industrial Galvanizers Corporation Pty Ltd ABN 40 000 545 415

Trading As

Industrial Galvanizers (Brisbane)

Cnr Holt Street & Curtin Avenue Pinkenba QLD 4008 AUSTRALIA Commercial Avenue Bohle QLD 4814 AUSTRALIA Cnr Boundary Road & Cobalt Street Carole Park QLD 4300 AUSTRALIA

operates a

QUALITY MANAGEMENT SYSTEM

which complies with the requirements of

ISO 9001:2008

for the following scope

The hot dip and centrifuge galvanizing of steel products, including a pick-up and delivery, same day and 24 hour service by arrangement.

Certificate No: QEC0916

Issued: 4 October 2012 Expires: 22 November 2015 Originally Certified: 9 July 1991 Current Certification: 3 October 2012

Samer Chaouk

Policy, Risk and Certification Manager

Tony Scotton

Chief Executive Officer





WWW.JAS-ANZ.ORG/REGISTER

Registered by:
SAI Global Certification Services Pty Ltd (ACN 108 716 669) 286 Sussex Street Sydney NSW 2000 Australia with SAI Global Limited 286 Sussex Street Sydney NSW 2000 Australia ("SAI Global") and subject to the SAI Global Terms and Conditions for Certification.

While all due care and skill was exercised in carrying out this assessment, SAI Global accepts responsibility only for proven negligence. This certificate remains the property of SAI Global and must be returned to SAI Global upon its request. To verify that this certificate is current please refer to SAI Global On-Line Certification register at http://www.saiglobal.com



Active 15/05/2015

Compliance Certificate for building Design or Specification

NOTE	This is to be used for the purposes of section 10 of the <i>Building Act 1975</i> and/or section 46 of the <i>Building Regulation 2006.</i>
1. Property description This section need only be completed if details of street address and property description are applicable. EG. In the case of (standard/generic) pool design/shell manufacture and/or patio and carport systems this section may not be applicable.	Street address (include no., street, suburb / locality & postcode) Kalbar Sewage Treatment Plant Heit Road, Kalbar, Qld Postcode 4309 Lot & plan details (attach list if necessary) In which local government area is the land situated?
The description must identify all land the subject of the application. 2. Description of component/s certified Clearly describe the extent of work covered by this certificate, e.g. all structural aspects of the steel roof beams.	Structural design of MF building & pH Dosing building slab on ground
3. Basis of certification Detail the basis for giving the certificate and the extent to which tests, specifications, rules, standards, codes of practice and other publications, were relied upon.	AS 1170.1; AS 1170.2; AS 1170.4; AS 2870; AS 3600; AS 3700; AS 4100
4. Reference documentation Clearly identify any relevant documentation, e.g. numbered structural engineering plans.	Structural Drawings by 'Henry & Hymas Consulting' Job No. 12687-S1.00 Geotechnical Report by 'Douglas Partners' Project No. 79887.00 Document 3
5. Building certifier reference number	Building certifier reference number
6. Competent person details A competent person for building work, means a person who is assessed by the building certifier for the work as competent to practise in an aspect of the building and specification design, of the building work because of the individual's skill, experience and qualifications in the aspect. The competent person must also be registered or licensed under a law applying in the State to practice the aspect. If no relevant law requires the individual to be licensed or registered to be able to give the help, the certifier must assess the individual as having appropriate experience, qualifications or skills to be able to give the help. If the chief executive issues any guidelines for assessing a competent person, the building certifier must use the guidelines when assessing the person.	Name (in full) John Murazak Company name (if applicable) H&H Consulting Engineers Pty Ltd Phone no. business hours 07 3262 7440 Email address jmurazak@hhconsult.com.au Postal address 8 Immarna Street Albion, QLD Licence or registration number (if applicable) RPEQ 10156
7. Signature of competent person This certificate must be signed by the individual assessed by the building certifier as competent.	Signature Date 20-11-2012

LOCAL GOVERNMENT USE ONLY

Compliance Certificate for building Design or Specification

This is to be used for the purposes of section 10 of the <i>Building Act</i> 1975 and/or section 46 of the <i>Building Regulation</i> 2006.
RESTRICTION: A building certifier (class B) can only give a compliance certificate about whether building work complies with the BCA or a provision of the QDC. A building certifier (Class B) can not give a certificate regarding QDC boundary clearance and site cover provisions.
Street address (include no., street, suburb / locality & postcode) Wind Region B, TC 2 & 3
Postcode
Lot & plan details (attach list if necessary)
In which local government area is the land situated?
Roof & Wall Framing, Wind Bracing, Tie-Down & Connections
AS 1170.1, AS 1170.2, AS 4100, AS 4600
Structural Importance Level 3

LOCAL GOVERNMENT USE ONLY

Form 15 continued

4. Reference documentation Clearly identify any relevant documentation,	Drawing Nos: WK12-0541 /	1C, 2B		
e.g. numbered structural engineering plans.	by Osborn Lane Consu	Iting Engineers		
5 Duilding cortifier reference number				
5. Building certifier reference number	Building certifier reference number	ſ		
6. Competent person details A competent person for building work, means a person who is assessed by the building certifier for the work as competent to practise in an aspect of the building and specification design, of the building work because of the individual's skill, experience and qualifications in the aspect. The competent person must also be registered or licensed under a law applying in the State to practice the aspect. If no relevant law requires the individual to be licensed or registered to be able to give the help, the certifier must assess the individual as having appropriate experience, qualifications or skills to be able to give the help. If the chief executive issues any guidelines for assessing a competent person, the building	Name (in full) Robert K Lane Company name (if applicable) Osborn Lane Consulting Engire Phone no. business hours 07 4660 3300 Email address warwick@osbornlane.com Postal address PO Box 495 Warwick Qld			no. 1660 3310
certifier must use the guidelines when assessing the person.	Licence or registration number (if a	applicable)		
7. Signature of competent person This certificate must be signed by the individual assessed by the building certifier as competent.	Signature		Date 07 th Jan	uary 2013

The *Building Act 1975* is administered by the Department of Local Government and Planning

Q-Pulse Id TMS1174



Inspection Certificate / Aspect Certificate / QBSA Licensee Aspect Certificate

16

NOTE	This form is to be used for the purposes of section 10(c sections 32, 35B, 43, 44 and 47 of the Building Regulation	
1. Indicate the type of certificate	Inspection Certificate for	
The stages of assessable building work are listed in section 24 of the <i>Building Regulation 2006</i> or as conditioned by the building certifier. An aspect of building work is part of a stage (e.g. waterproofing).	Stage of building work (for single detached class 1a (indicate the stage) Aspect of building work (indicate the aspect) STRUCTURAL AND ROLL	
	QBSA Licensee Aspect Certificate Scope of the work Scope of the work covered by the licence class under the Qu Regulation 2003 for the aspect being certified, e.g. scope of waterproofing materials or systems for preventing moisture p include "wet area sealing to showers".	work for a waterproofing licence is "installing
	THE SUPPLY AND INSTALL OF STRUCTURAL BEAMS AND ROOFING	
2. Property description	Charles address finally as stored asked / leadity & sectored	
The description must identify all land the subject of the application. The lot & plan details (eg. SP / RP) are shown on title documents or a rates notice. If the plan is not registered by title, provide	Street address (Include no., street, suburb / locality & postcode) Kalbar STP Lot 2 off Heit Rd KALBAR Lot & plan details (Attach list if necessary)	Postcode 4309
previous lot and plan details.	In which local government area is the land situated?	
3. Building/structure description	Building/structure description	Class of building / structure
	CONTROL AND PROCESSING BUILDING	
4. Description of component/s certified Clearly describe the extent of work covered by this certificate, e.g. all structural aspects of the steel roof beams.	BEAMS AND ROOFING	
LOCAL GOVERNMENT USE ONLY		
DATE RECEIVED	REFERENCE NUMBER/S	Approved form 10

rorm 16 continued				
5. Basis of certification Detail the basis for giving the certificate and the extent to which tests, specifications, rules, standards, codes of practice and other publications, were relied upon.	ALL DRAWINGS AND WORK COMPL	ETED IN ACCORDANCE WI	TH AS1428, AS1554,	AS1100, AS4100 & AS/NZS 4680
Reference documentation Clearly identify any relevant documentation, e.g. numbered structural engineering plans.	AS BUILT DRAWINGS ATTACHED			
7. Building certifier reference number and development approval number	Building certifier reference num	ber	Development ap	pproval number
B. Building Certifier, competent person or QBSA licensee details	Name (in full)			
A competent person must be assessed as competent before carrying out the inspection.	Company name if applicable		Contact per	son
The builder for the work cannot give a stage	AUSFAB CONSTRUCTIONS		NIGEL WEIS	
certificate of inspection. A competent person is assessed by the	Phone no. business hours	Mobile no.		Fax no.
building certifier for the work as competent to	1300 995 970	0438 502 072		1300 998 983
practice in an aspect of the building and specification design, because of the individual's	Email address			
skill, experience and qualifications. The competent person must be registered or	nigel.weis@ausfabconstructions.com.au			
icensed under a law applying in the State to	Postal address			
practice the aspect. If no relevant law requires the individual to be	40 KENILWORTH STREET WARWICK	(
censed or registered, the certifier must assess ne individual as having appropriate	Postcode 4370			
xperience, qualifications or skills to be able to	Licence class	L. L	icence number	
ive the help. the chief executive issues any guidelines for	STRUCTURAL STEEL		1207479	
assessing a competent person, the building certifier must use the guidelines when assessing the person.	Date approval to inspect receive	ed from building certific	er ,	
). Signature of building certifier, competent person or QBSA licensee	Cignoture		Det	
Note: A building certifier must sign this form for temporary swimming pool fencing under section 4 of Schedule 1 of QDC MP 3.4.	Signature (Althua		Date	6/06/2013

The Building Act 1975 is administered by the Department of Local Government and Planning



Help & Contact

Ausfab Design and Construction

Trade or Product: Shed Design and Construction

Contact & Address Details:

Steve Bartlett | Procurement/ Project supervisor

Postal: PO Box 3558, Tingalpa QLD 4173

Production & Delivery: 40 Kenilworth Street, Warwick QLD 4370

P: 1300 995 970 |F: 1300 998 983 | 0437 930 343 | E: steve@ausfabconstructions.com.au

As Built Drawings

MF/ pH Dosing Shed Framing Plan

Site: (ST059) Kalbar

Linked Documents

WK12-0541 1D.pdf

Kalbar MF Shed Shop Drawing As-built

Site: (ST059) Kalbar

Linked Documents

Kalbar MF Building As-built.pdf

Kalbar pH Building Shop Drawing As-built

Site: (ST059) Kalbar

Linked Documents

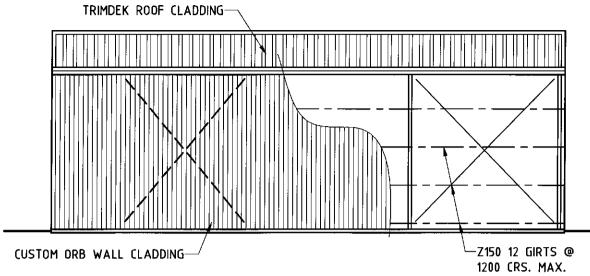
Kalbar pH Building As-built.pdf

Kalbar MF and pH Shed Slab Design

Site: (ST059) Kalbar

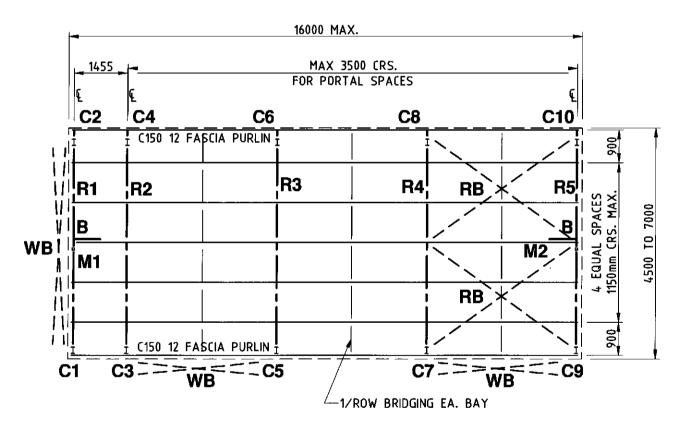
Linked Documents

12687-S1- Kalbar MF and pH slab.pdf

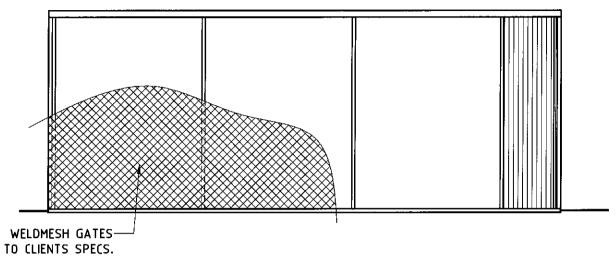


REAR ELEVATION

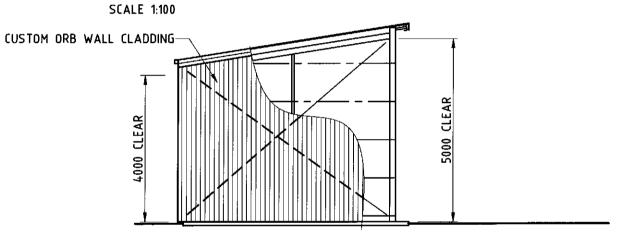
SCALE 1:100



ROOF FRAMING PLAN



FRONT ELEVATION



SIDE ELEVATION (TYPICAL)

MEMBER	SCHEDU	JLE
COLUMNS	(C1 - C10)	- 150 UB 18 (4500-6000) - 180 UB 16 (7000)
RAFTERS	(R1 - R5)	- 150 UB 18 (4500-6000) - 180 UB 16 (7000)
MULLIONS	(M1 - M2)	- 65x65x4.0 S.H.S. (NOT REQUIRED ON 3000)
PURLINS		- Z150 12 (CONTINUOUS)
ROOF BRACE	(RB)	- R12 ROD SET MADE TAUT WITH TURNBUCKLES
WALL BRACE	(WB)	- R12 ROD SET MADE TAUT WITH TURNBUCKLES
END WALL BRACE	(B)	(REFER DETAIL - 1 PER END WALL)

STEELWORK NOTES

- 1. All work to be in accordance with current SAA codes and the Building Code of Australia.
- 2. Builder to verify all information and dimensions on site prior to commencement of construction.
- 3. Unless noted otherwise: Bolts to be M12 8.8/S. All fin, gusset & end plates to be 8 plate. Welds to be 6mm C.F.W. to mild steel and 3mm C.F.W. to cold-rolled steel.
- 4. Maintain stability of structure throughout erection.
- 5. All steel work to be power brushed & painted with two coats of red zinc oxide primer or hot dipped galvanized.
- 6. Design Wind Speed 54 m/s
- 7. Structural Importance Level 3

<u>NOTE</u>	1. Builder to verify all information & dimensions	;
	on site prior to commencement of constructio	n

- 2. DO NOT SCALE DRAWINGS
- 3. This drawing and the copyright thereof remains the property of OSSORN LANE Consulting Engineer A.B.N. 51 132 296 754

_	Drawing Revision					
s	Issued	4/12/2012	Α			
	Revised members	17/12/2012	В			
	Revised wind speed	18/12/2012	C			

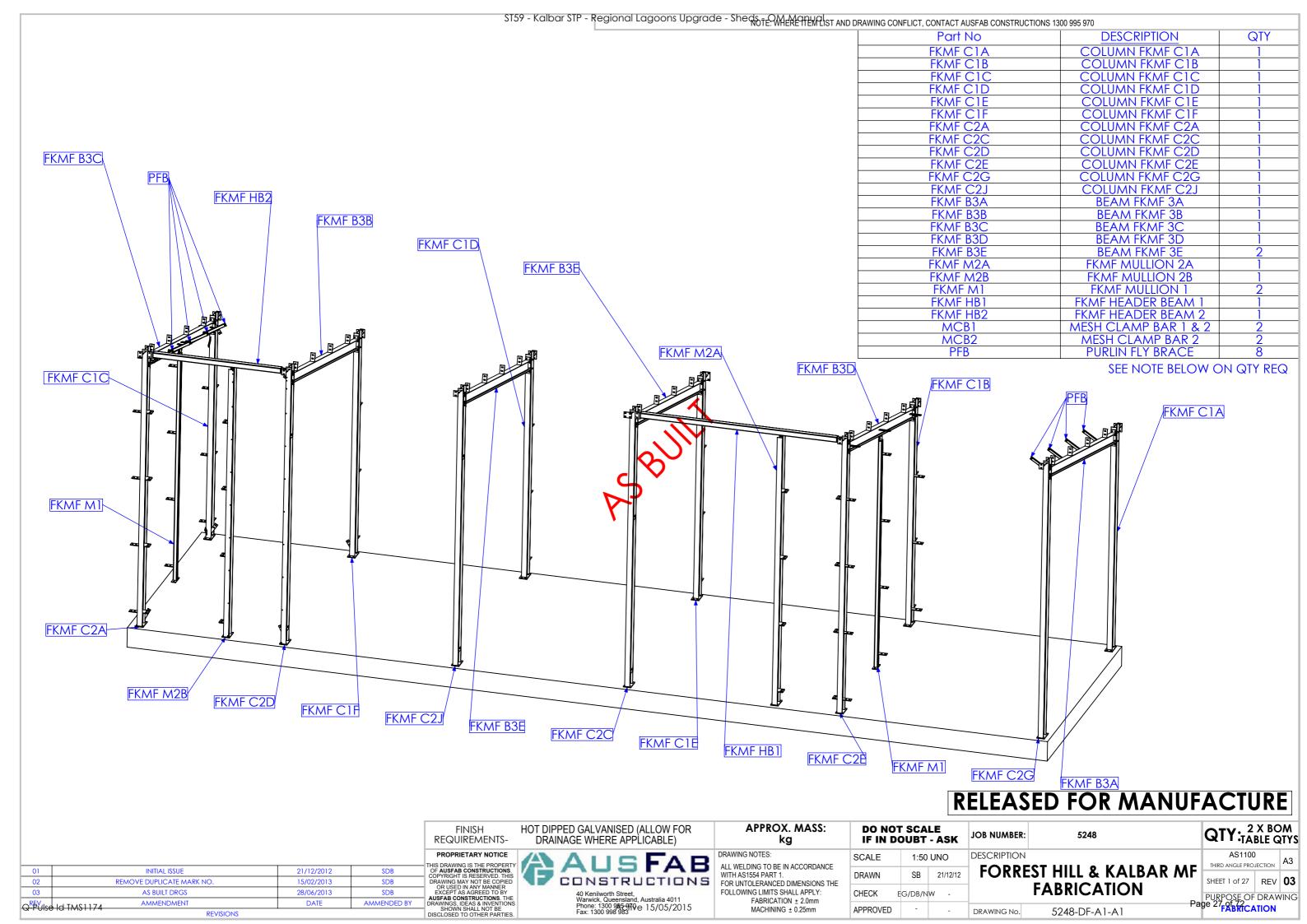
07303J **CONSULTING ENGINEERS**

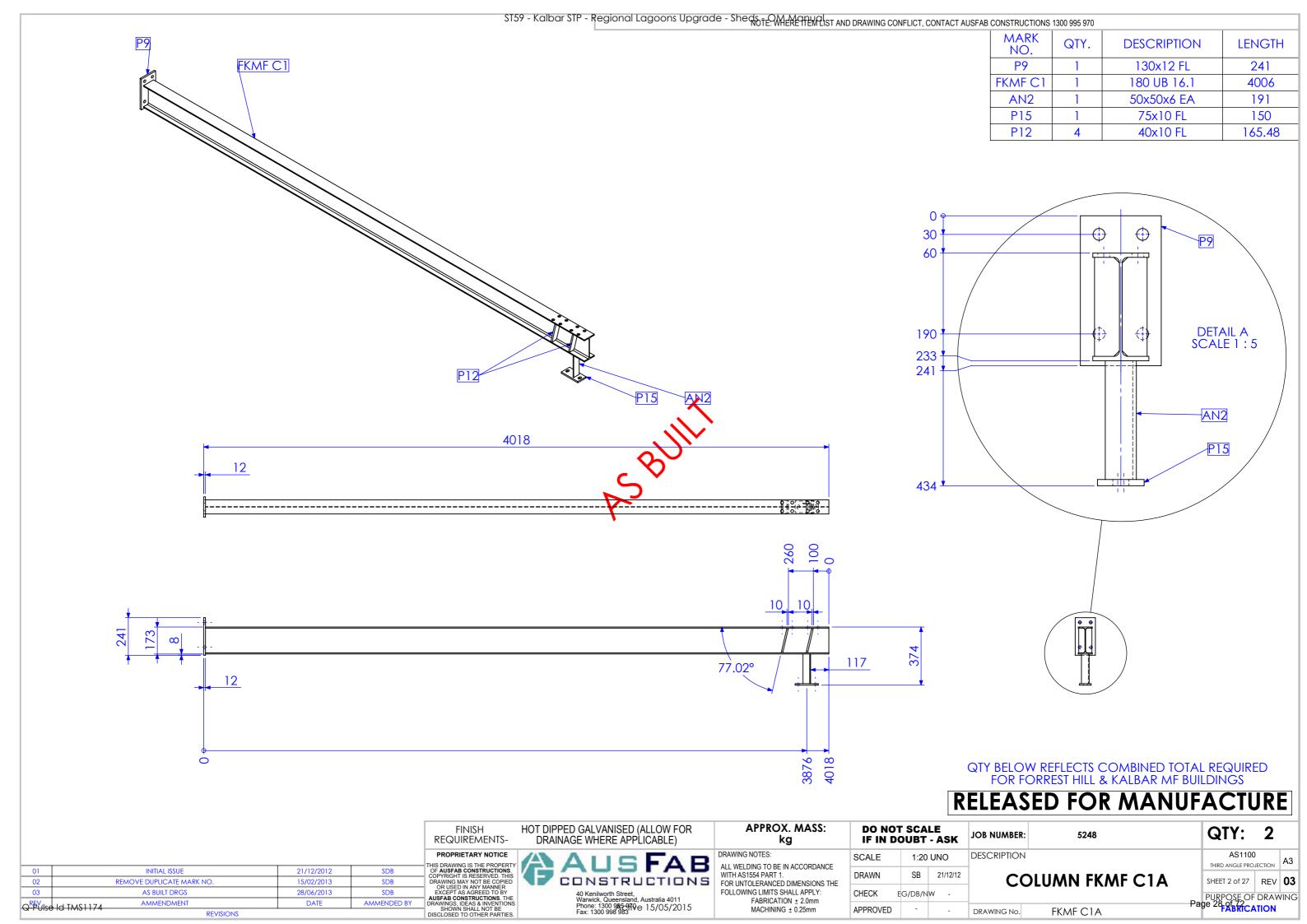
(Head Office) 148A Palmerin St. Warwick Qid. 4370 Ph 07 4660 3300 Fax 07 4660 3310

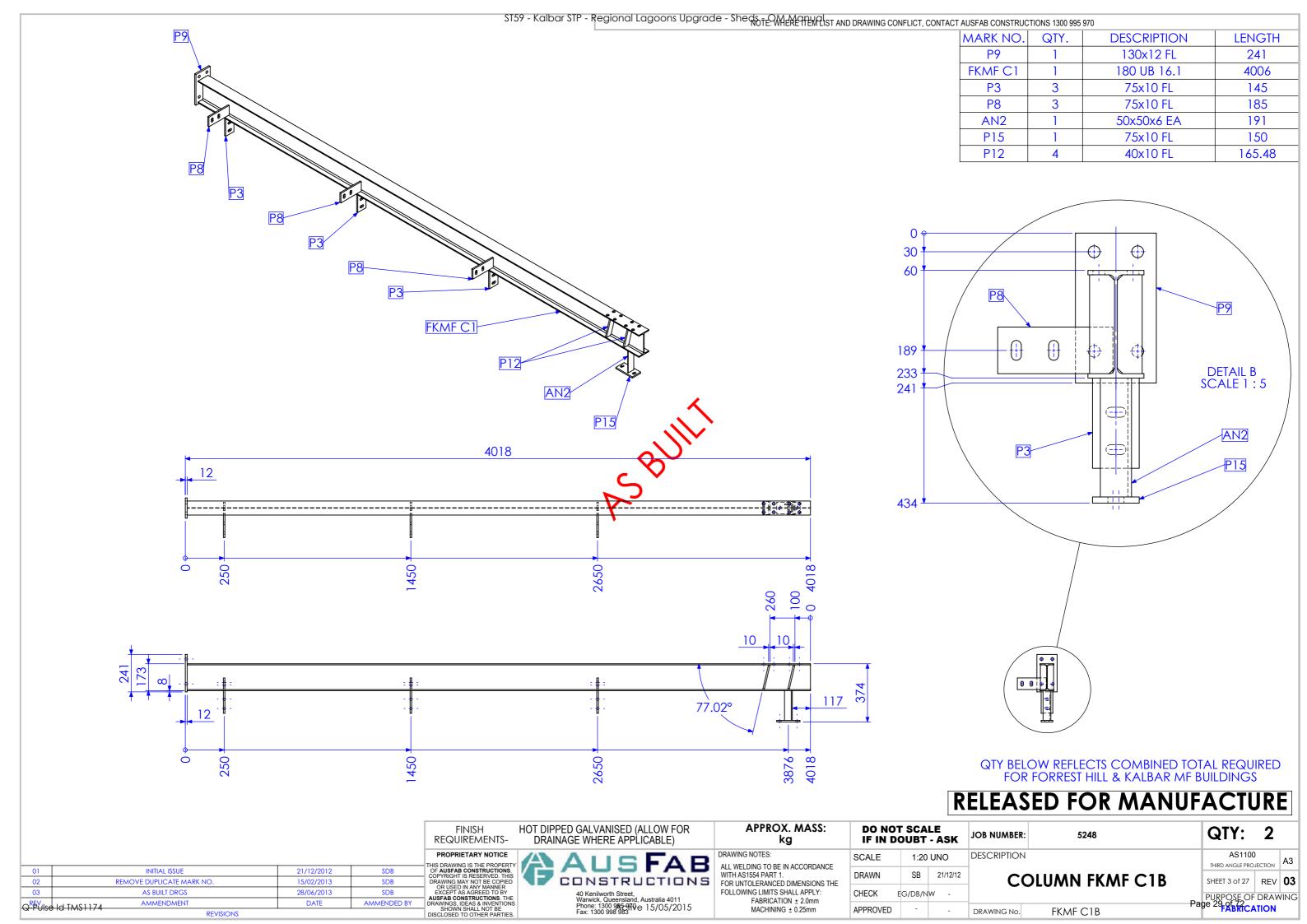
25 Warwick Road Ipswich Qid. 4305 Ph 07 3282 7770 Fox 07 3281 7237 Fox 07 3876 3045

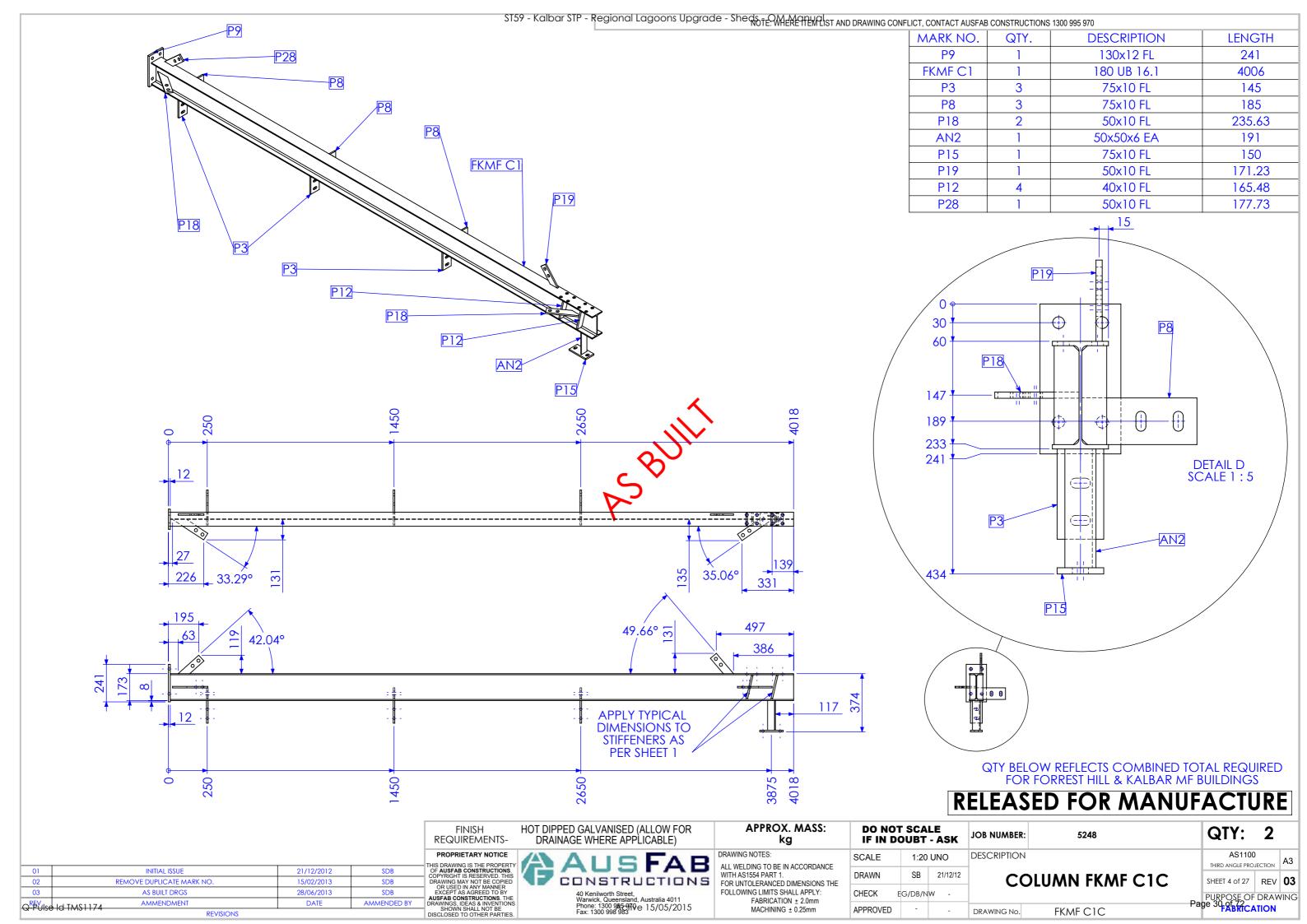
PROPOSED BUILDING FRAME **TO DRAWING Nos. 5348-HD 1001** FOR AUSFAB CONSTRUCTIONS

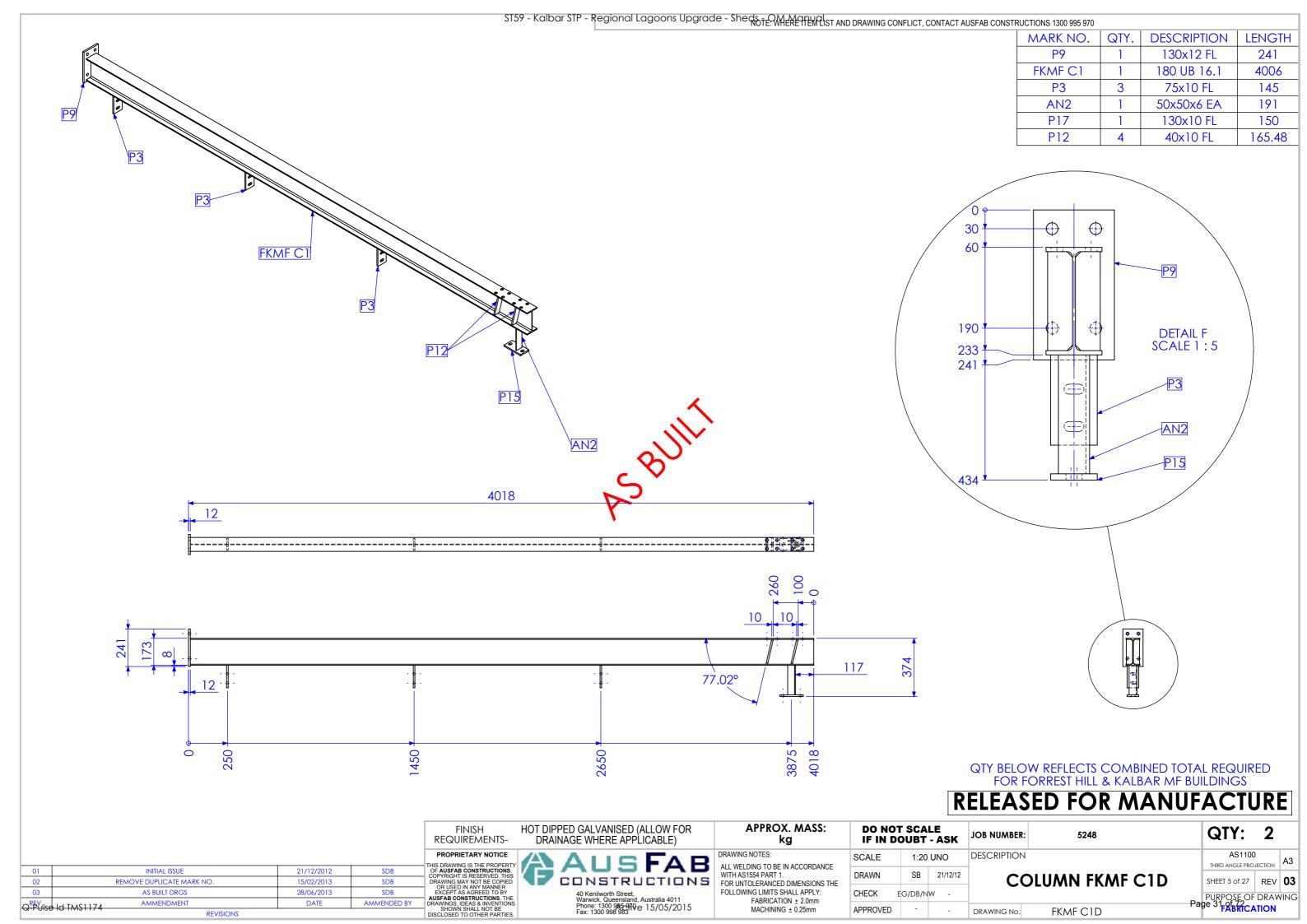
ROOF FRAMING PLAN					
drawn: C.F.F.	checked: C.F.R.	rev:			
checked:	RPEQ. 4084	D			
scale: As Shown	job no.:	dwg n			
SHEET 1 of 2	WK12-0541	-1			

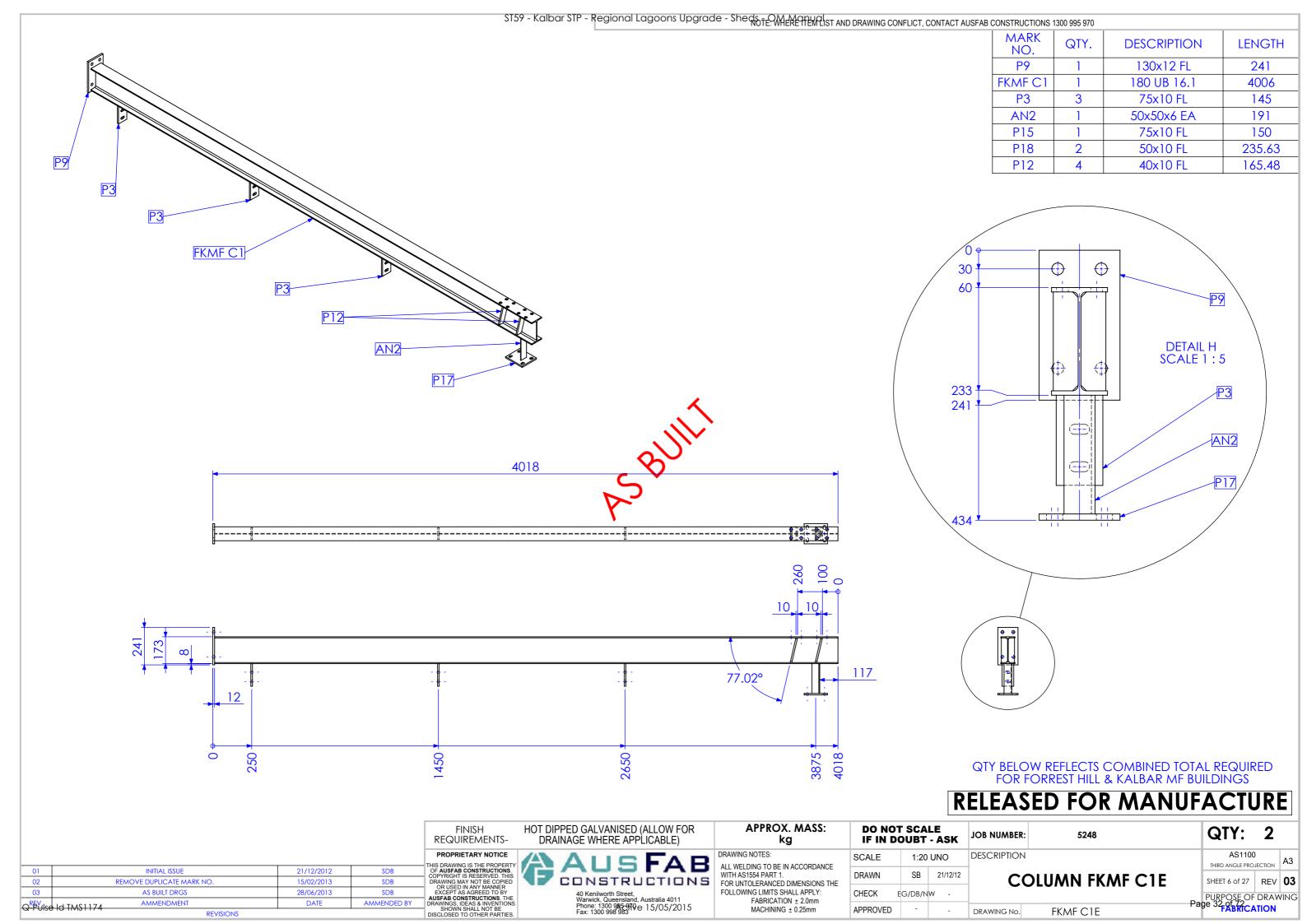


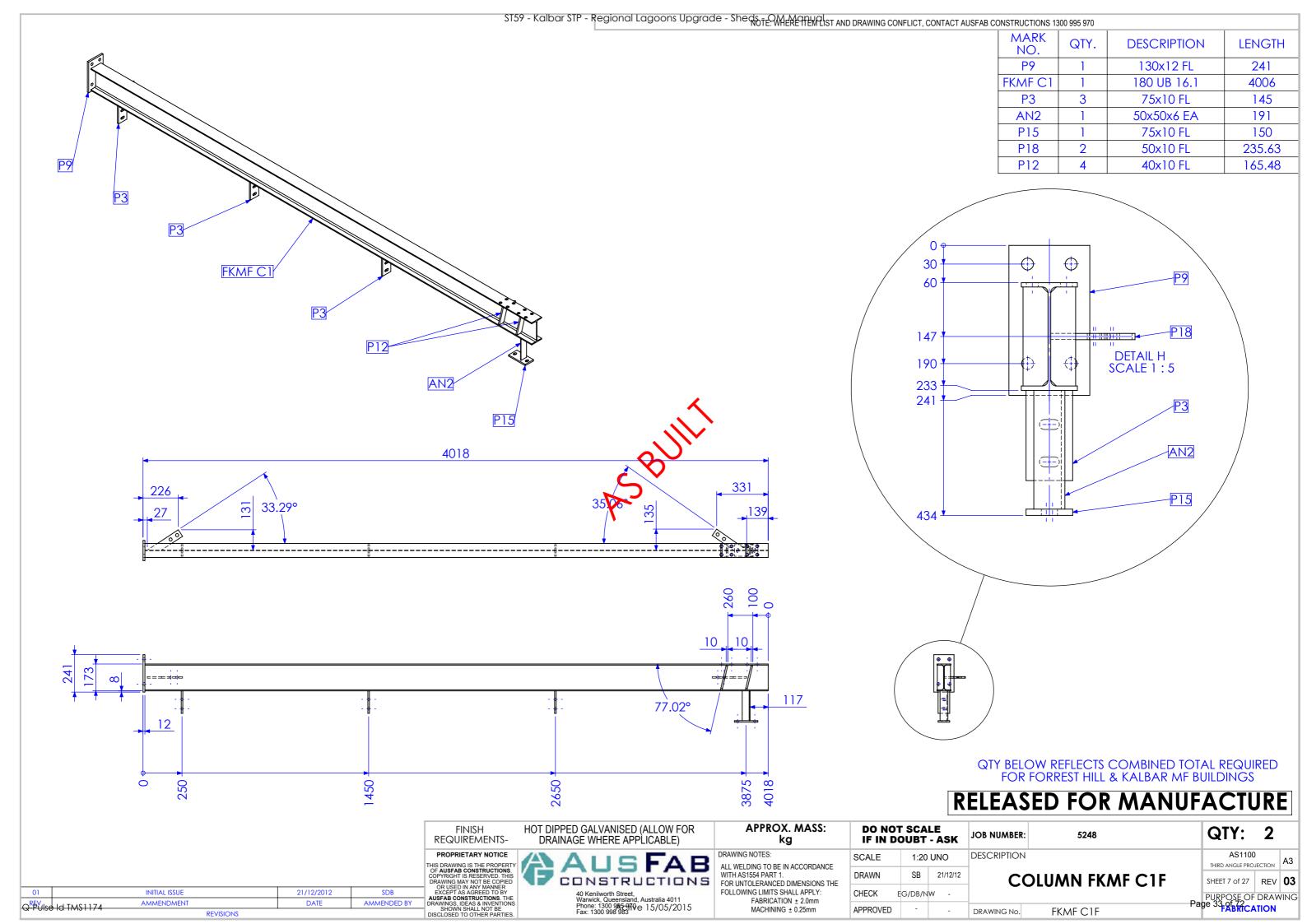


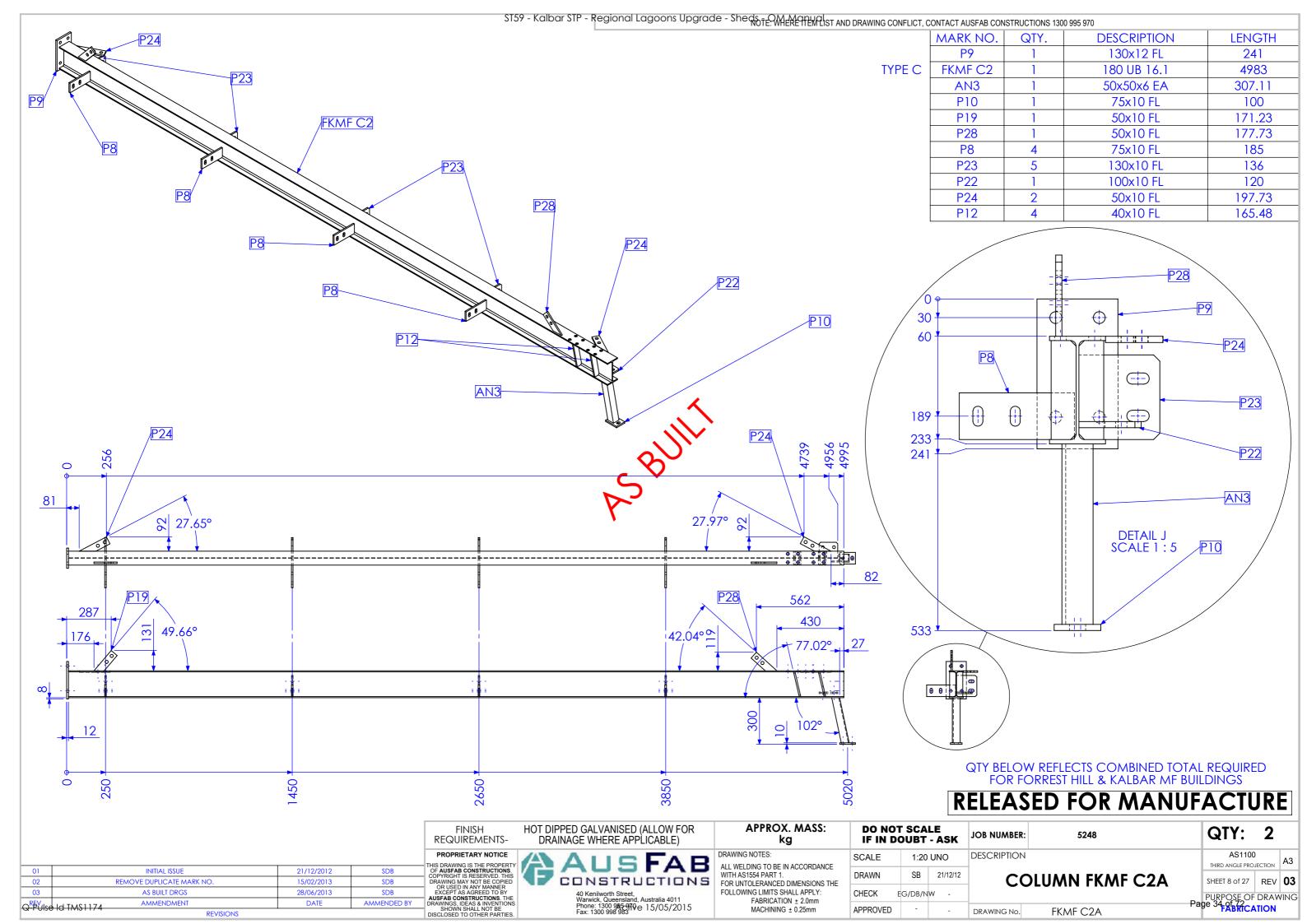


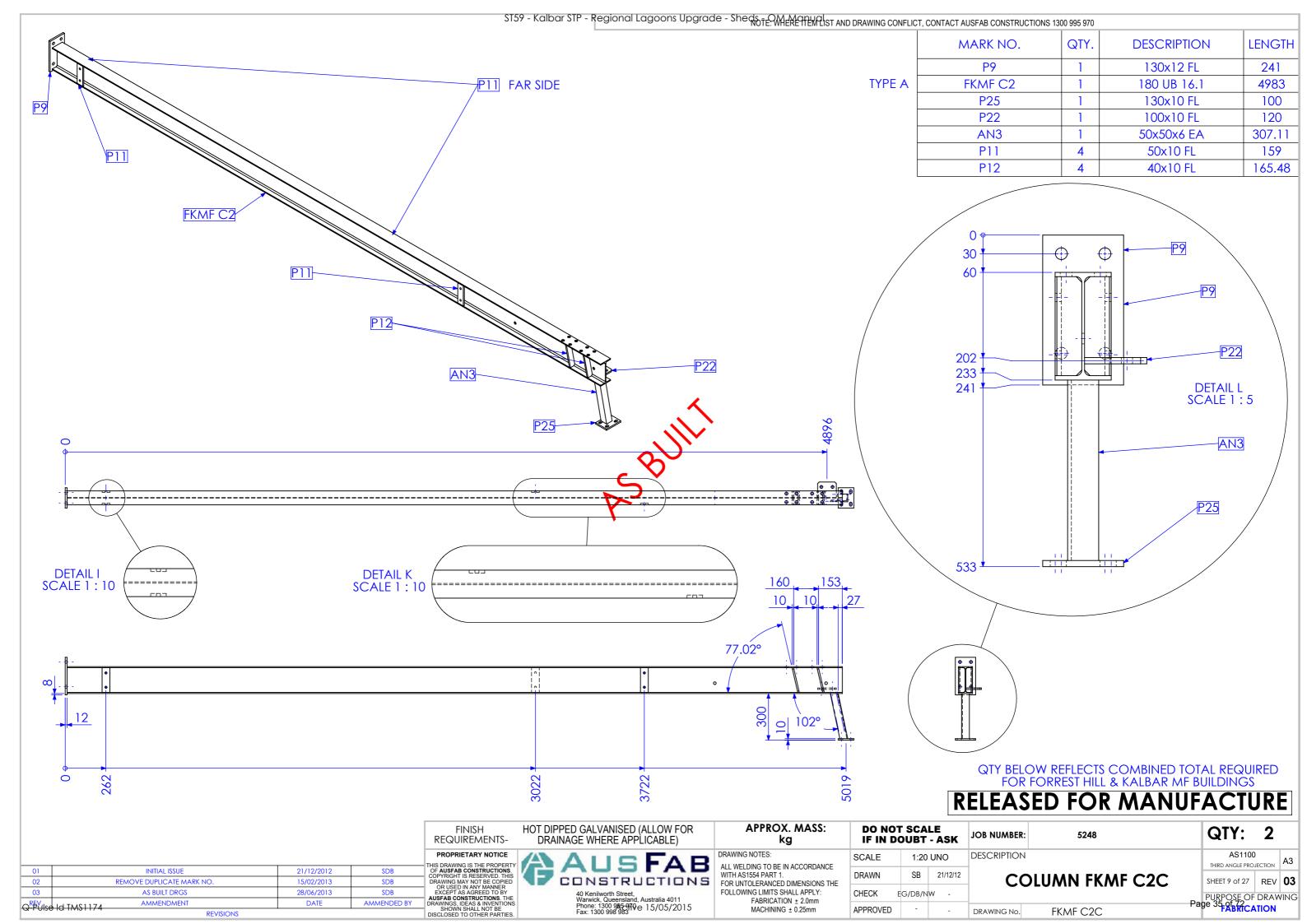


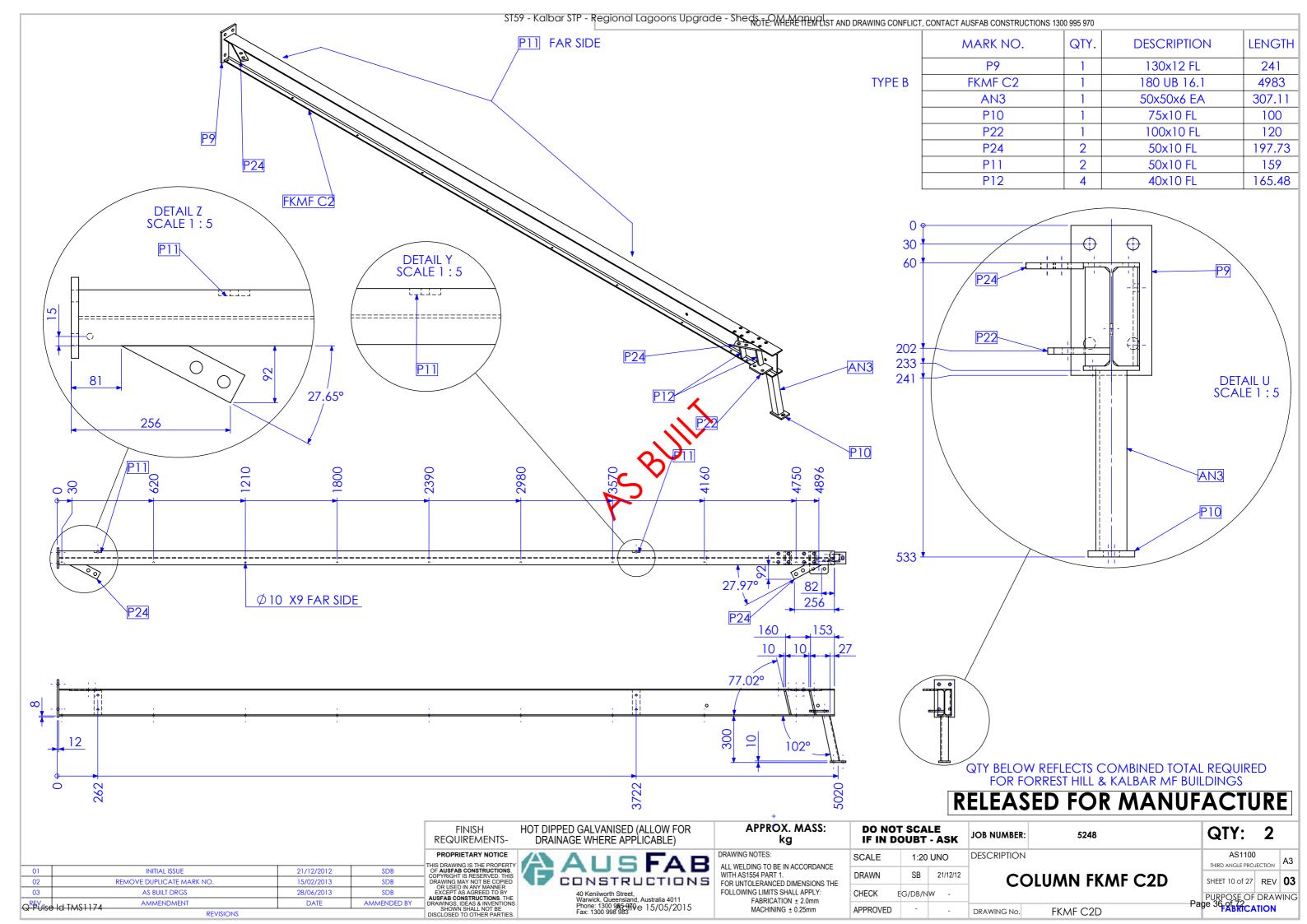


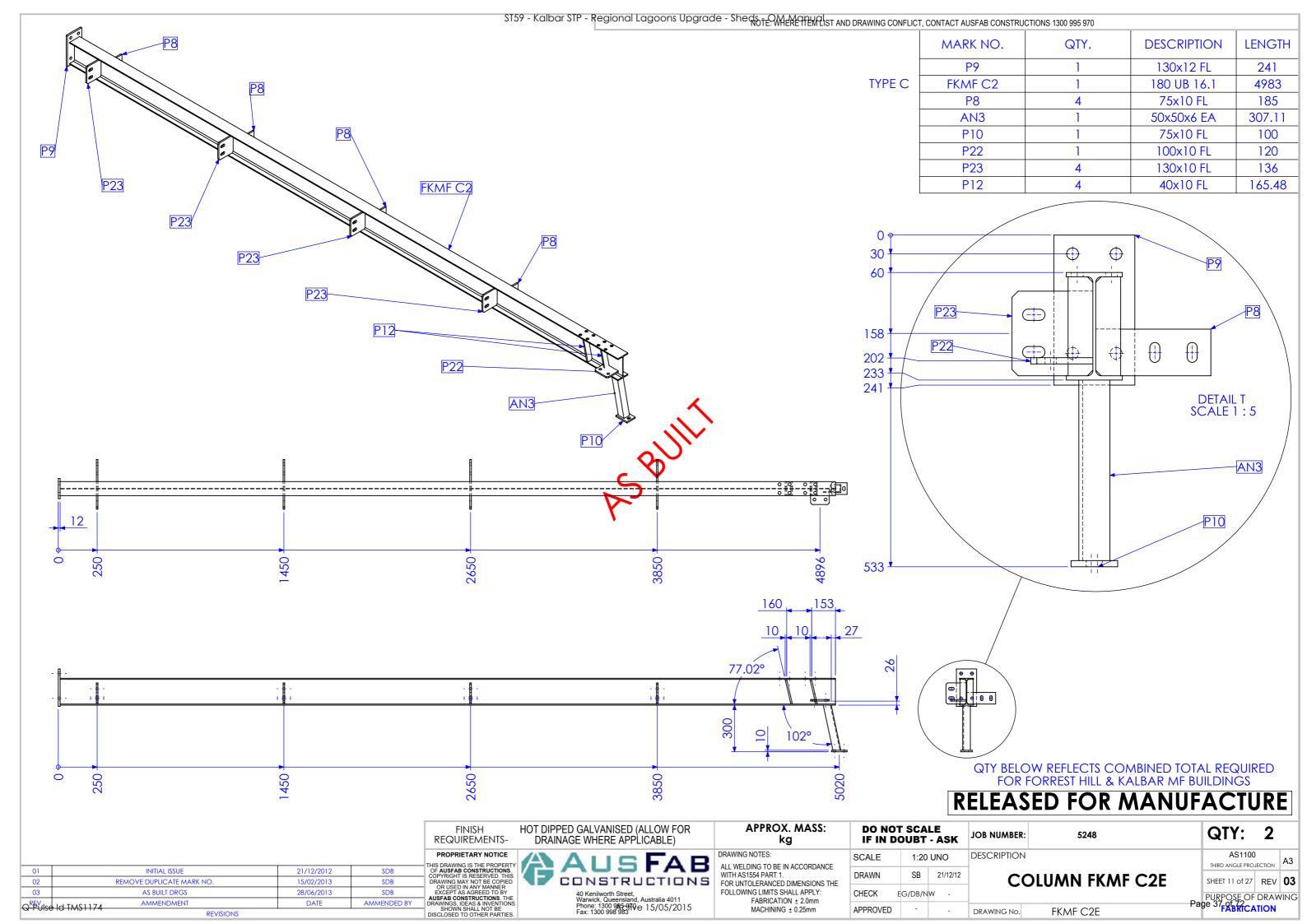


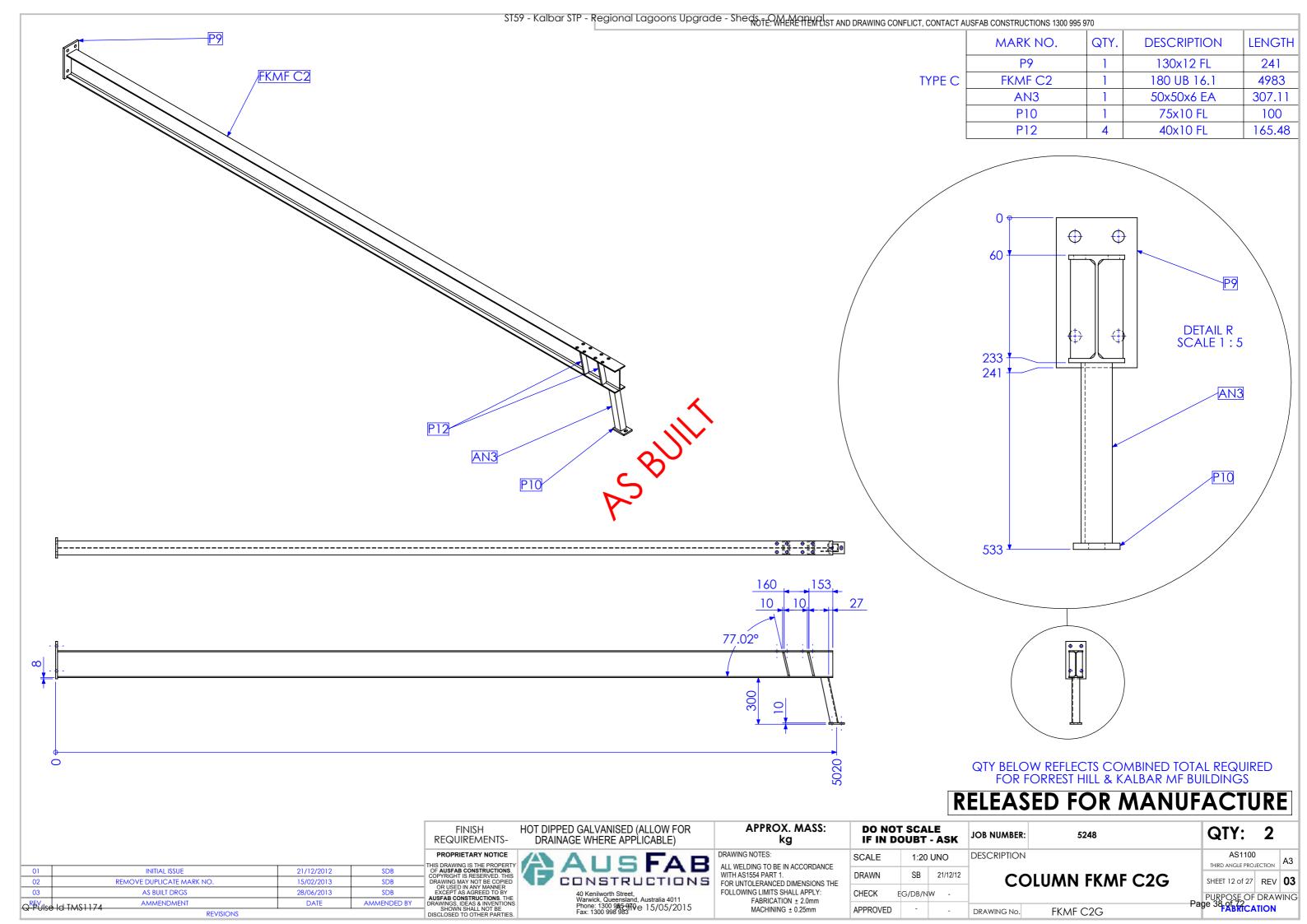


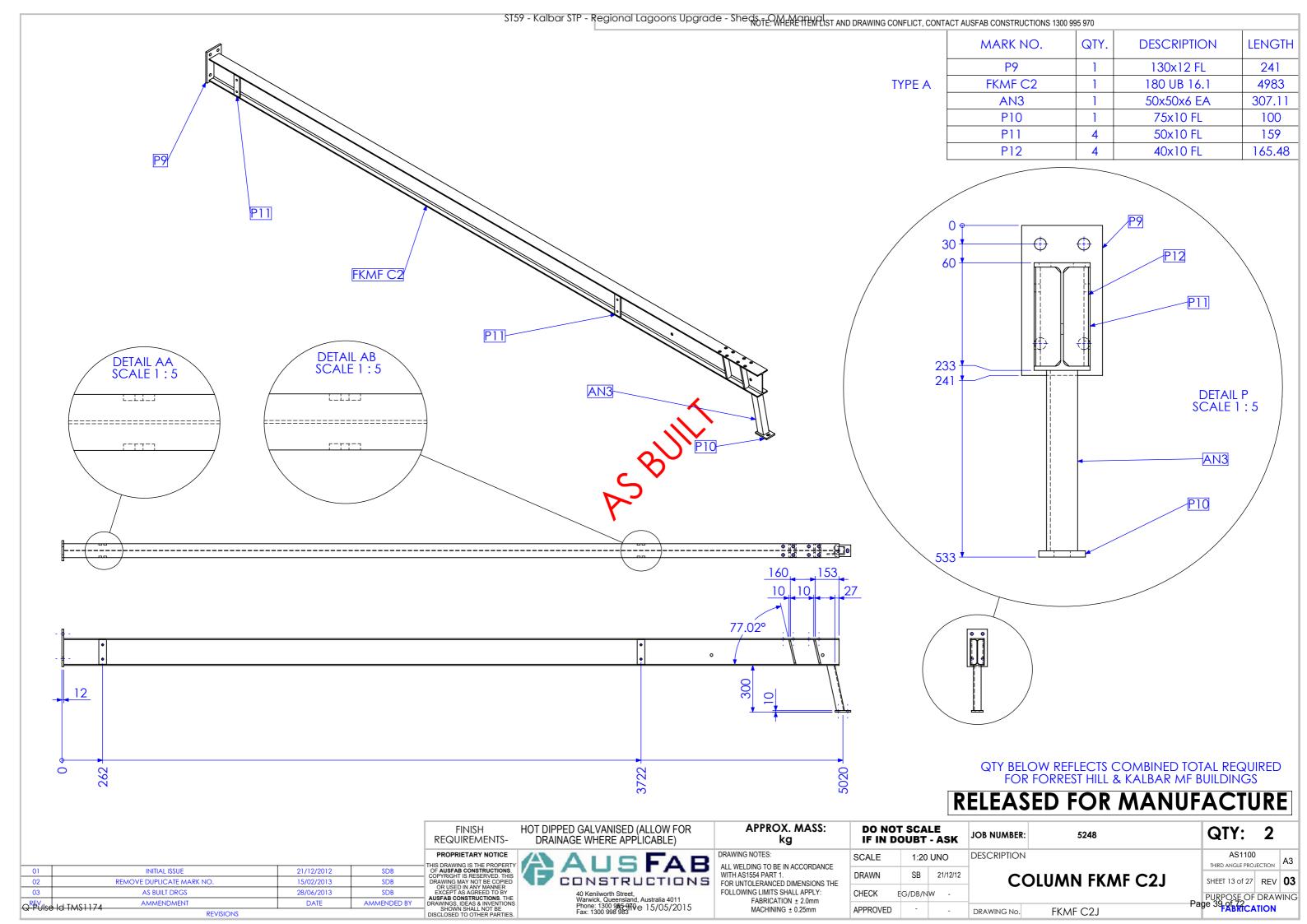


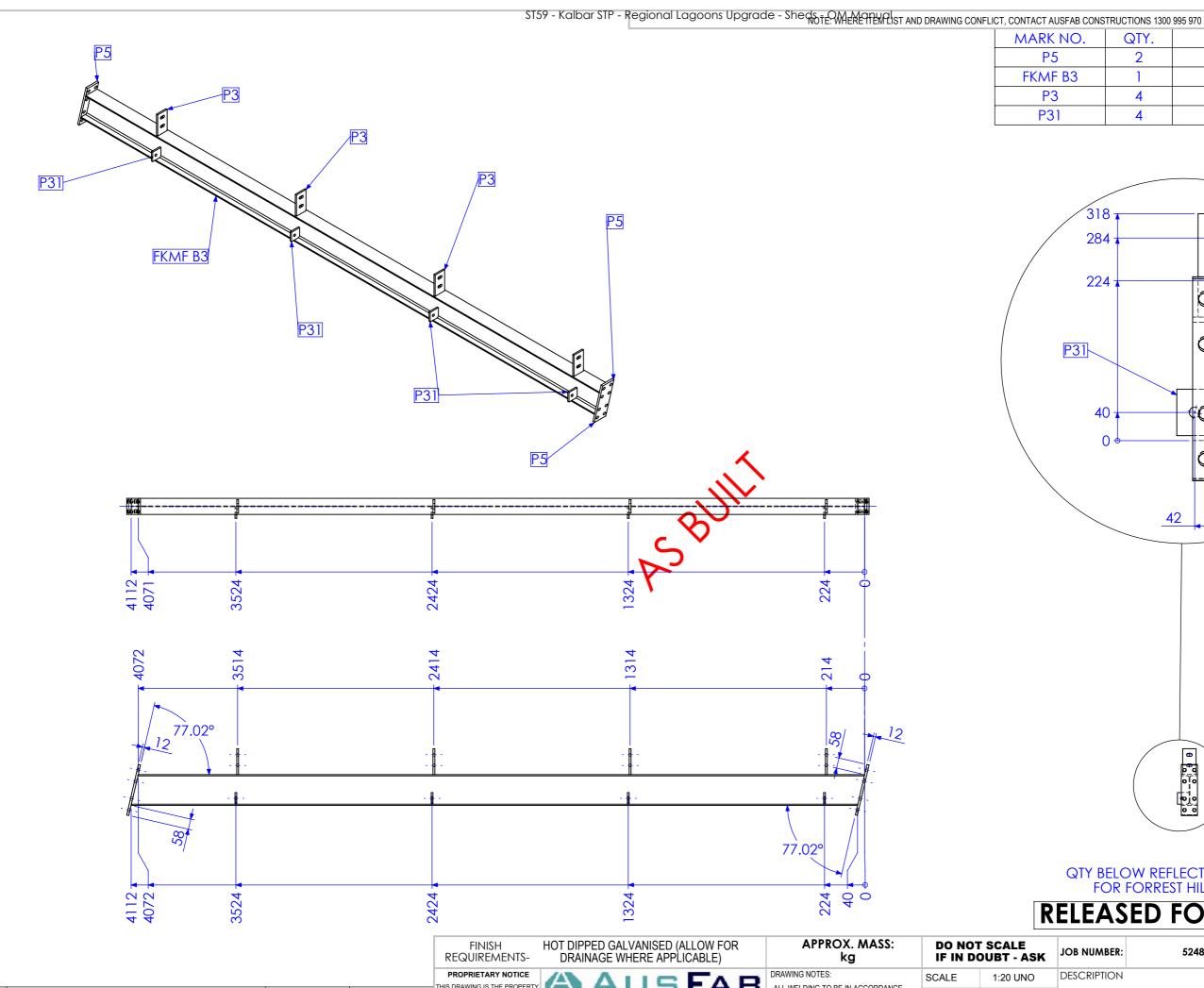




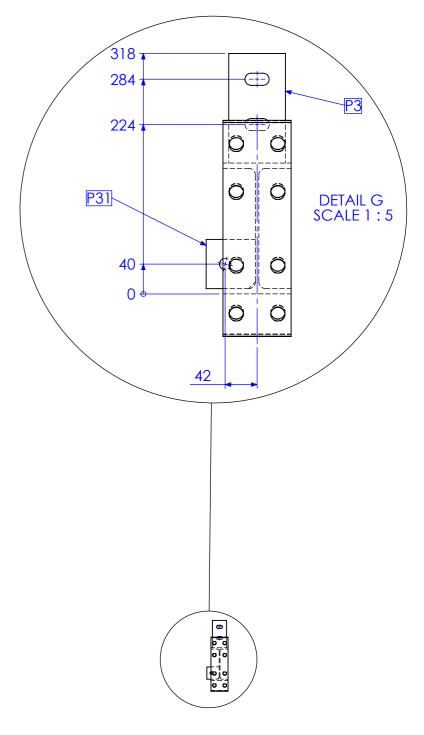






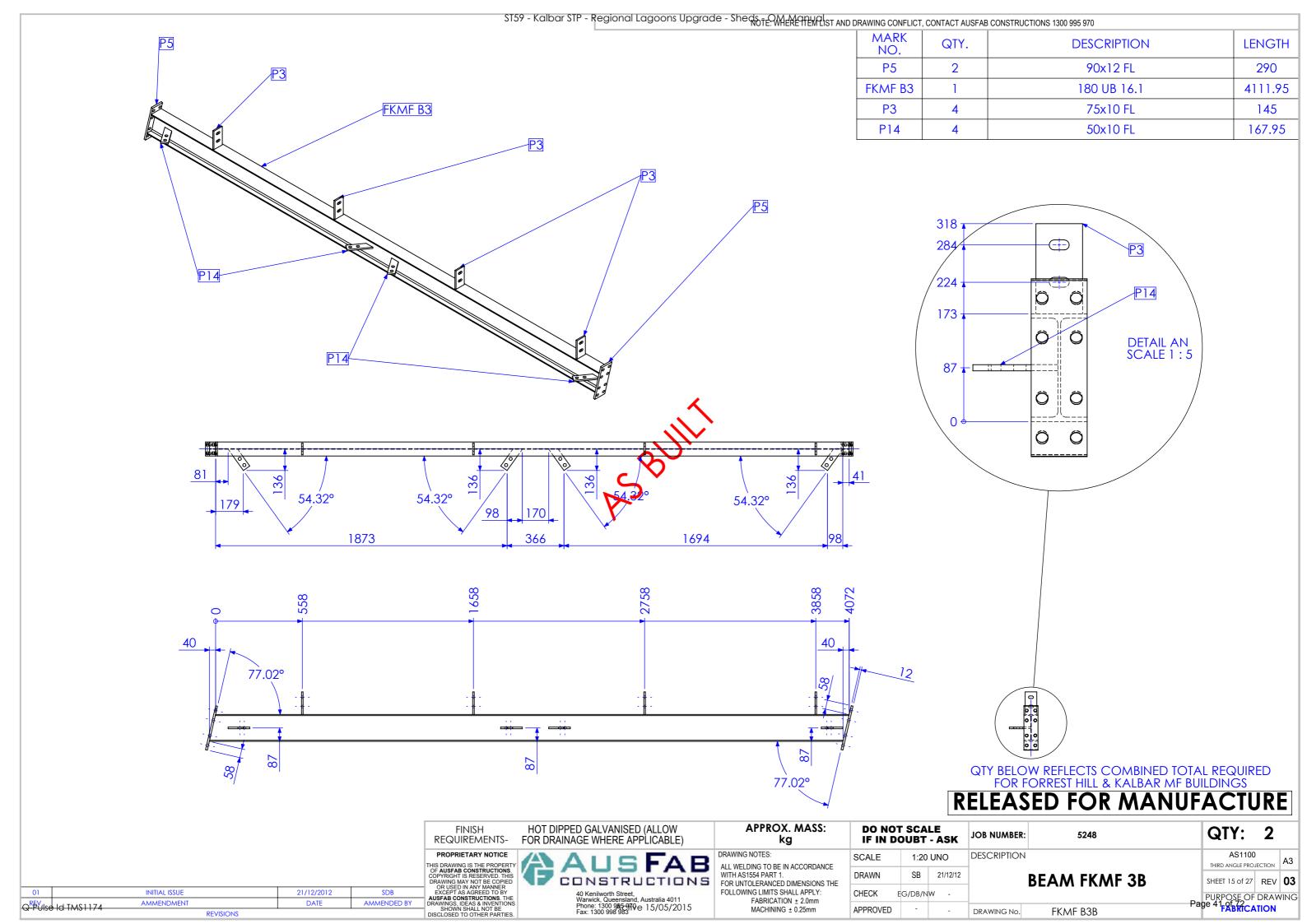


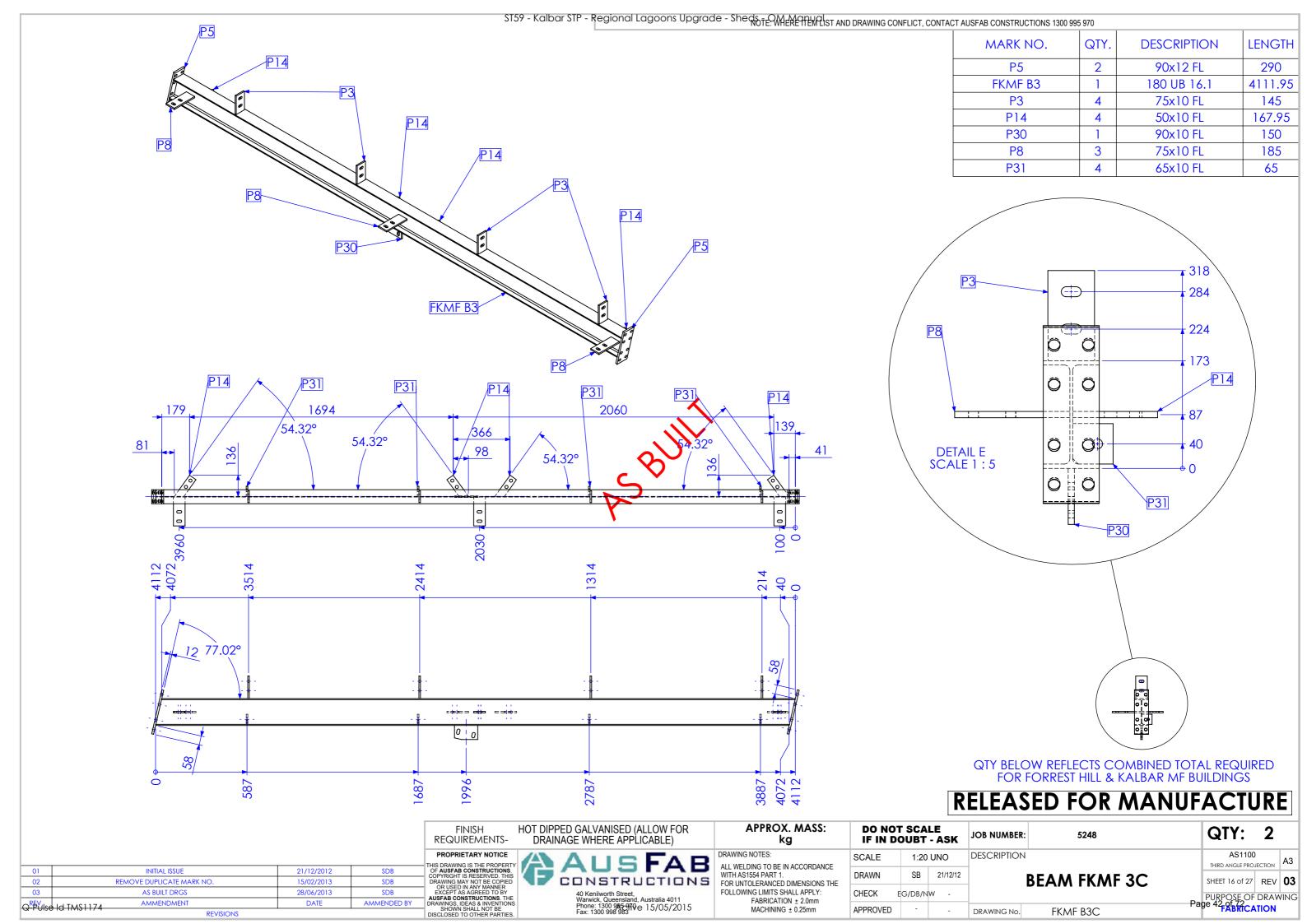
MARK NO.	QTY.	DESCRIPTION	LENGTH
P5	2	90x12 FL	290
FKMF B3	1	180 UB 16.1	4111.95
P3	4	75x10 FL	145
P31	4	65x10 FI	65

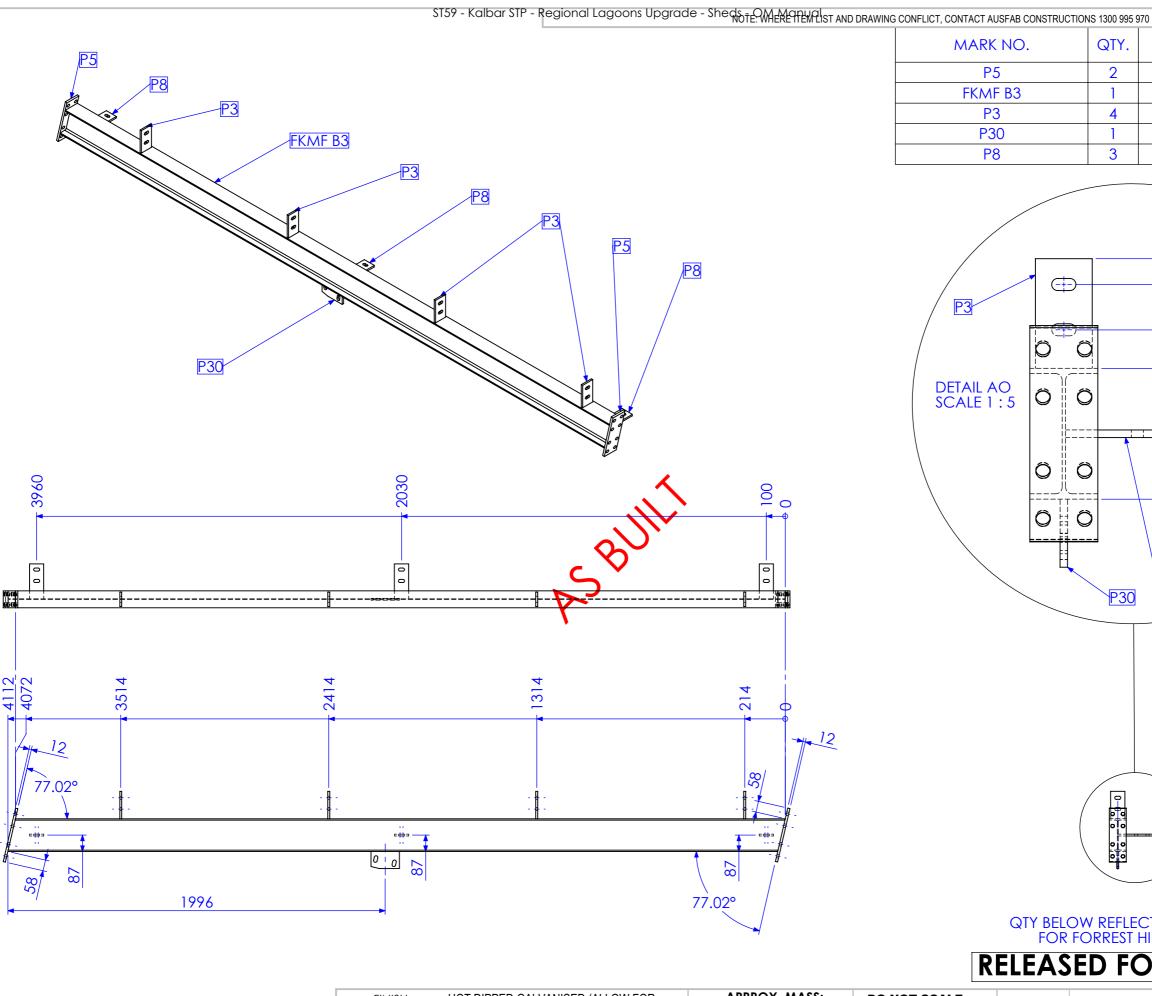


QTY BELOW REFLECTS COMBINED TOTAL REQUIRED FOR FORREST HILL & KALBAR MF BUILDINGS

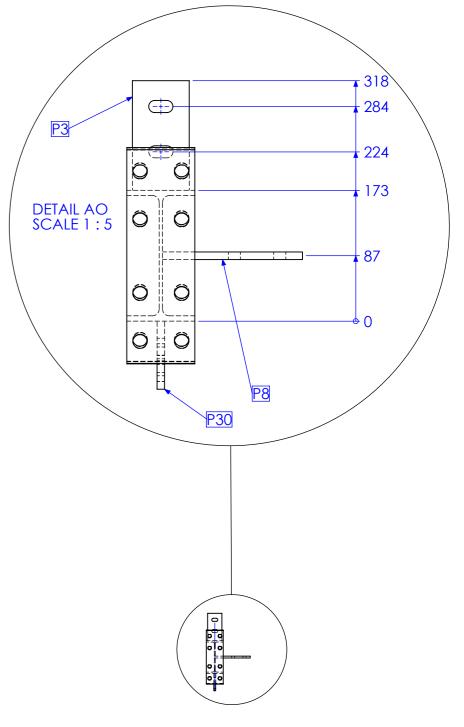
	4.4 (,)		•	N	_				1		LD I OK MAI	101	701		
				FINISH REQUIREMENTS-	HOT DIPPED GALVANISED (ALLOW FOR DRAINAGE WHERE APPLICABLE)	APPROX. MASS: kg		OT SCAI DOUBT		JOB NUMBER:	5248		QTY:	2	
				PROPRIETARY NOTICE THIS DRAWING IS THE PROPERTY	ALLEFAR	DRAWING NOTES:	SCALE	1:20	UNO	DESCRIPTION			AS110		А3
01	INITIAL ISSUE	21/12/2012	SDB	OF AUSFAB CONSTRUCTIONS.	AUSTAD	ALL WELDING TO BE IN ACCORDANCE WITH AS1554 PART 1.	DRAWN	SB	21/12/12				IHIKD ANGLE FRO		+
02	REMOVE DUPLICATE MARK NO.	15/02/2013	SDB	DRAWING MAY NOT BE COPIED OR USED IN ANY MANNER	CONSTRUCTIONS	FOR UNTOLERANCED DIMENSIONS THE	Bioton	05			BEAM FKMF 3A		SHEET 14 of 27	7 REV	/ 03
03	AS BUILT DRGS	28/06/2013	SDB	EXCEPT AS AGREED TO BY AUSFAB CONSTRUCTIONS. THE	40 Kenilworth Street,	FOLLOWING LIMITS SHALL APPLY:	CHECK	EG/DB/N	۸ -				PURPOSE_O	DE DRAY	WING
REVIISA	Id TMS1174 AMMENDMENT	DATE	AMMENDED BY	DRAWINGS, IDEAS & INVENTIONS SHOWN SHALL NOT BE	Warwick, Queensland, Australia 4011 Phone: 1300 985 970 ← 15/05/2015 Fax: 1300 988 983	FABRICATION ± 2.0mm	ADDDOVED					Pag	e 40 of 72	'ATION	711110
Q 1 0130	REVISIONS			DISCLOSED TO OTHER PARTIES.	Fax: 1300 998 983 11 C 137 037 2013	MACHINING ± 0.25mm	APPROVED) -	-	DRAWING No.	FKMF B3A		FABRIC	AHON	





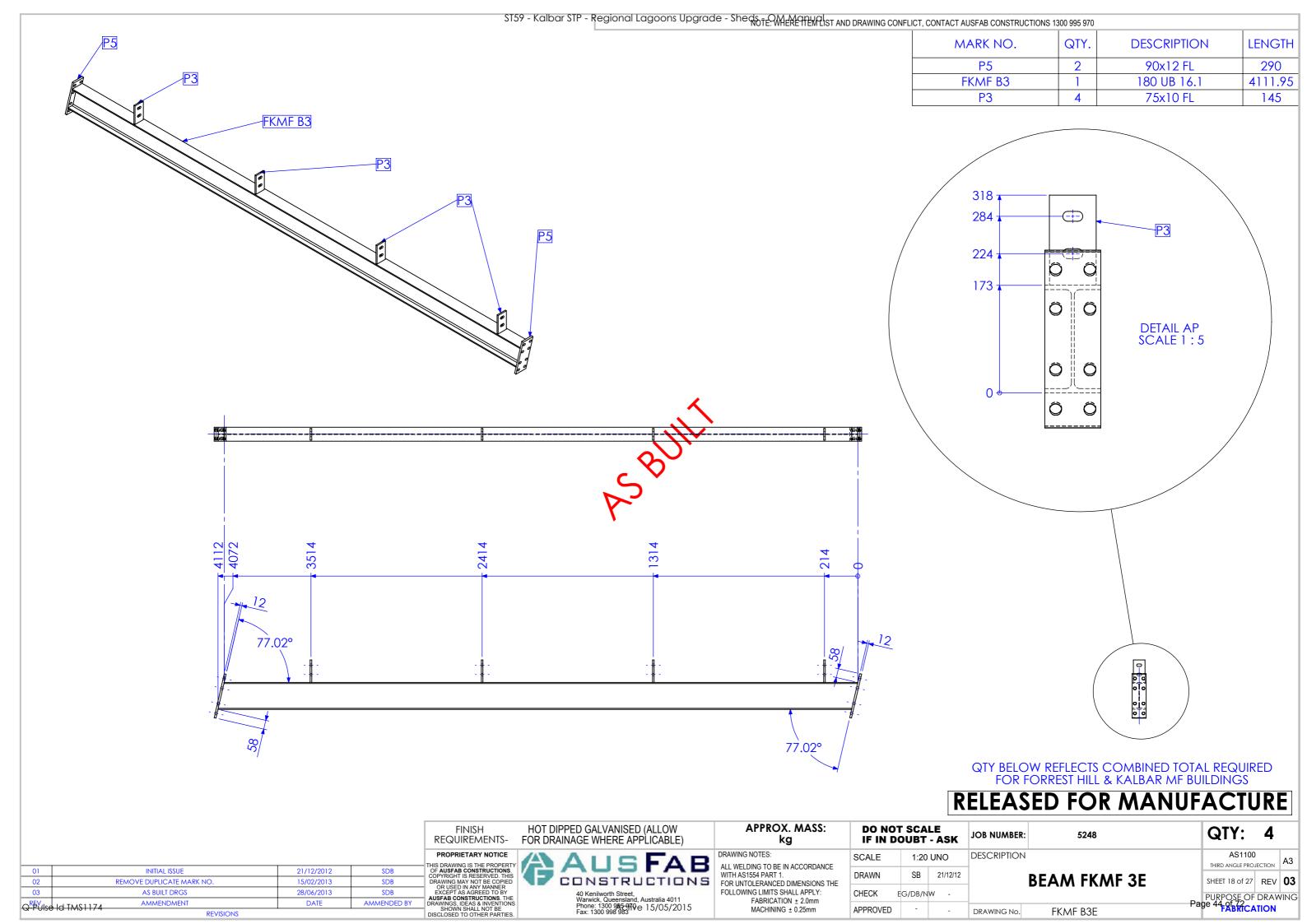


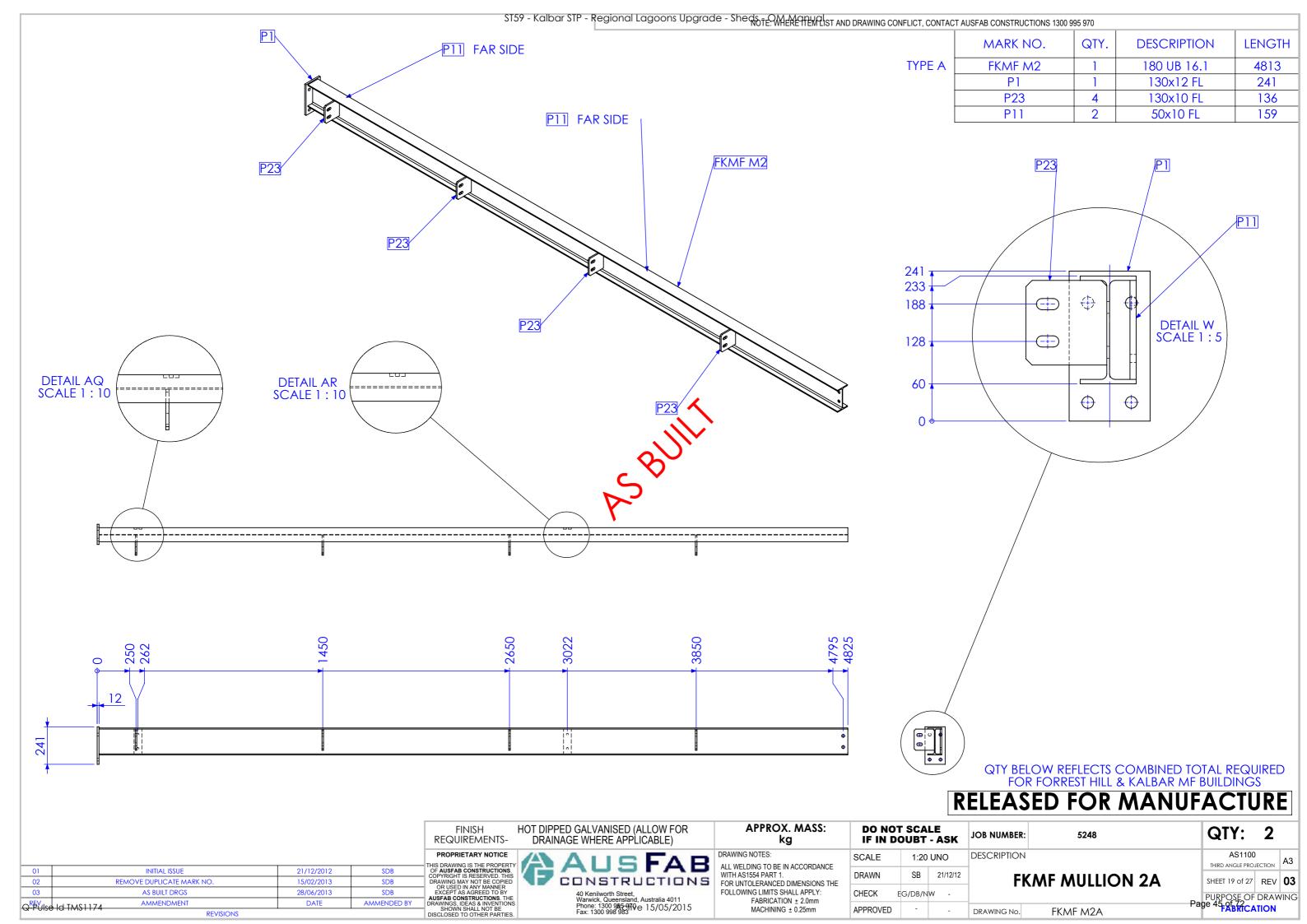
MARK NO.	QTY.	DESCRIPTION	LENGTH
P5	2	90x12 FL	290
FKMF B3	1	180 UB 16.1	4111.95
P3	4	75x10 FL	145
P30	1	90x10 FL	150
P8	3	75x10 FL	185

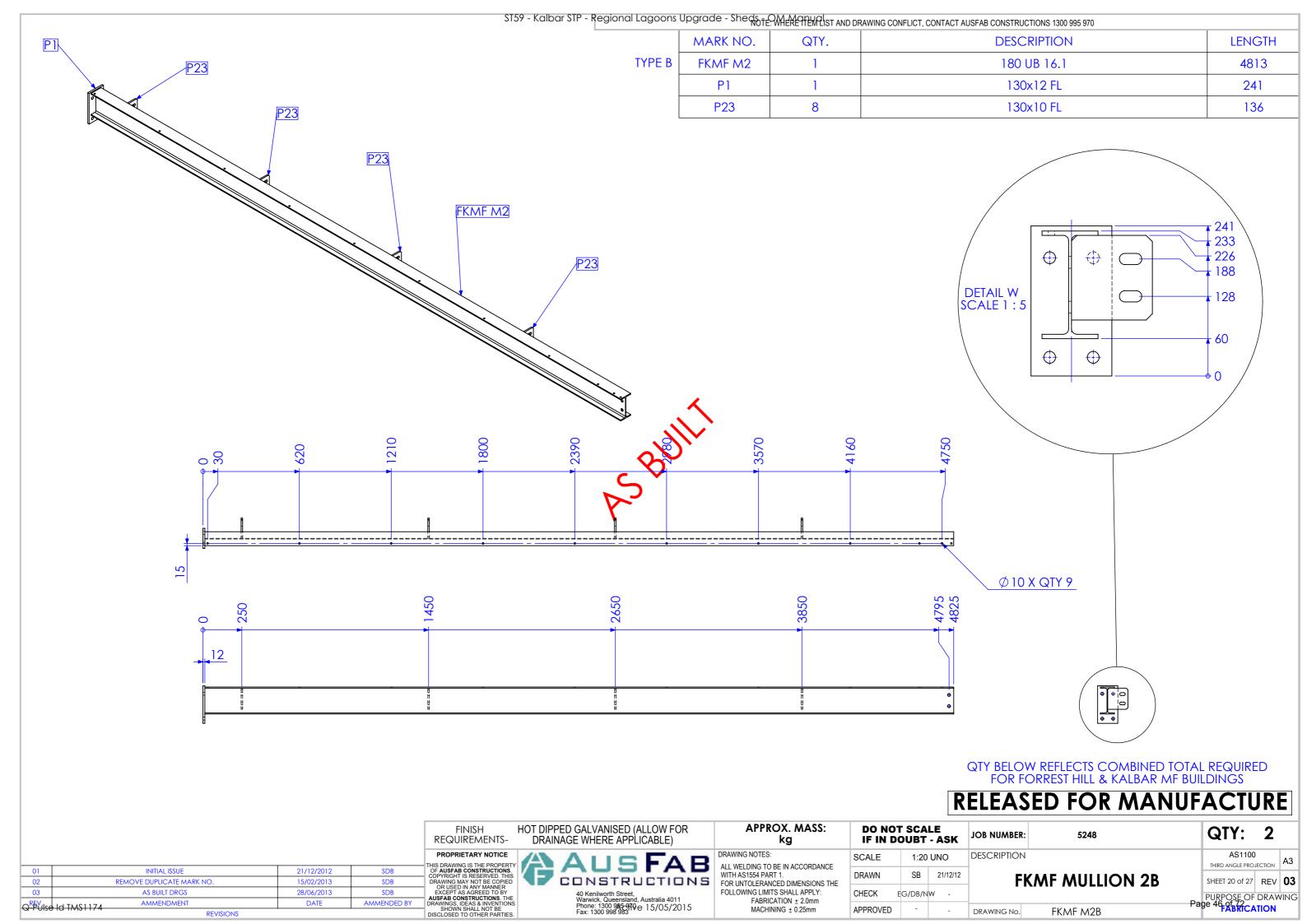


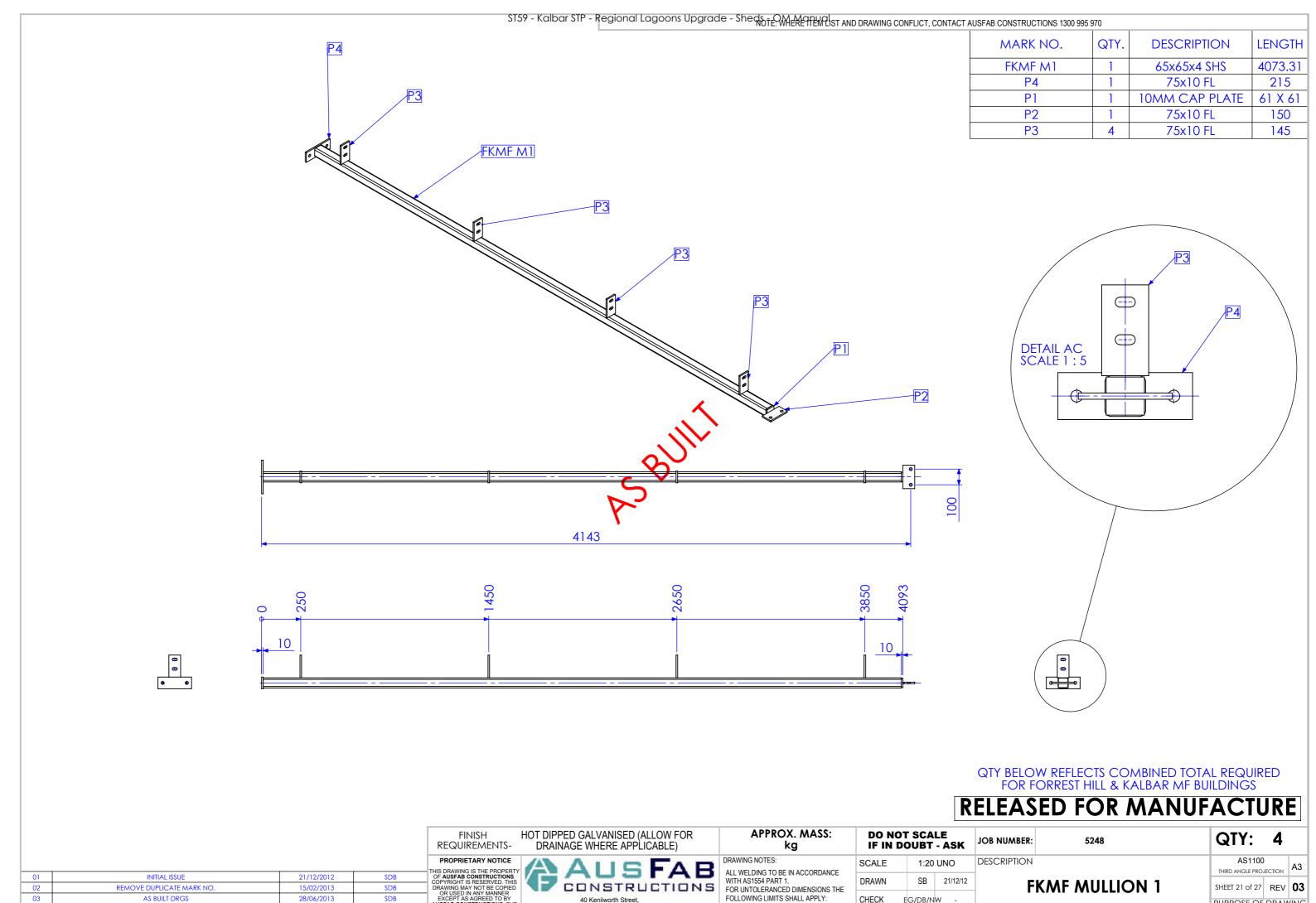
QTY BELOW REFLECTS COMBINED TOTAL REQUIRED FOR FORREST HILL & KALBAR MF BUILDINGS

				FINISH REQUIREMENTS-	HOT DIPPED GALVANISED (ALLOW FOR DRAINAGE WHERE APPLICABLE)	APPROX. MASS: kg		OT SCALE Doubt - ASK	JOB NUMBER:	5248	QTY:	2	
				PROPRIETARY NOTICE	A AUS FAB	DRAWING NOTES:	SCALE	1:20 UNO	DESCRIPTION		AS110		A3
01	INITIAL ISSUE	21/12/2012	SDB	THIS DRAWING IS THE PROPERTY OF AUSFAB CONSTRUCTIONS.		ALL WELDING TO BE IN ACCORDANCE WITH AS1554 PART 1.	DRAWN	SB 21/12/12	1 ,		THIRD ANGLE PRO		
02	REMOVE DUPLICATE MARK NO.	15/02/2013	SDB	DRAWING MAY NOT BE COPIED OR USED IN ANY MANNER	CONSTRUCTIONS	FOR UNTOLERANCED DIMENSIONS THE	DIVAVIA	OB 21/12/12	-	BEAM FKMF 3D	SHEET 17 of 27	7 REV	03
03	AS BUILT DRGS	28/06/2013	SDB	EXCEPT AS AGREED TO BY AUSFAB CONSTRUCTIONS. THE	40 Kenilworth Street,	FOLLOWING LIMITS SHALL APPLY:	CHECK	EG/DB/NW -			PURPOSE O)F DRAV	VING
QREVISE Id TI	MS1174 AMMENDMENT	DATE	AMMENDED BY	DRAWINGS, IDEAS & INVENTIONS SHOWN SHALL NOT BE	Warwick, Queensland, Australia 4011 Phone: 1300 98 5 97 0 e 15/05/2015 Fax: 1300 998 983	FABRICATION ± 2.0mm MACHINING ± 0.25mm	ADDDOVED	_		FIG. 45 DOD	Page 43 of 72	ATION	,,,,
Q 1 0150 10 17	REVISIONS			DISCLOSED TO OTHER PARTIES.	Fax: 1300 998 983********************************	INIACHIINING ± 0.25mm	APPROVED	' -	DRAWING No.	FKMF B3D	TADRIC	AIION	









CONSTRUCTIONS

40 Kenilworth Street, Warwick, Queensland, Australia 4011 Phone: 1300 985 970 e 15/05/2015 Fax: 1300 998 983

DRAWN

CHECK

APPROVED

FOR UNTOLERANCED DIMENSIONS THE FOLLOWING LIMITS SHALL APPLY: FABRICATION ± 2.0mm

MACHINING ± 0.25mm

SB

EG/DB/NW

21/12/12

DRAWING No.

FKMF MULLION 1

FKMF M1

SHEET 21 of 27 REV **03**

PURPOSE OF DRAWING Page 47 FABRICATION

INITIAL ISSUE

REMOVE DUPLICATE MARK NO.

AMMENDMENT

REVISIONS

QREVISE Id TMS1174

SDB

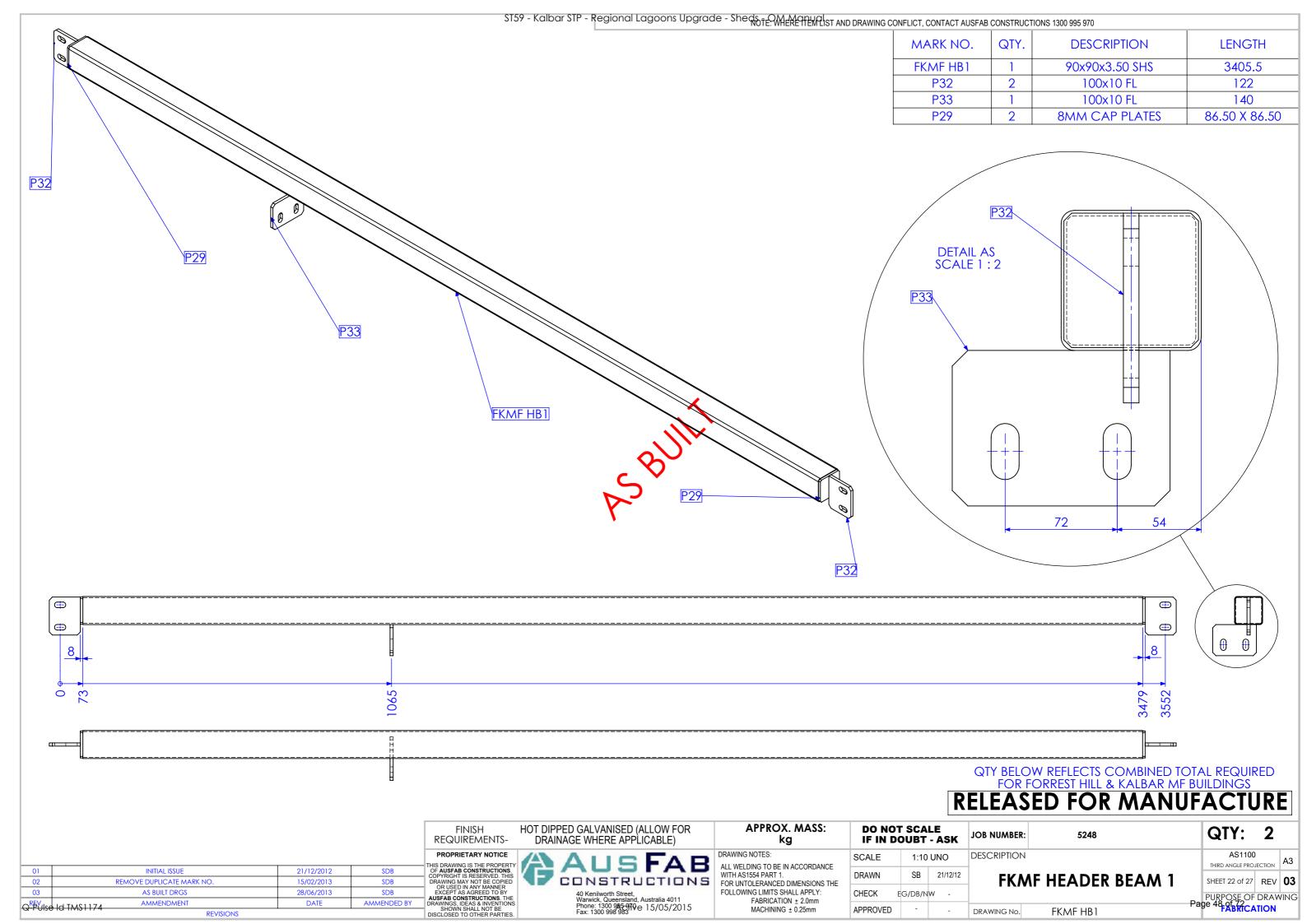
SDB

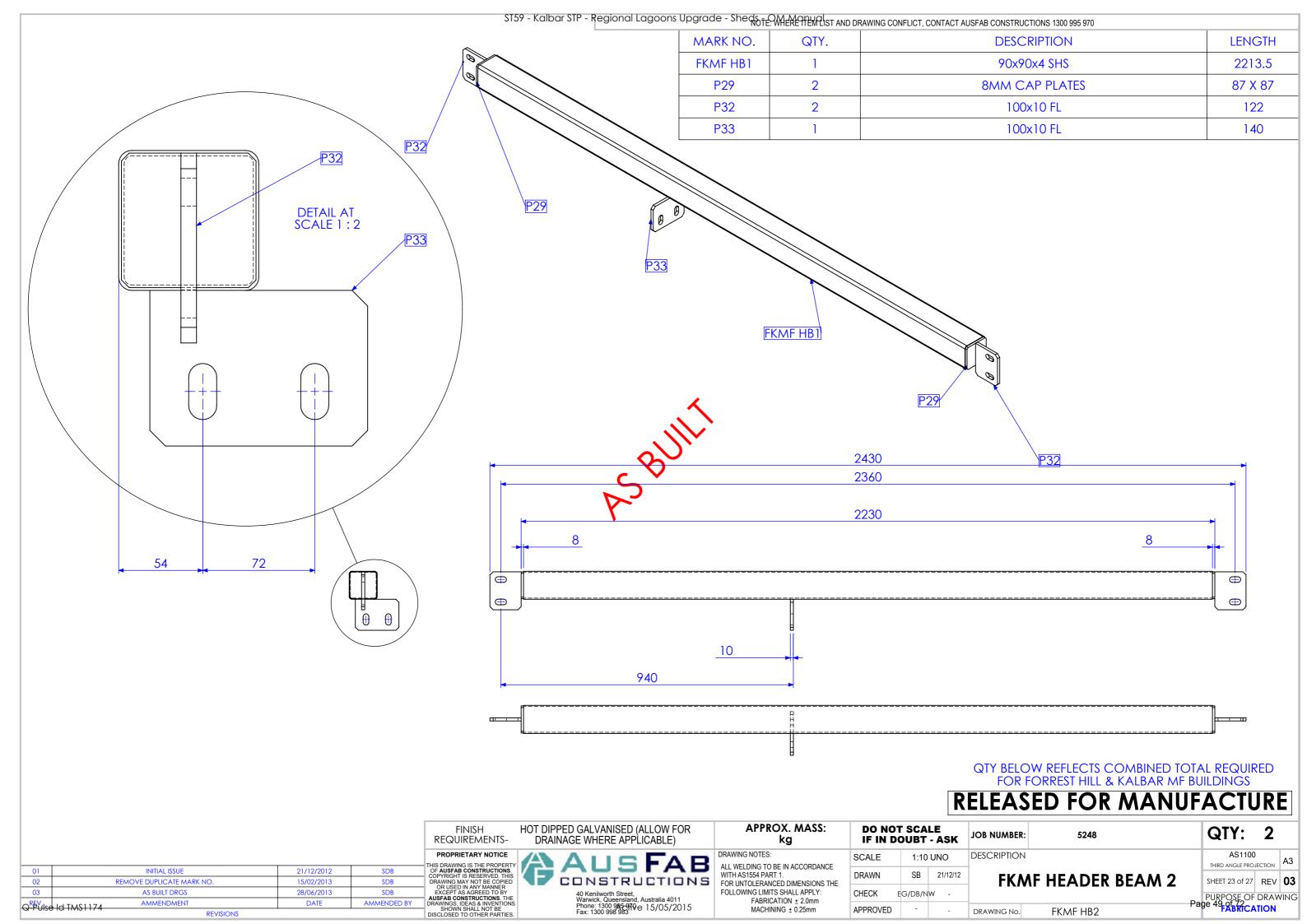
AMMENDED BY

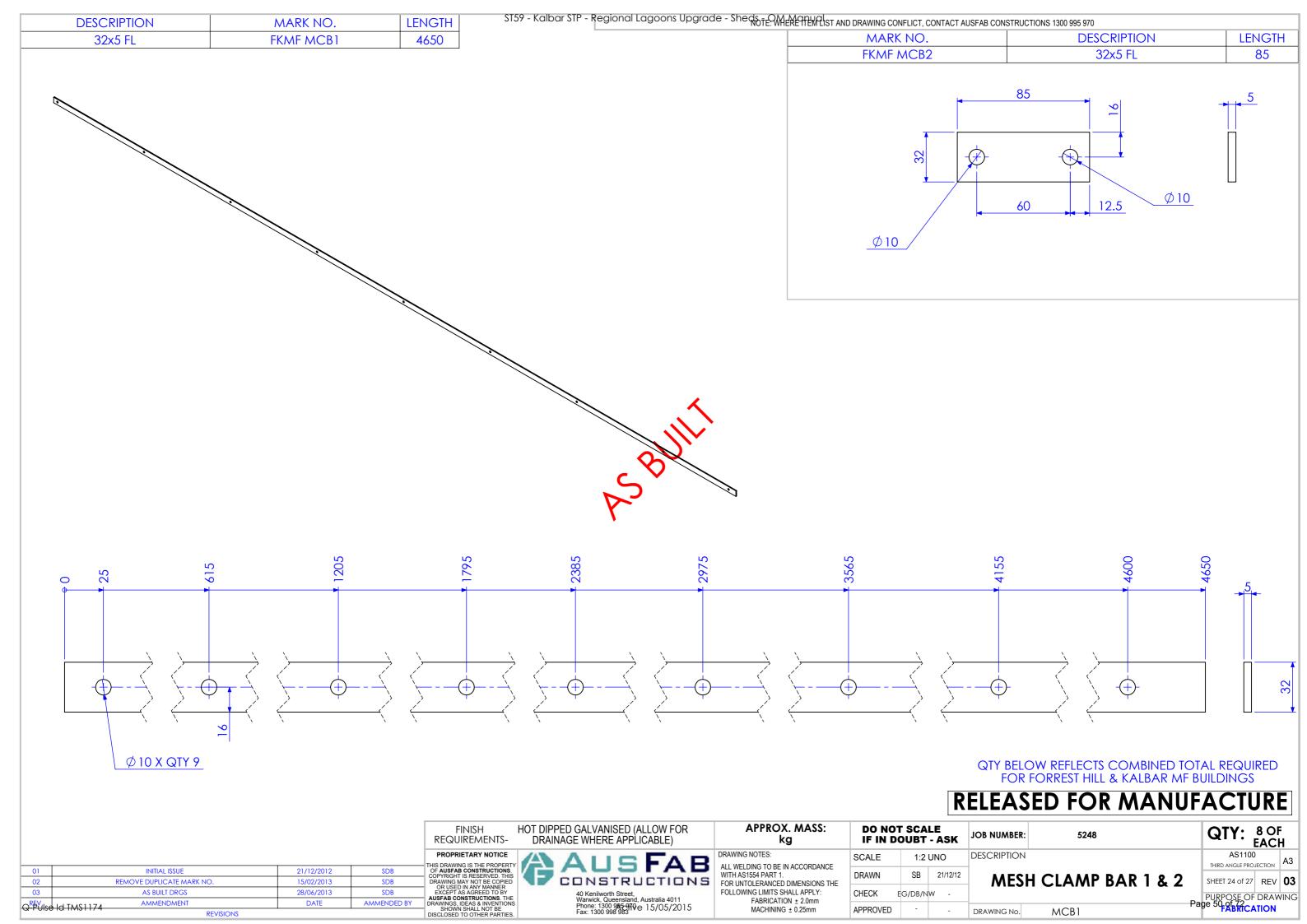
- AUSFAB CONSTRUCTIONS. THE DRAWINGS, IDEAS & INVENTIONS SHOWN SHALL NOT BE DISCLOSED TO OTHER PARTIES.

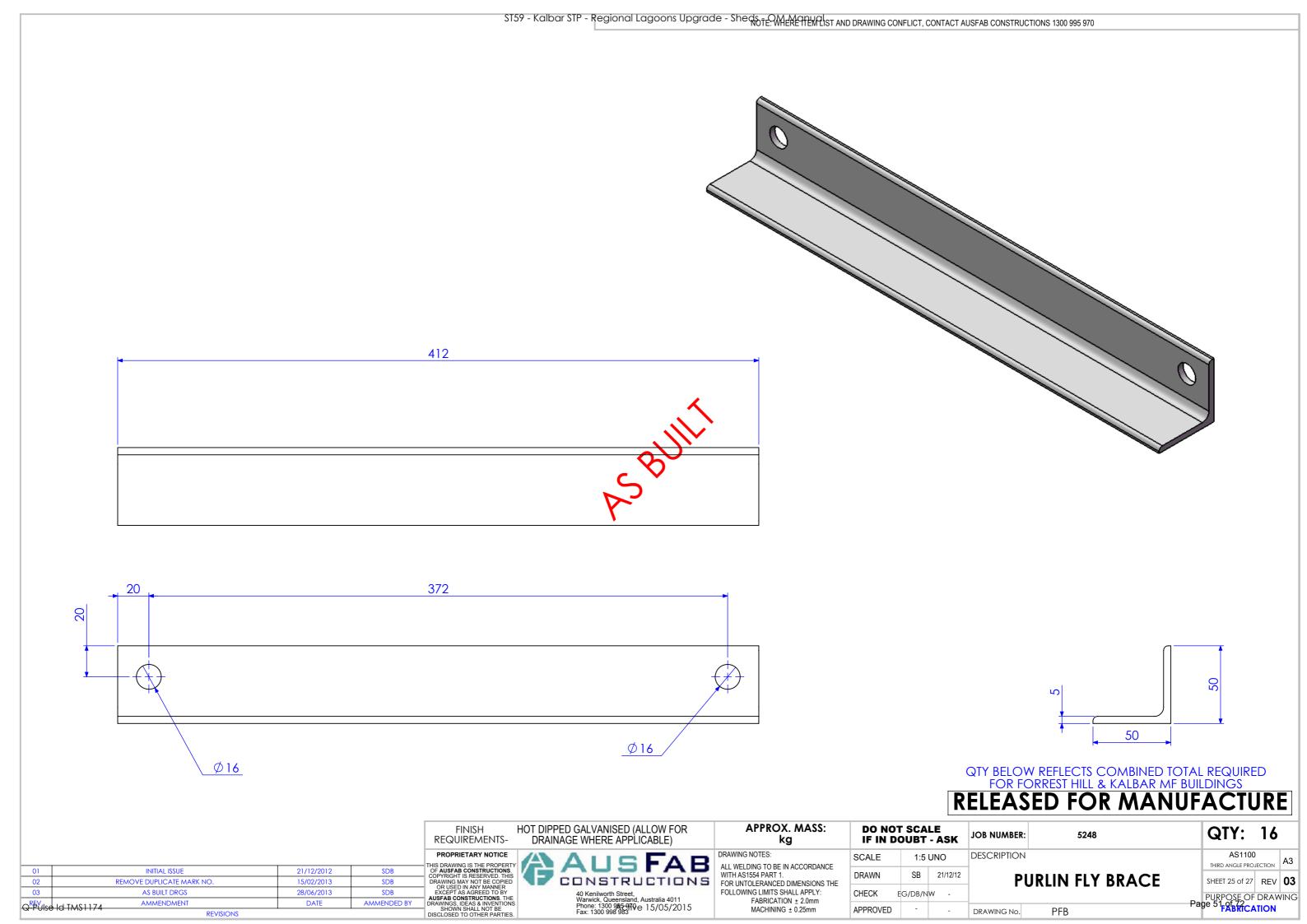
28/06/2013

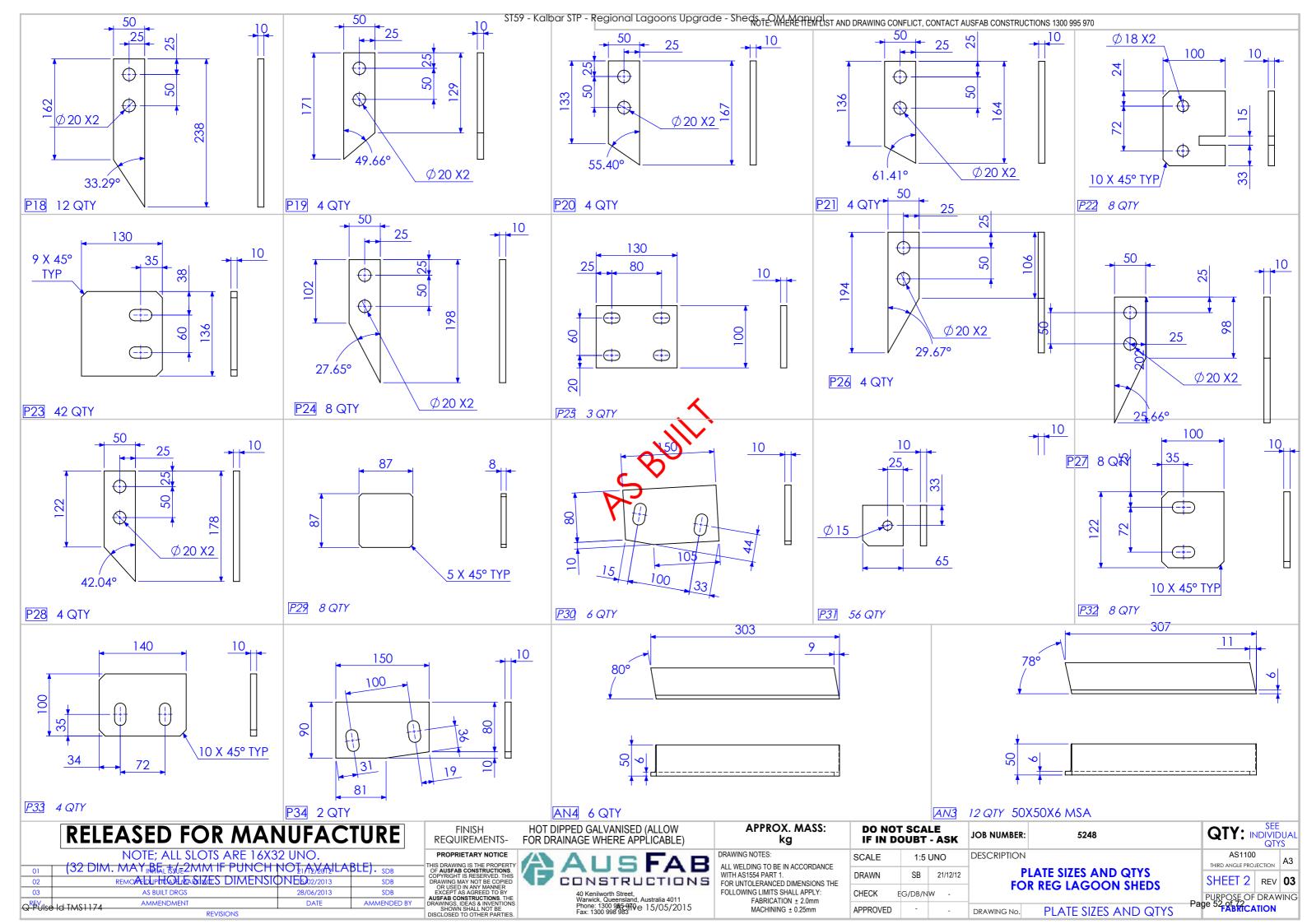
DATE

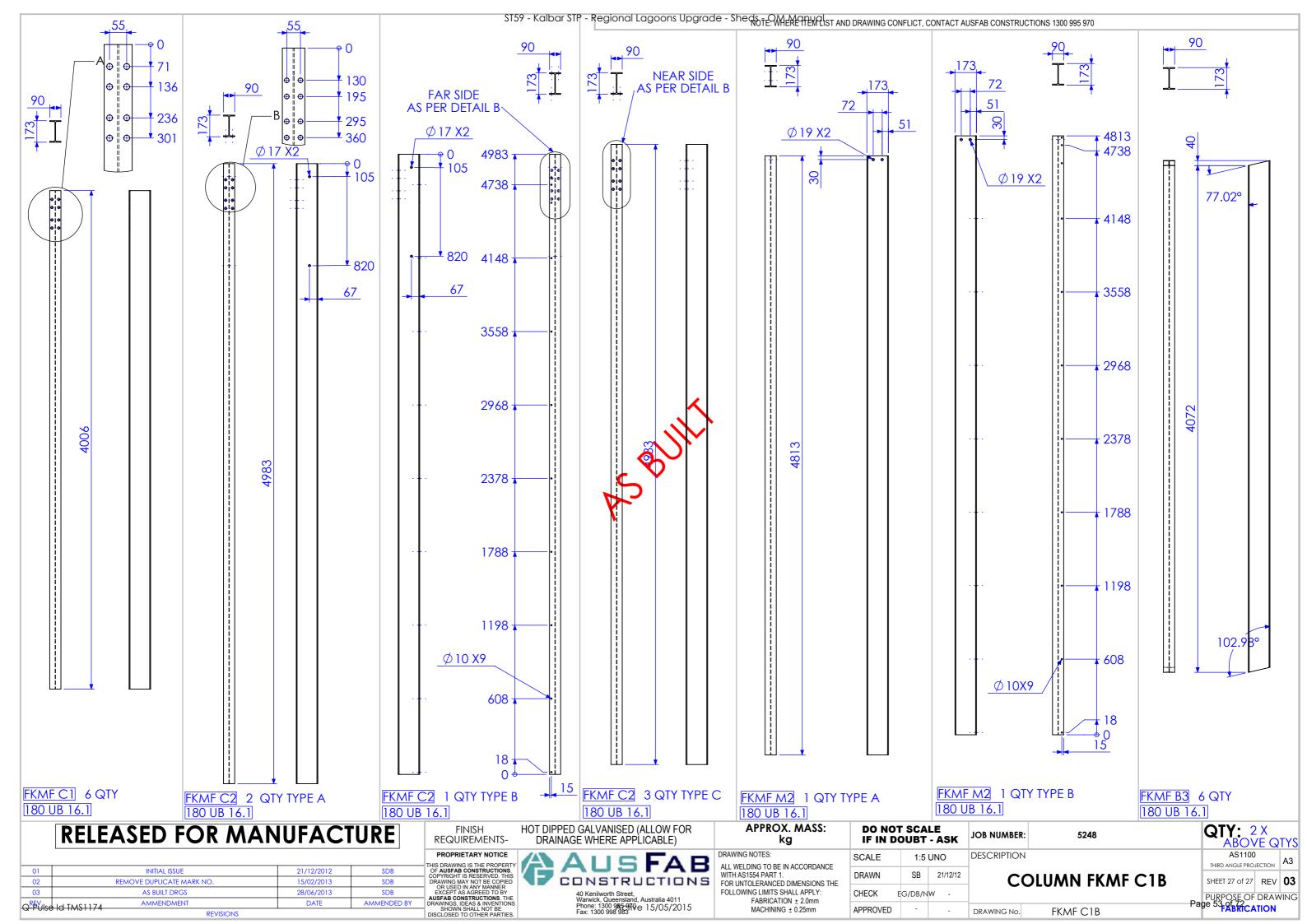


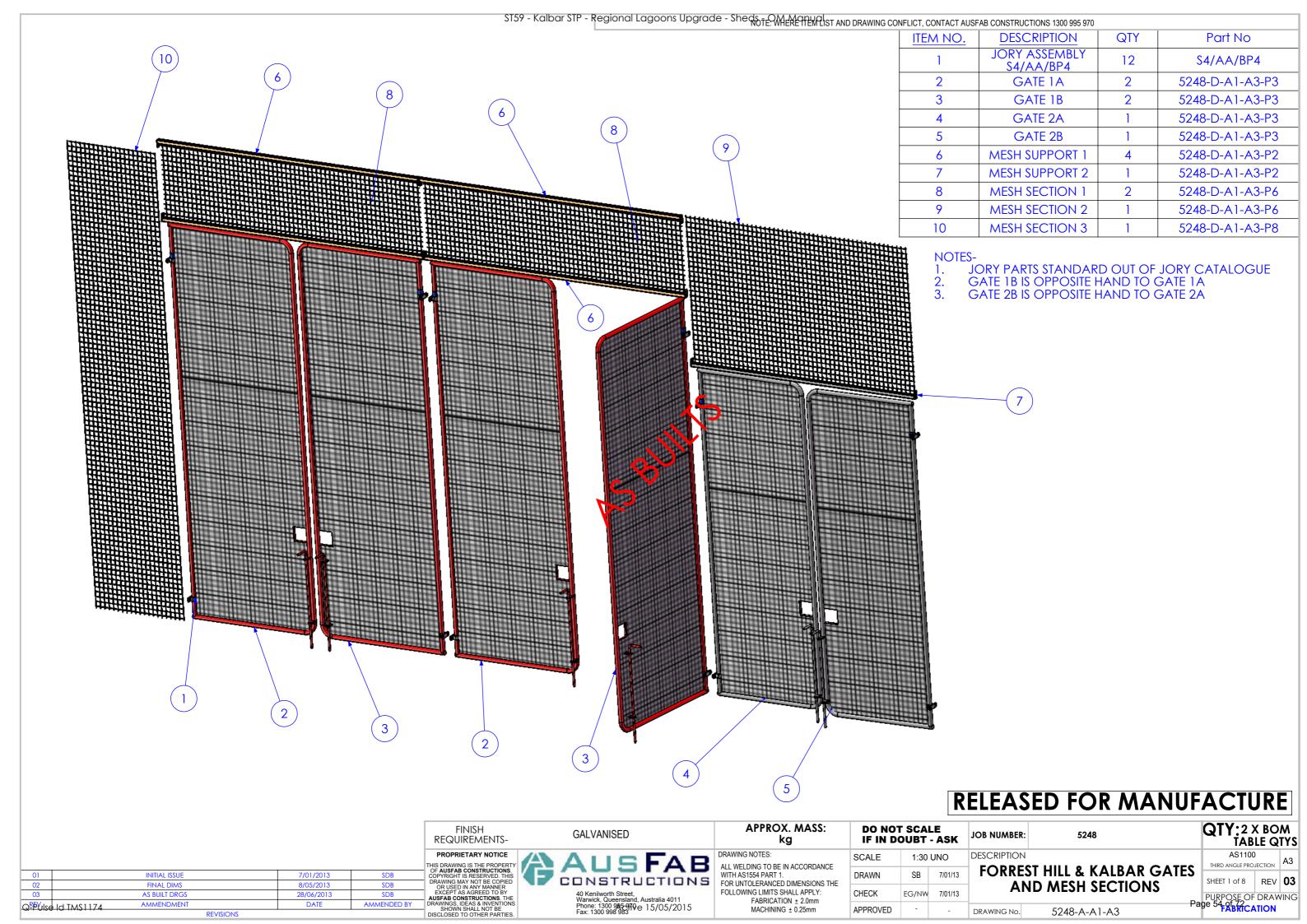


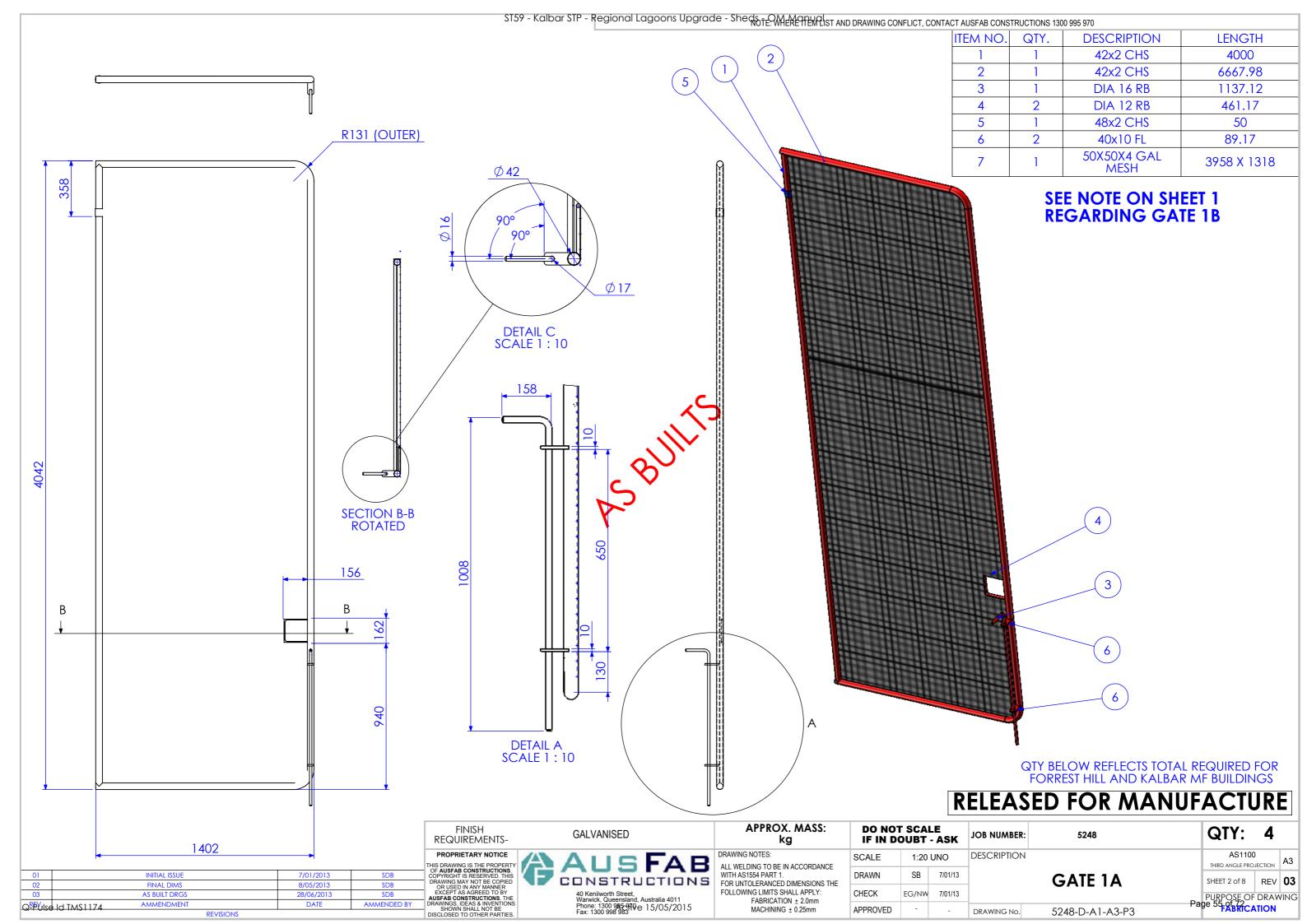


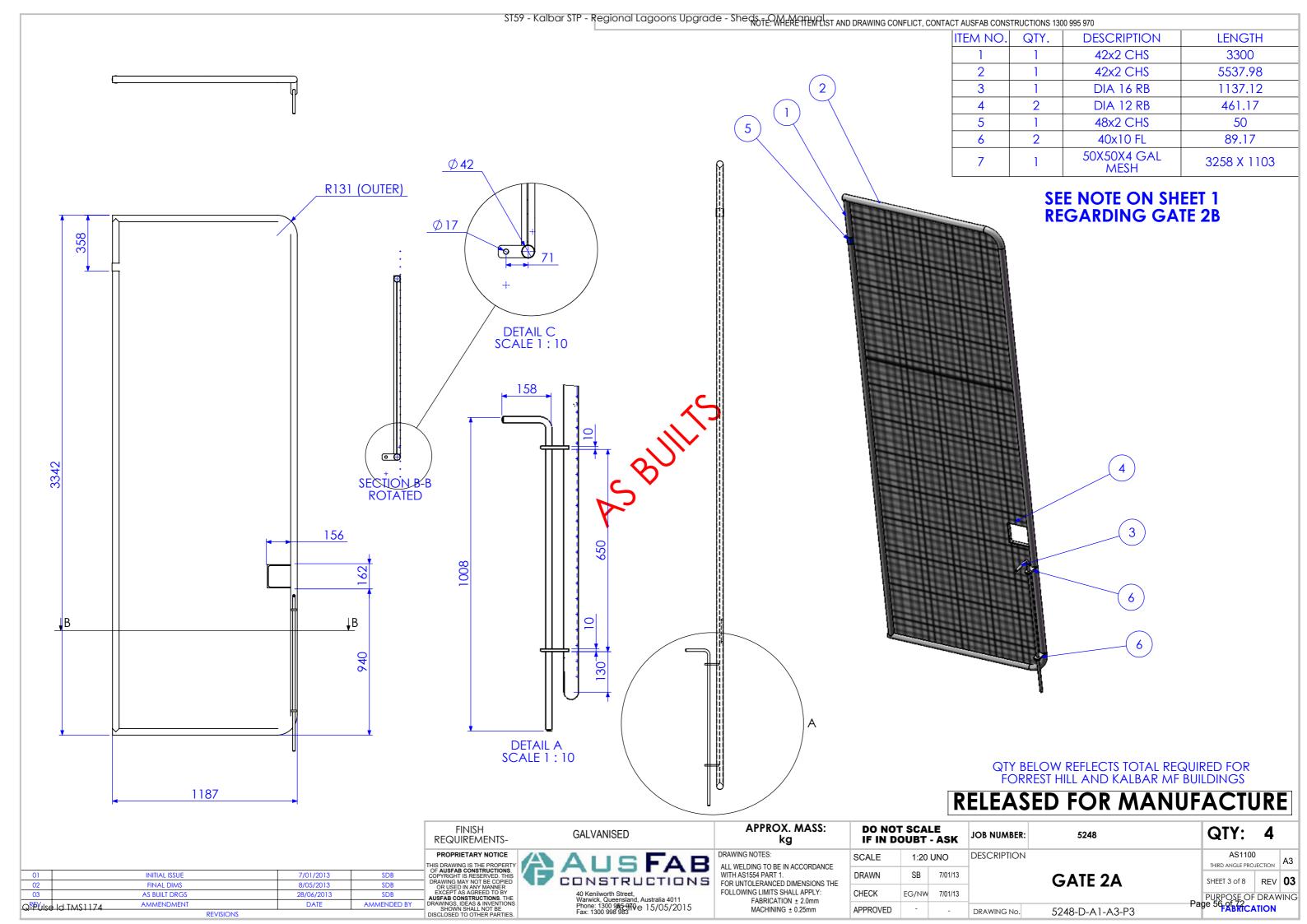


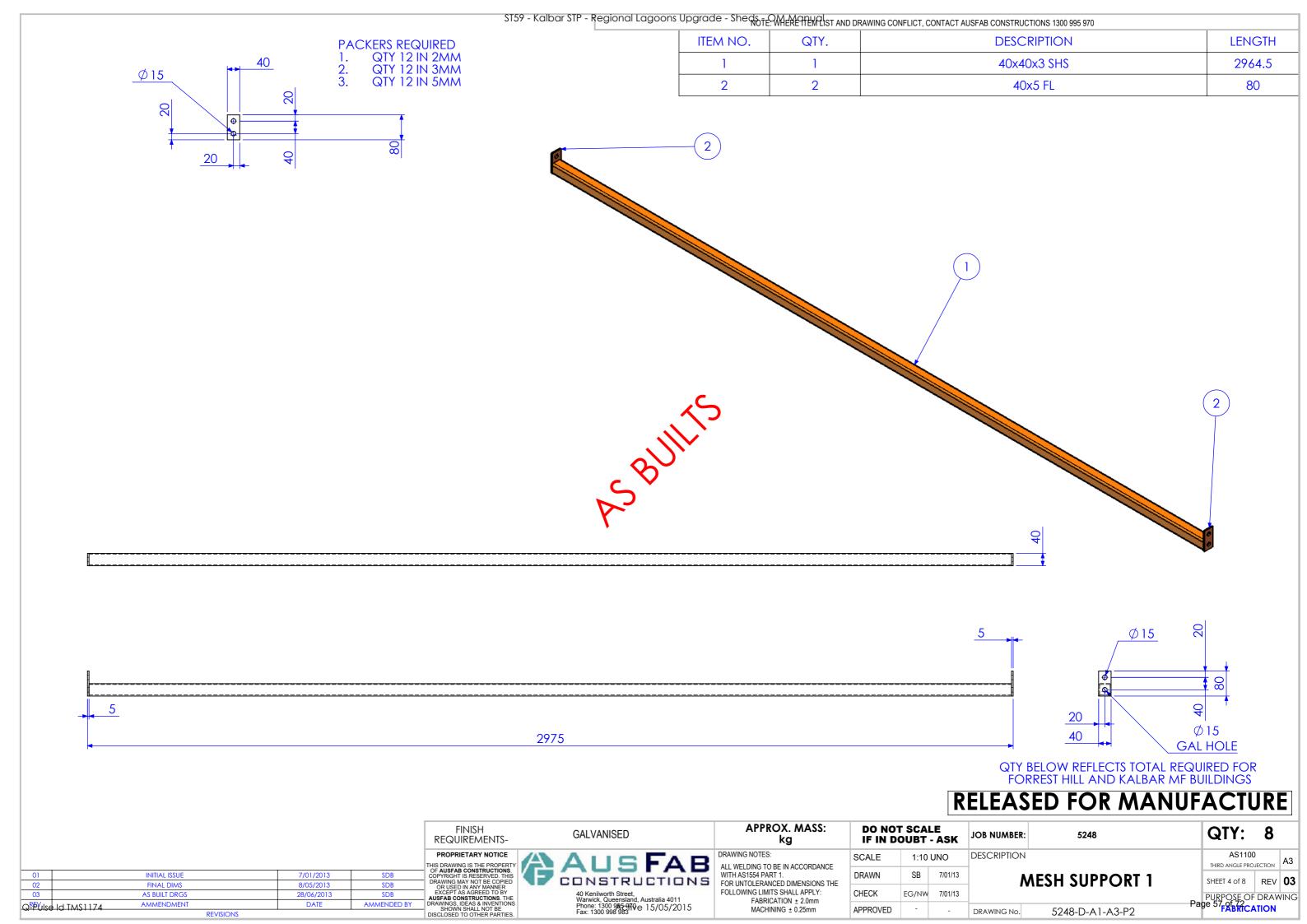


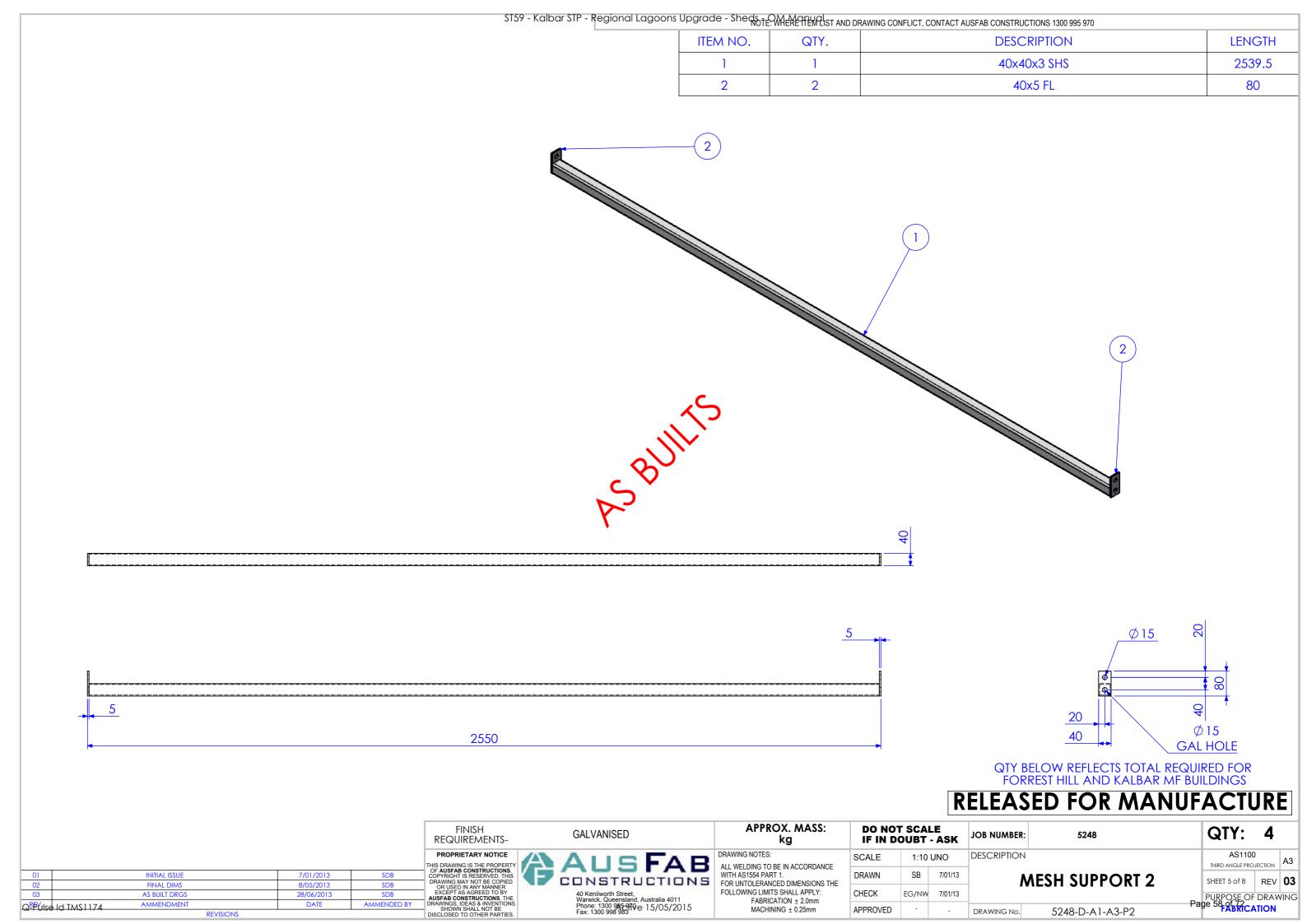


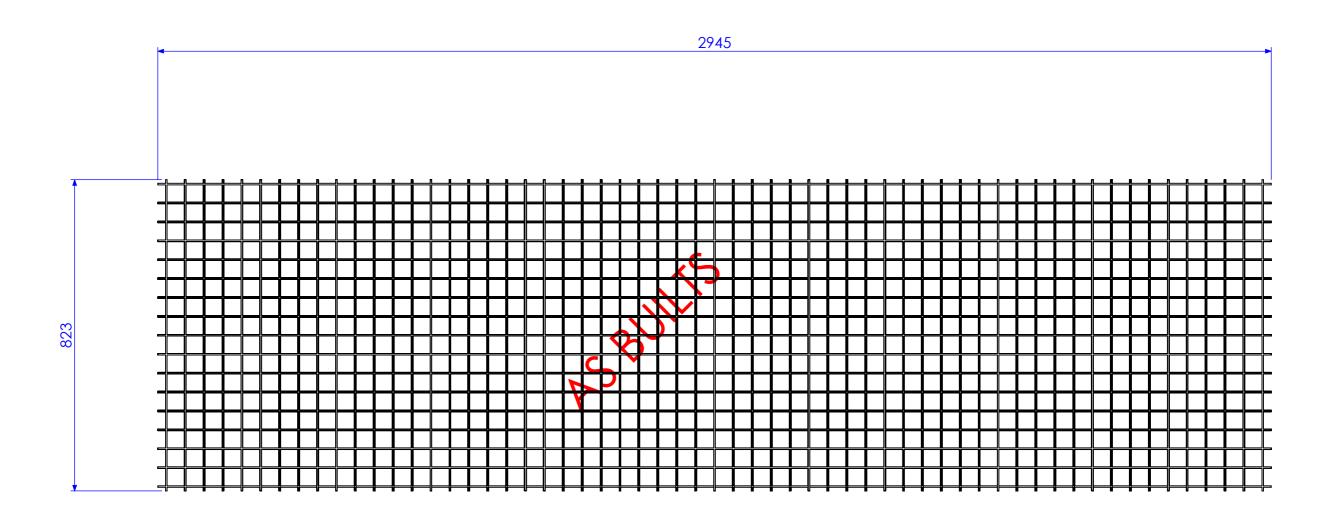








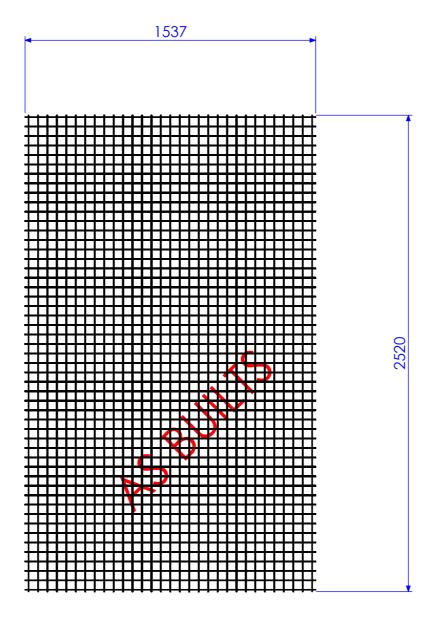




50X50X4.0 MESH

QTY BELOW REFLECTS TOTAL REQUIRED FOR FORREST HILL AND KALBAR MF BUILDINGS

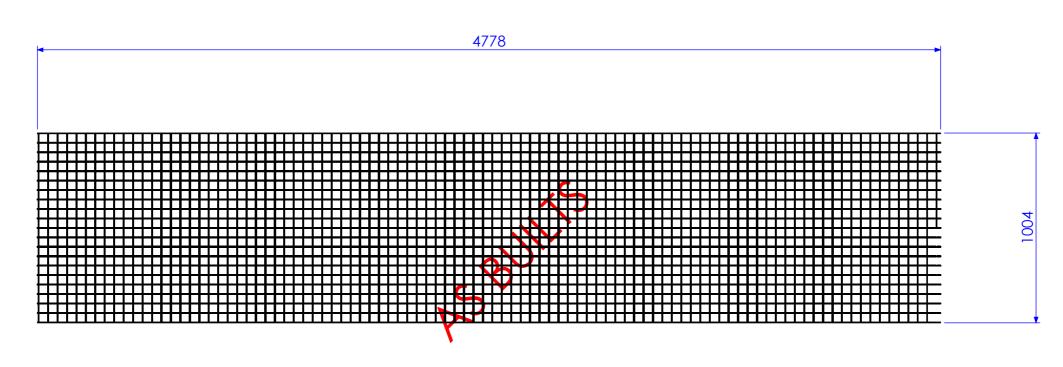
					FINISH REQUIREMENTS-	GALVANISED	APPROX. MASS: kg	DO NOT			JOB NUMBER: 5248	QTY: 4
					PROPRIETARY NOTICE	ALICEAD	DRAWING NOTES:	SCALE	1:10 (JNO	DESCRIPTION	AS1100 A3
					THIS DRAWING IS THE PROPERTY OF AUSFAB CONSTRUCTIONS.		ALL WELDING TO BE IN ACCORDANCE				-	THIRD ANGLE PROJECTION
01	INITIAL ISSUE	7/01/2	013	SDB	COPYRIGHT IS RESERVED. THIS	CONSTRUCTIONS	WITH AS1554 PART 1.	DRAWN	SB	7/01/13	MESH SECTION 1	SHEET 6 of 8 REV 03
02	FINAL DIMS	8/05/2	013	SDB	DRAWING MAY NOT BE COPIED OR USED IN ANY MANNER	CONSTRUCTIONS					MESH SECTION I	2HEEL 9 0L9 KEV 03
03	AS BUILT DRGS	28/06/2	2013	SDB	EXCEPT AS AGREED TO BY AUSFAB CONSTRUCTIONS. THE	40 Kenilworth Street, Warwick, Queensland, Australia 4011	FOLLOWING LIMITS SHALL APPLY:	CHECK	EG/NW	7/01/13		PURPOSE OF DRAWING
QPPUISE Id TMS117	74 AMMENDMENT	DAT	E A	AMMENDED BY	DRAWINGS, IDEAS & INVENTIONS SHOWN SHALL NOT BE	Phone: 1300 985 970 e 15/05/2015 Fax: 1300 998 983	FABRICATION ± 2.0mm	ADDDOVED			50/0 5 / 1 / 1 0 5/	Page 59 of 72 FABRICATION
4 1 0100 10 11110 1 1 /	•	REVISIONS	•		DISCLOSED TO OTHER PARTIES.	Fax: 1300 998 98311 C 13/03/2013	MACHINING ± 0.25mm	APPROVED		-	DRAWING No. 5248-D-A1-A3-P6	TABRICATION



50X50X4.0 MESH

QTY BELOW REFLECTS TOTAL REQUIRED FOR FORREST HILL AND KALBAR MF BUILDINGS

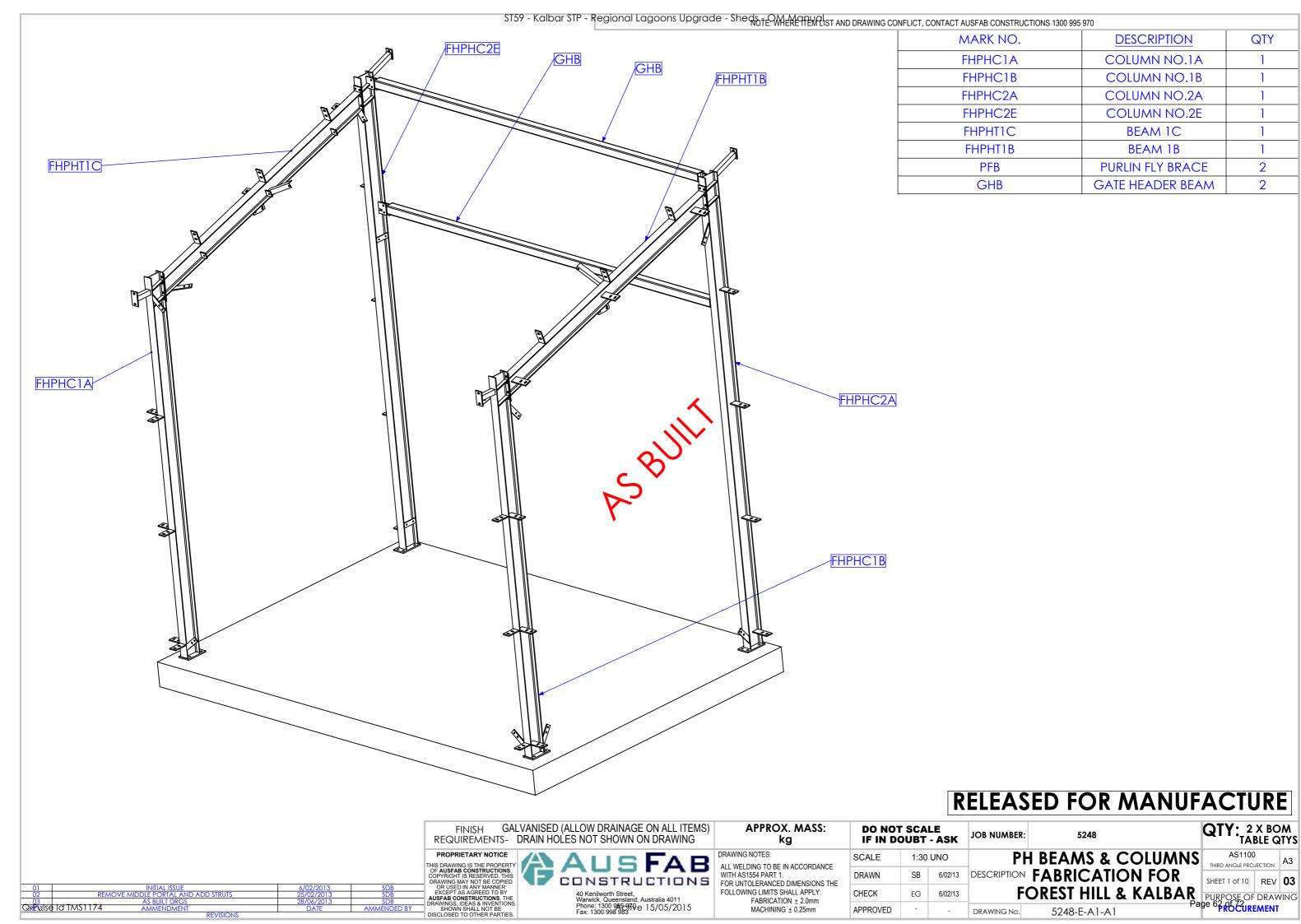
				FINISH REQUIREMENTS-	GALVANISED	APPROX. MASS: kg	DO NO			JOB NUMBER: 5248	QTY: 2
				PROPRIETARY NOTICE THIS DRAWING IS THE PROPERTY		DRAWING NOTES:	SCALE	1:20	UNO	DESCRIPTION	AS1100 A3
01	INITIAL ISSUE	7/01/2013	SDB	OF AUSFAB CONSTRUCTIONS. COPYRIGHT IS RESERVED. THIS DRAWING MAY NOT BE COPIED	CONSTRUCTIONS	ALL WELDING TO BE IN ACCORDANCE WITH AS1554 PART 1.	DRAWN	SB	7/01/13	MESH SECTION 2	SHEET 7 of 8 REV 03
02	FINAL DIMS	8/05/2013	SDB	OR USED IN ANY MANNER EXCEPT AS AGREED TO BY		FOR UNTOLERANCED DIMENSIONS THE FOLLOWING LIMITS SHALL APPLY:	CLIECK	50000	7104140		
03	AS BUILT DRGS	28/06/2013	SDB	AUSFAB CONSTRUCTIONS. THE DRAWINGS. IDEAS & INVENTIONS	40 Kenilworth Street, Warwick, Queensland, Australia 4011	FABRICATION ± 2.0mm	CHECK	EG/NW	7/01/13		PURPOSE OF DRAWING Page 60 of 72 PABRICATION
Q <u>r</u> Pulse	P Id TM\$1174 AMMENDMENT REVISIONS	DATE	AMMENDED BY	SHOWN SHALL NOT BE DISCLOSED TO OTHER PARTIES.	Phone: 1300 985 970 e 15/05/2015 Fax: 1300 998 983	MACHINING ± 0.25mm	APPROVED	-	-	DRAWING No. 5248-D-A1-A3-P6	Page of ABRICATION

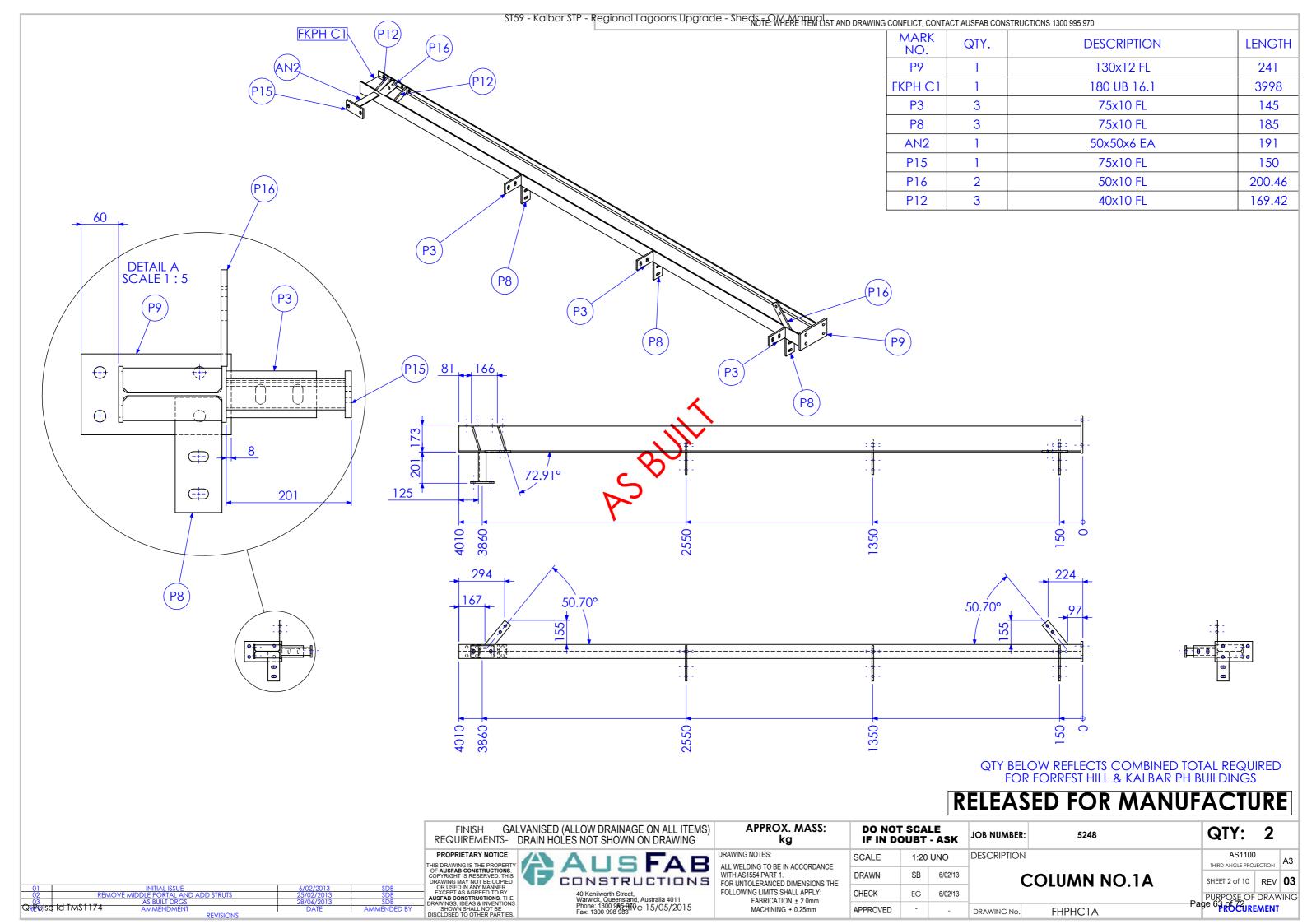


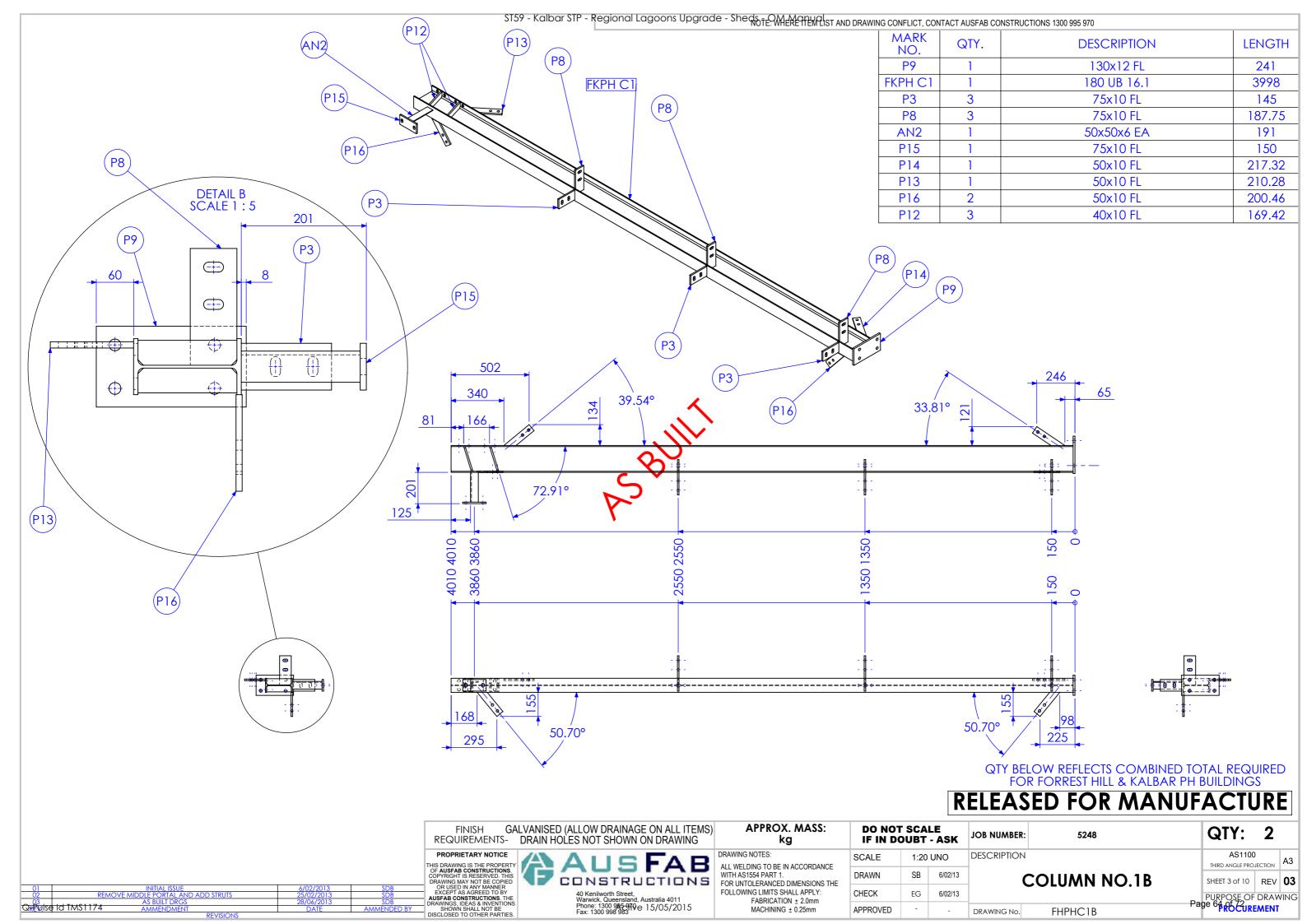
50X50X4.0 MESH

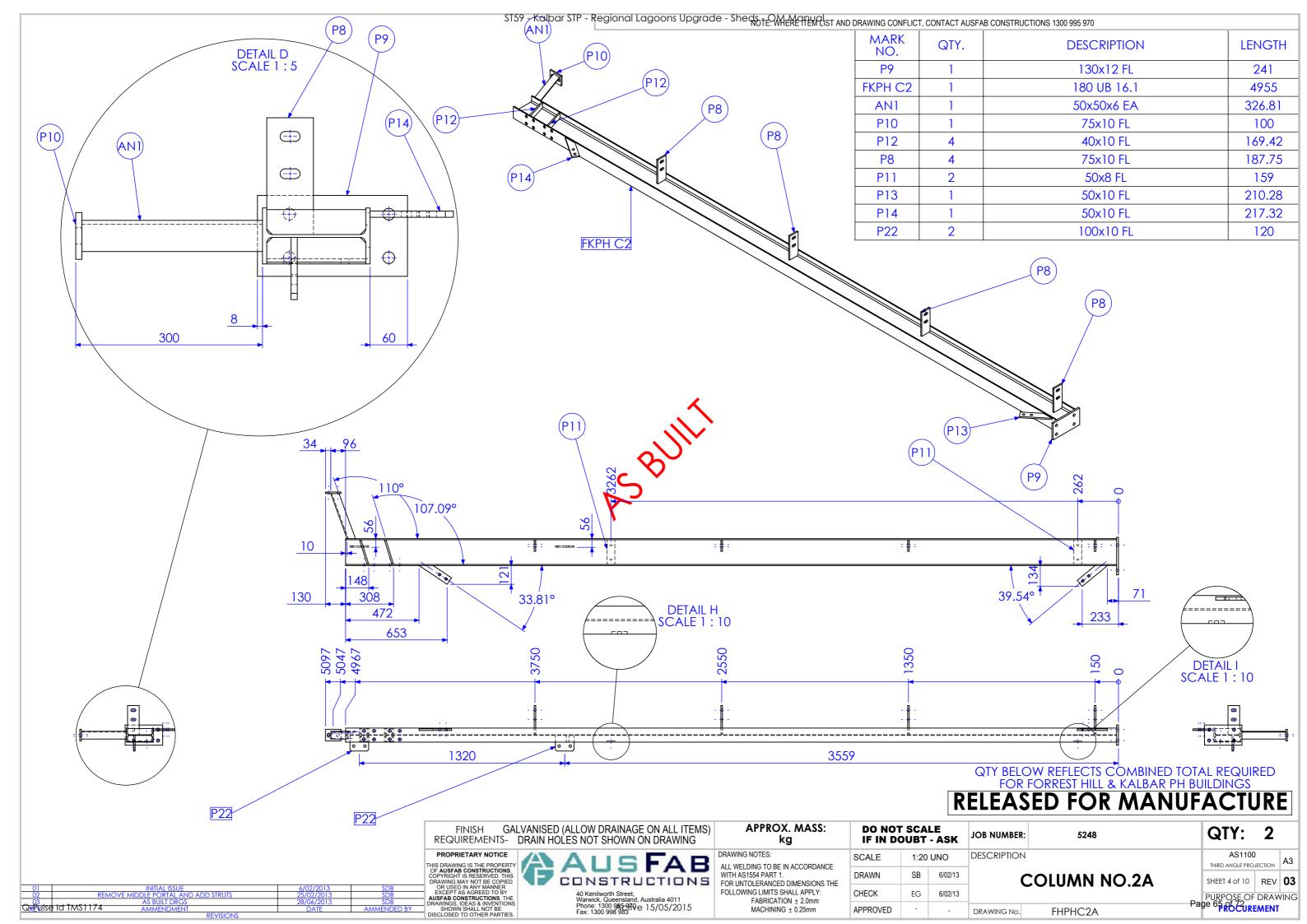
QTY BELOW REFLECTS TOTAL REQUIRED FOR FORREST HILL AND KALBAR MF BUILDINGS

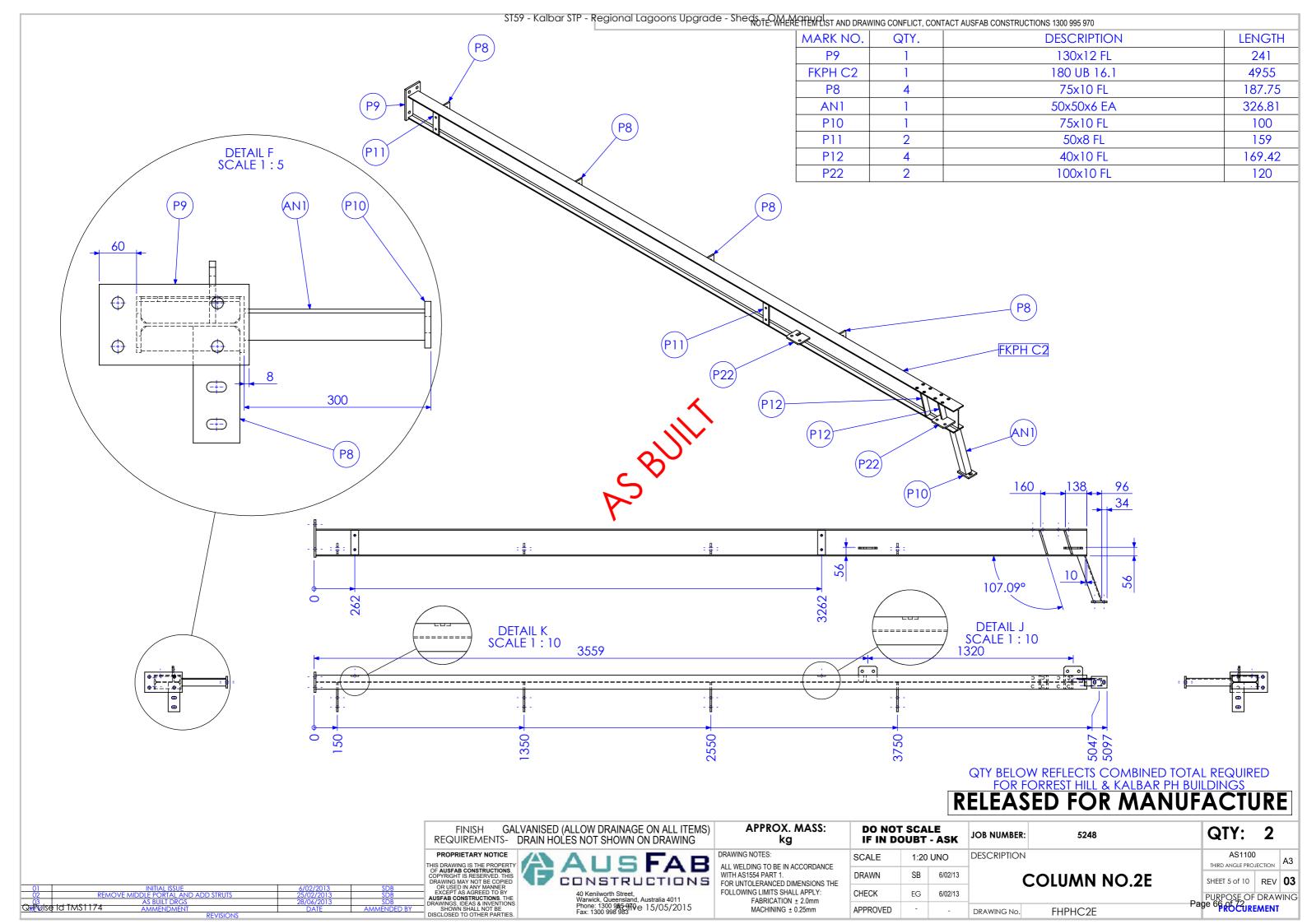
				FINISH REQUIREMENTS-	GALVANISED	APPROX. MASS: kg		T SCALE OUBT - A	SK JOB	3 NUMBER: 5248		QTY:	2	
				PROPRIETARY NOTICE	AUSFAB	DRAWING NOTES:	SCALE	1:20 UN	DES	SCRIPTION		AS1100		A3
				THIS DRAWING IS THE PROPERTY OF AUSFAB CONSTRUCTIONS.		ALL WELDING TO BE IN ACCORDANCE						THIRD ANGLE PROJ	JECTION	7.0
01	INITIAL ISSUE	7/01/2013	SDB	COPYRIGHT IS RESERVED. THIS DRAWING MAY NOT BE COPIED		WITH AC1557 DADI 1	DRAWN	SB 7	01/13	MESH SECTION 3		SHEET 8 of 8	REV	03
02	FINAL DIMS	8/05/2013	SDB	OR USED IN ANY MANNER	CONSTRUCTIONS					MILSH SECTION S		SHEEL O OLO	KEV	US
03	AS BUILT DRGS	28/06/2013	SDB	EXCEPT AS AGREED TO BY AUSFAB CONSTRUCTIONS. THE	40 Kenilworth Street, Warwick, Queensland, Australia 4011	FOLLOWING LIMITS SHALL APPLY:	CHECK	EG/NW 7	01/13			PURPOSE OF	DRAW	/ING
QPPVISe Id TMS1174	AMMENDMENT	DATE	AMMENDED BY	DRAWINGS, IDEAS & INVENTIONS SHOWN SHALL NOT BE	Phone: 1300 905 910 e 15/05/2015 Fax: 1300 998 983	FABRICATION ± 2.0mm	ADDDOVED	_		50/05/10/50	Paç	ge 61 pf 72 PARICA	TION	- 1
4 1 0.00 14 17/10 1 1 / 4	REVISIONS			DISCLOSED TO OTHER PARTIES.	Fax: 1300 998 98311 C 137 037 2013	MACHINING ± 0.25mm	APPROVED		- DRA	AWING No. 5248-D-A1-A3-P8		IABRICA	IIION	

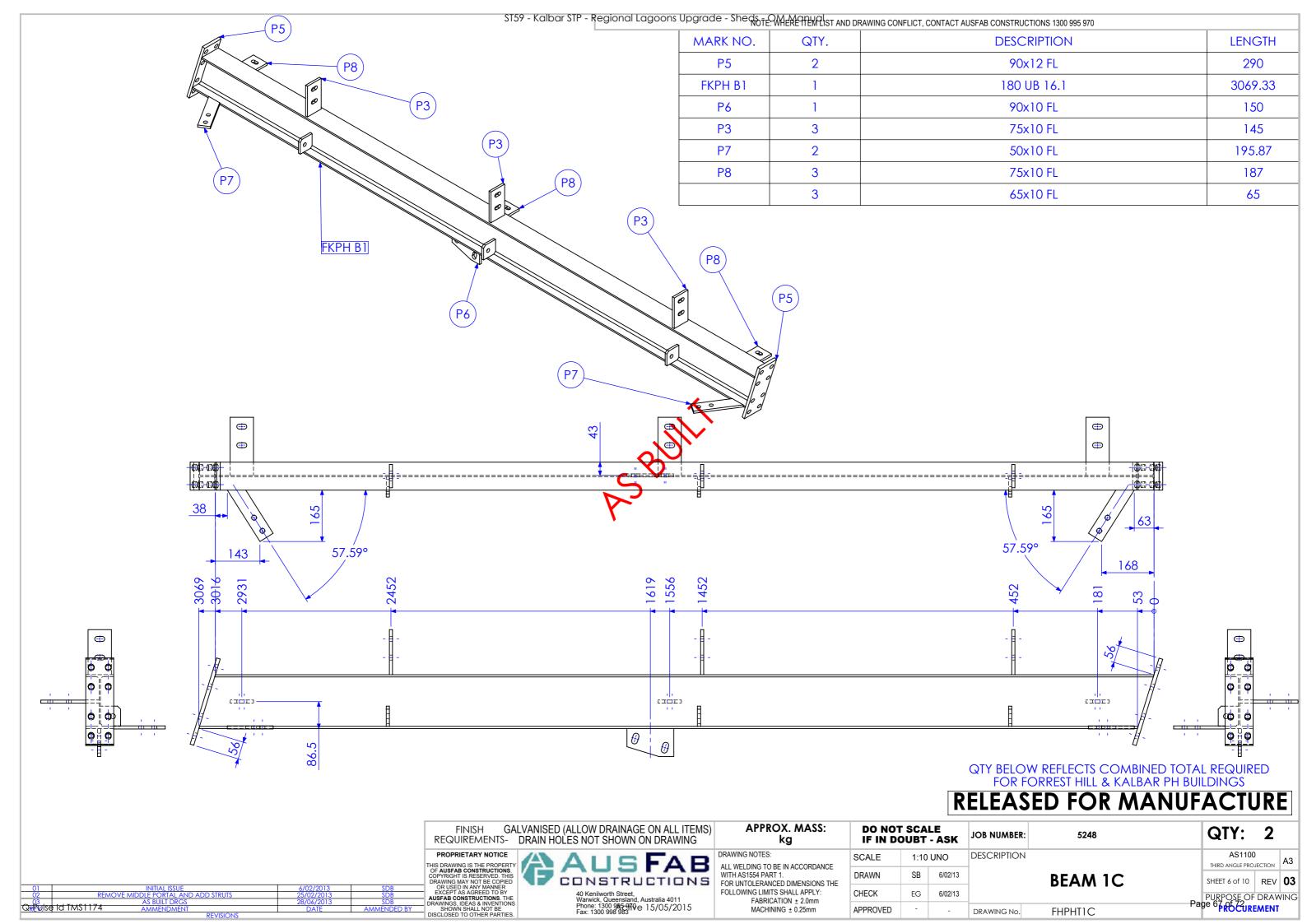


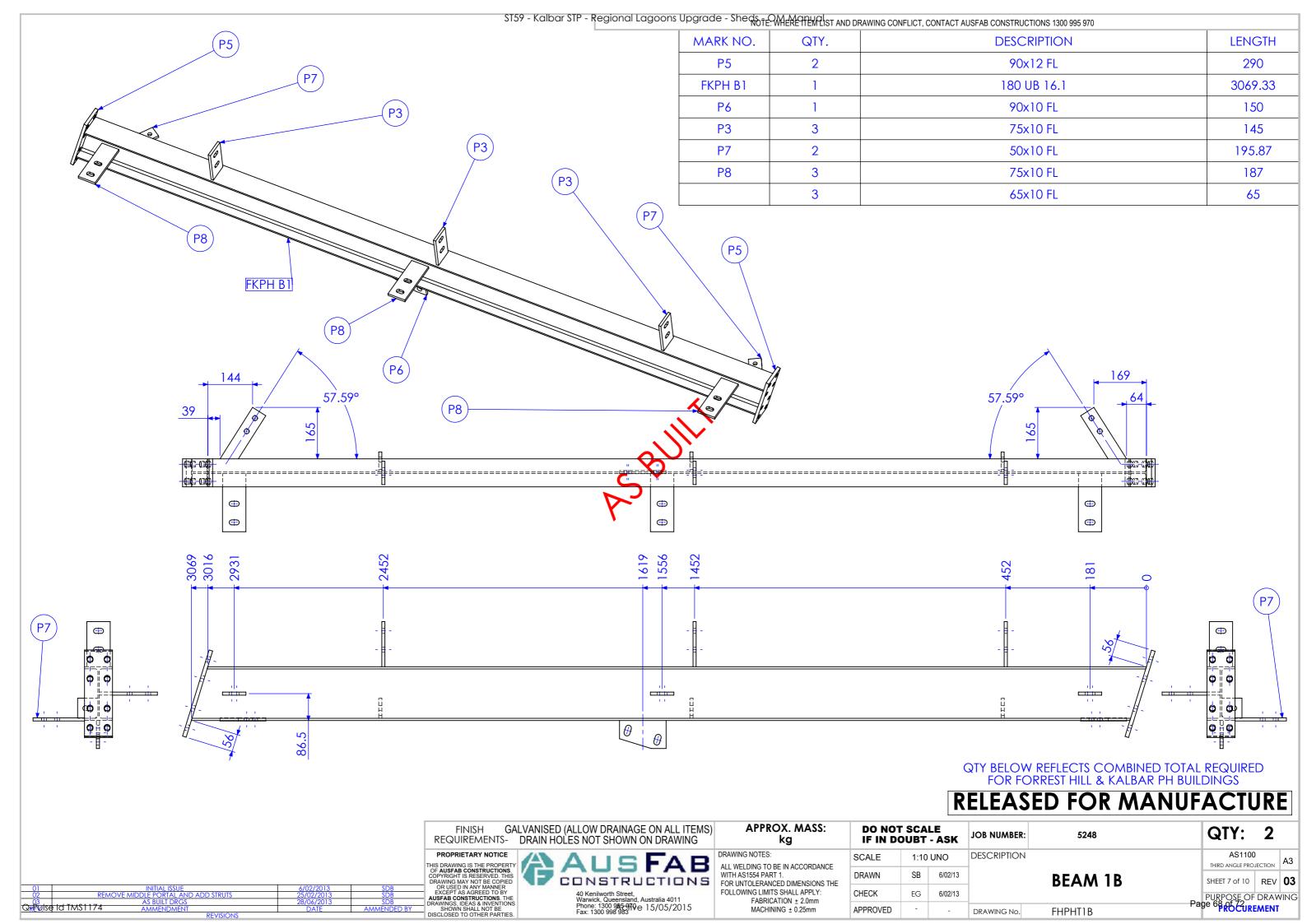


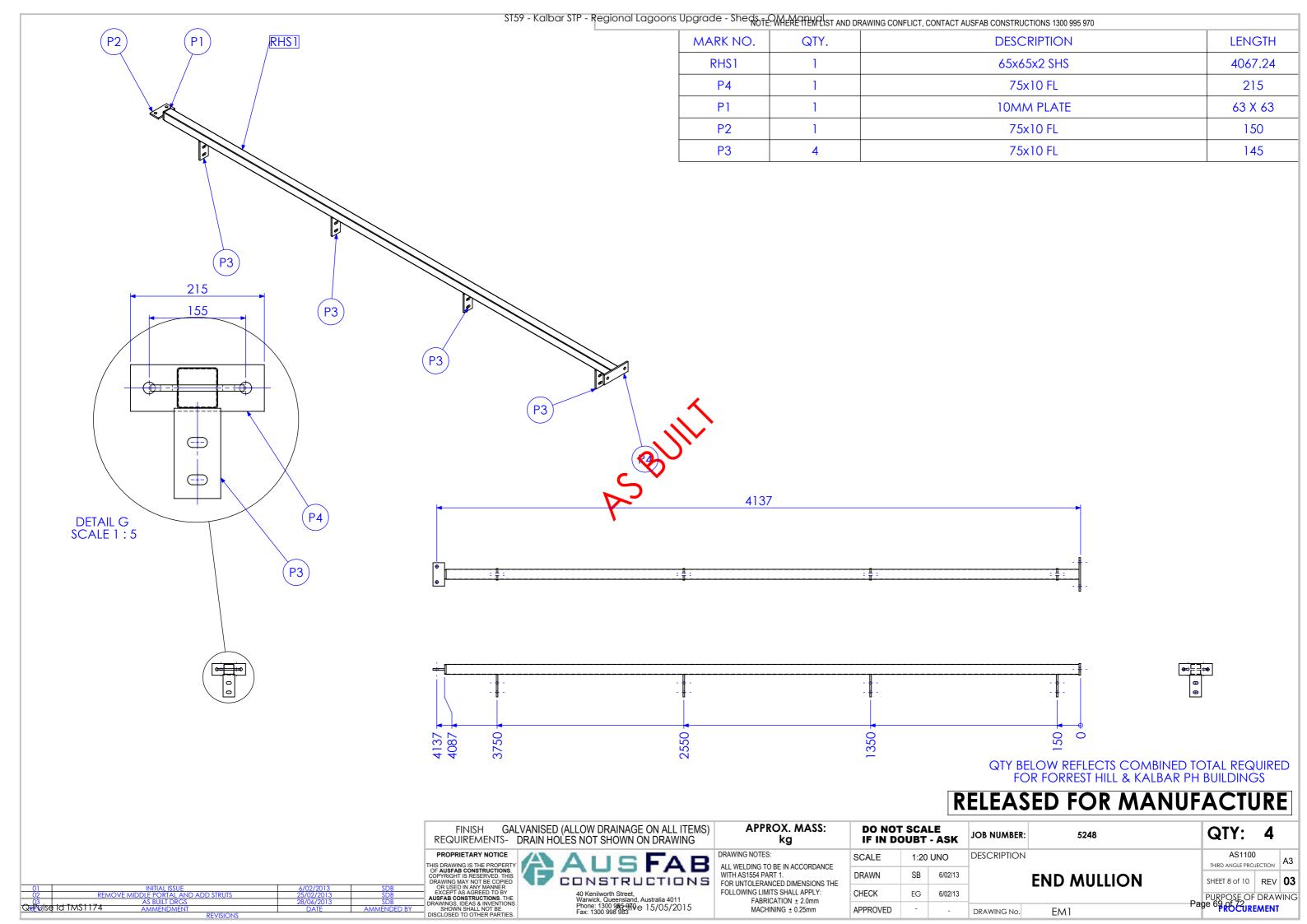


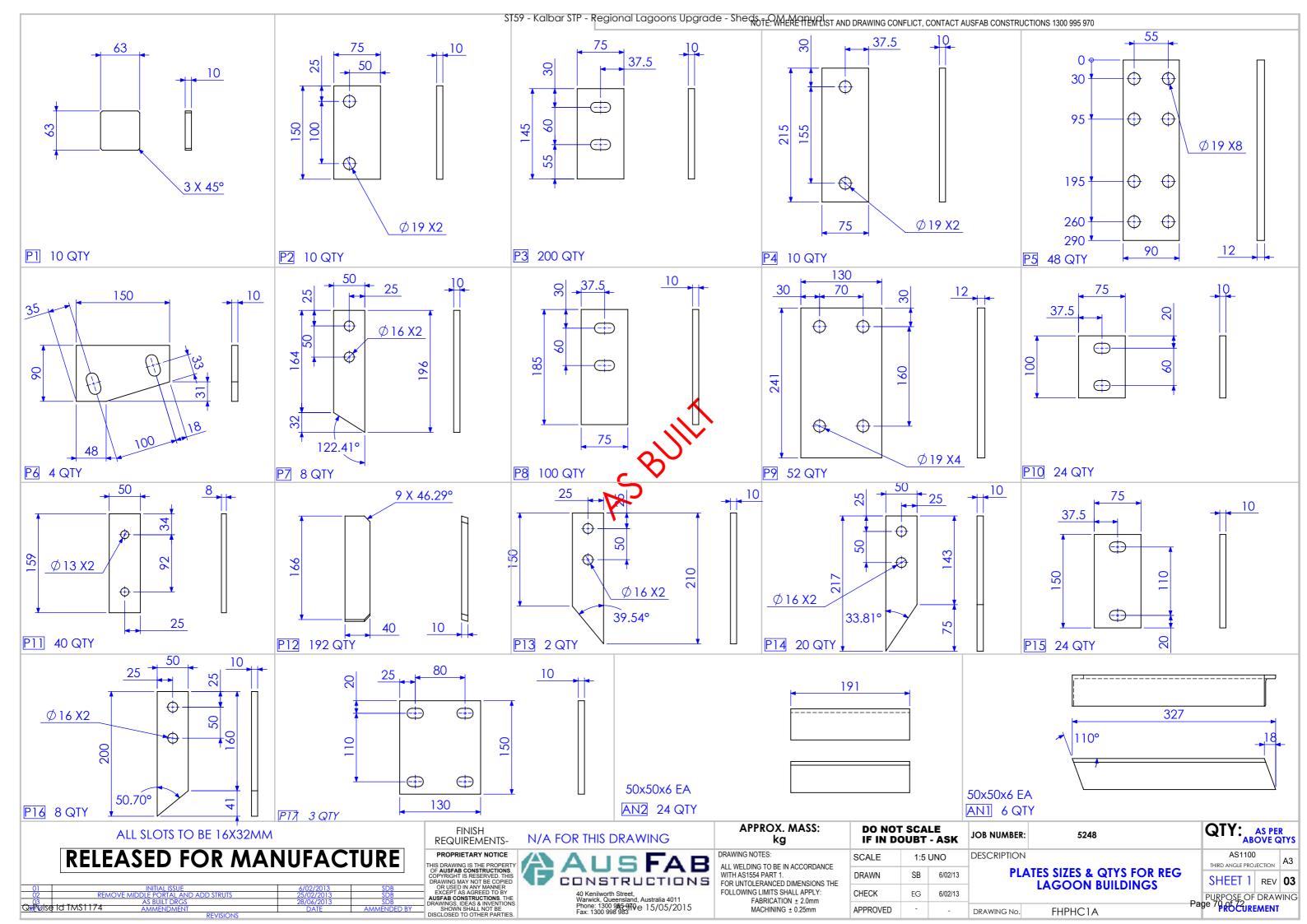


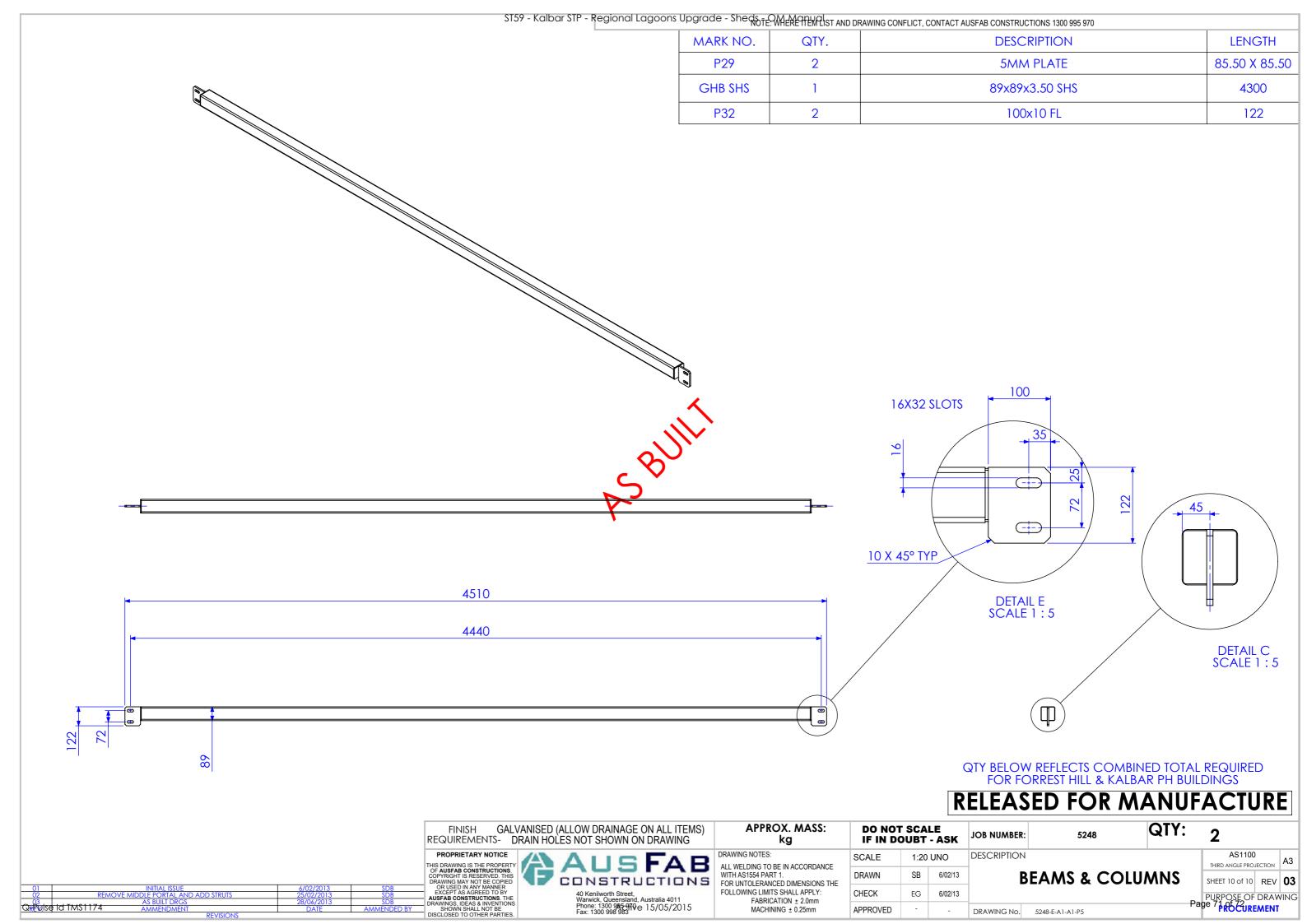












GENERAL NOTES:

LOADING:

SUPERIMPOSED LOADS ARE GENERALLY IN ACCORDANCE WITH AS 1170 AND AS NOTED.

WIND LOADS ARE IN ACCORDANCE WITH AS 1170 AS FOLLOWS BASIC WIND VELOCITY (REGION A) V1000 = 46 m/s
TERRAIN CATEGORY 3

- THESE DRAWINGS AND NOTES SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANT'S DRAWINGS, REPORTS, SPECIFICATIONS AND ANY OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF CONSTRUCTION. ALL DISCREPANCIES SHALL BE REFERRED TO THE ENGINEER FOR CLARIFICATION OR DECISION BEFORE PROCEEDING WITH THE WORK
- CONSTRUCTION FROM THESE DRAWINGS SHALL NOT COMMENCE UNTIL THEY ARE APPROVED BY THE RELEVANT AUTHORITIES.

FOUNDATIONS:

FOOTINGS HAVE BEEN DESIGNED IN ACCORDANCE WITH DOUGLAS PARTNERS GEOTECHNICAL REPORT NO. 79887.00, DATED JUNE 2012

- ELEMENTS INDICATED ON THESE DRAWINGS ARE SHOWN IN THEIR INTENDED COMPLETE STATE. THE BUILDER SHALL PROVIDE ANY TEMPORARY WORKS INCLUDING PROPPING, BRACING, SHORING AND ANY OTHER REQUIREMENTS NECESSARY TO MAINTAIN THE STRUCTURE, OR ANY PART OF IT, IN A STABLE CONDITION DURING CONSTRUCTION. IF THE BUILDER IS IN ANY DOUBT AS TO HOW TO ACHIEVE THIS HE SHALL OBTAIN ADVICE FROM APPROPRIATELY QUALIFIED AND EXPERIENCED PERSONNEL. UNLESS STATED OTHERWISE TEMPORARY WORKS SHALL BE THE BUILDERS RESPONSIBILITY.
- BUILDING SHALL NOT BE ERECTED ON OR ADJACENT TO ANY OF THE LOWING HAZARDS UNLESS THE HAZARD IS INDICATED ON THE STRUCTURAL WING:- EMBANKMENTS, BATTERS, WATER RETAINING STRUCTURES, RETAINING LS, PITS, SEWERS, SERVICE TRENCHES, DRAINAGE CHANNELS, STREAMS OR POTENTIAL SOURCE OF DAMAGE TO THE STRUCTURE. IF ANY SUCH ARDS ARE ENCOUNTERED THE ENGINEER SHALL BE NOTIFIED AND HIS ROVAL OBTAINED BEFORE PROCEEDING.
- THE BUILDER SHALL LOCATE ALL EXISTING AND PROPOSED SERVICES AND EASEMENTS, ON AND ADJACENT TO THE SITE. THE APPROVAL OF THE RELEVANT STATUTORY AUTHORITY AND THE ENGINEER SHALL BE OBTAINED BEFORE BUILDING ON OR OVER ANY SERVICES OR EASEMENTS.

2

CONDUITS, PIPES AND THE LIKE SHALL BE PLACED WITHIN THE MIDDLE THIRD OF THE SLAB DEPTH AND AT A MINIMUM SPACING OF NOT LESS THAN 3 DIAMETERS. CONDUITS AND PIPES SHALL NOT BE PLACED WITHIN THE CONCRETE COVER OUTLINED BELOW.

C3

CONSTRUCTION JOINTS SHALL BE PROPERLY FORMED WHERE VERTICAL. THE FIRST POUR SHALL BE THOROUGHLY SCABBLED AND CLEANED OF ALL POORLY COMPACTED MATERIAL AND LAITANCE, THOROUGHLY SOAKED AND PAINTED WITH A 2:1 SAND CEMENT SLURRY IMMEDIATELY BEFORE PLACING THE SECOND POUR. THOROUGHLY COMPACT THE SECOND POUR AGAINST THE FIRST POUR.

C2

 Ω

ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 AND ANY OTHER RELEVANT AUSTRALIAN STANDARDS UNLESS VARIED BY THE ENGINEER

HOLES, PENETRATIONS, CHASES AND CONSTRUCTION JOINTS, OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL NOT BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.

CONCRETE:

FOUNDATION MATERIAL SHALL BE APPROVED BY THE CONSULTING GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF CONCRETE.

FOOTINGS HAVE BEEN DESIGNED FOR THE FOLLOWING BEARING PRESSURES: 100kPa TO BE FOUNDED ON STIFF SANDY CLAY OR STIFF SILTY CLAY OR CERTIFIED ENGINEERED FILL

NO HOLES OR CHASES SHALL BE MADE IN ANY STRUCTURAL ELEMENT, UNLESS SHOWN ON THESE DRAWINGS OR WRITTEN APPROVAL OF THE ENGINEER. THE WRITTEN CONSENT OF ADJOINING PROPERTY OWNERS SHALL BE OBTAINED BEFORE INSTALLATION OF UNDERPINNING, ANCHORING WORK, DRAINAGE LINES OR ANY OTHER WORK BEYOND THE PROPERTY BOUNDARY. THE BUILDER SHALL NOT EXCAVATE BELOW THE LEVEL OF THE FOOTINGS TO ANY EXISTING BUILDINGS WITHOUT THE WRITTEN CONSENT OF THE ENGINEER.

C6

C5

E FINISHED CONCRETE SHALL BE FULLY MECHANICALLY VIBRATED TO ACHIEVE LL COMPACTION, COMPLETELY FILLING FORMWORK, THOROUGHLY EMBEDDING THE INFORCEMENT AND FREE OF STONE POCKETS. ALL CONCRETE, INCLUDING SLABS GROUND AND FOOTINGS, SHALL BE FULLY VIBRATED USING A HIGH FREQUENCY CHANICAL VIBRATOR.

- A FULL DEPTH 'V' JOINT SHALL BE STRUCK IN RENDER WHERE TWO DIFFERING STRUCTURAL MATERIALS ABUT. i.e. AT THE JUNCTION OF MASONRY WITH CONCRETE.
- WATERPROOFING REQUIREMENTS SHALL BE SPECIFIED BY THE ARCHITECT AND ARE NOT NECESSARILY INDICATED ON THESE DRAWINGS. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE RELEVANT AUSTRALIAN STANDARDS, THE BUILDING CODE OF AUSTRALIA, AND THE REQUIREMENTS OF THE RELEVANT STATUTORY AUTHORITIES.

 ALL WORKMANSHIP SHALL BE CONSISTENT WITH GOOD TRADE PRACTICE.

SPECIFICATION OF CONCRETE

Slump

POTABLE WATER OR BY USE OF AN APPROVED PROPRIETARY CURING WITH OWN AND AN APPROVED PROPRIETARY CURING WITH AS 3799, APPLIED UNIFORMLY IN ACCORDANCE WITH YOUND COMPLYING WITH AS 3799, APPLIED UNIFORMLY IN ACCORDANCE WITH WANUFACTURERS INSTRUCTIONS. THE COMPATIBILITY OF CURING COMPOUNDS PROPOSED APPLIED FINISHES SHALL BE VERIFIED PRIOR TO APPLICATION. PROPOSED APPLIED FINISHES SHALL BE VERIFIED PRIOR TO APPLICATION. WIED SURFACES EXPOSED WITHIN 14 DAYS OF CASTING SHALL BE SPRAYED AN APPROPRIATE CURING AGENT IMMEDIATELY UPON EXPOSURE.

AUSTRALIAN STANDARDS REFERRED TO ON THESE DRAWINGS SHALL BE THE LATEST REVISIONS OF THE NOMINATED STANDARD. APPROVAL OF A SUBSTITUTION OR ALTERNATIVE FROM THE ENGINEER IS NOT, IN ITSELF AUTHORISATION FOR A VARIATION.

G13

G15 THE ENGINEER SHALL BE GIVEN 48 HOURS NOTICE FOR INSPECTIONS THE WORD ENGINEER AS USED IN THESE NOTES REFERS TO AN EMPLOYEE OR NOMINATED REPRESENTATIVE OF H & H CONSULTING ENGINEERS P/L (TRADING AS HENRY & HYMAS)

REINFORCEMENT:

꼬 REFER TO THE CONCRETE NOTES FOR THE SPECIFIED COVERS TO REINFORCEMENT COVER MUST BE MAINTAINED AT ALL CHAMFERS, DRIP GROOVES AND REGLETS etc. UNLESS NOTED OTHERWISE ON THE DRAWINGS. REINFORCEMENT IS SHOWN DIAGITRUE PROJECTION.

WHERE A VAPOUR BARRIER IS SPECIFIED BENEATH SLABS ON GROUND PROVIDE A 0.2mm BRANDED POLYTHENE MEMBRANE THROUGHOUT. LAP SHEETS 300mm AND SEAL WITH A 50mm WIDE PRESSURE SENSITIVE WATERPROOF TAPE.

ALL CONCRETE WITH SHRINKAGE LIMITED (SL.) CEMENT SHALL HAVE A MAXIMUM SHRINKAGE STRAIN OF 600 MICROSTRAINS AS DETERMINED BY TEST IN ACCORDANCE WITH AS 1012.13 AFTER 8 WEEKS OF DRYING.
WATER CEMENT RATIO OF CONCRETE SHALL NOT EXCEED 0.55 (EXCEPT FOR CORE FILLING GROUT IN BLOCK WALLS)

80

20

40 MPa

₹

30

80

20

ည

 \equiv

40 MPa

₽

40

8 8

20

ନ୍ଦ କ୍

25 MPa 40 MPa

≳ ≳

- REINFORCEMENT SHALL NOT BE CUT OR WELDED ON SITE WITHOUT APPROVAL BY THE ENGINEER, AT SMALL HOLES LESS THAN 300mm DIAMETER, eg PLUMBING PENETRATIONS, BARS SHALL BE DISPLACED TO EITHER SIDE.
- SITE BENDING OF REINFORCEMENT SHALL BE AVOIDED IF POSSIBLE. WHERE SITE BENDING IS SPECIFIED, OR UNAVOIDABLE, IT SHALL BE CARRIED OUT COLD, WITHOUT THE APPLICATION OF HEAT, AND IN ACCORDANCE WITH THE PRACTICE NOTE RPN1 OF THE STEEL REINFORCEMENT INSTITUTE OF AUSTRALIA.

C11

SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN THE POSITIONS SHOWN. THE WRITTEN APPROVAL OF THE ENGINEER SHALL BE OBTAINED FOR ANY OTHER SPLICES. WHERE LAP LENGTHS ARE NOT SHOWN THEY SHALL BE AS INDICATED BEILDW.

C13

NO MASONRY OR PARTITION WALLS SHALL BE CONSTRUCTED ON SUSPENDED LEVELS UNTIL 7 DAYS AFTER PROPPING HAS BEEN REMOVED AND THE SLAB PRE-LOADED WITH THE BRICKS OR MATERIALS TO BE USED IN THE WALL.

CONSTRUCTION AND SUPPORT PROPPING SHALL BE ADDED, OR LEFT IN PLACE, TO AVOID OVERSTRESSING THE STRUCTURE DUE TO CONSTRUCTION LOADS.

BEFORE THE COMMENCEMENT OF CONCRETING THE BUILDER SHALL ENSURE THE CONCRETOR IS FULLY AWARE OF ANY AREAS OF FORMWORK THAT HAVE BEEN PRE-CAMBERED OR PRE-SET. EXTREME CARE MUST BE TAKEN TO ENSURE THE SPECIFIED DEPTHS OF BEAMS AND SLABS ARE ACHIEVED IN AREAS OF PRE-SET OR PRE-CAMBERED FORMWORK. THIS CANNOT BE ACHIEVED BY LEVELLING THE CONCRETE SURFACE INTO THE NOMINAL FINISHED CONCRETE LEVEL.

NON LOADBEARING MASONRY SHALL BE SEPARATED FROM THE SOFFIT OF SLABS AND BEAMS BY 12 mm CANITE OR OTHER MEANS APPROVED BY THE ENGINEER.

WHERE CONCRETE SLABS BEAR ON MASONRY, INCLUDING CORED BRICKS, THE BEARING SURFACE OF THE MASONRY SHALL BE RENDERED WITH 1:3 CEMENT SAND MORTAR TO GIVE A LEVEL SURFACE AND A METAL SLIP JOINT LAID PROTECTED BY 0.2mm POLYTHENE SHEET TAPED TO FORMWORK BEFORE PLACING CONCRETE. SPECIAL DETAILS SHALL APPLY FOR ROOF SLABS OR SIMILARLY EXPOSED SLABS.

THE ABOVE DEVELOPMENT LENGTHS ARE FOR MAIN REINFORCEMENT IN fc=32 MPa CONCRETE WITH 30mm CLEAR COVER FOR WALLS AND SLABS AND 30mm CLEAR COVER TO MIN. R10 FITMENTS FOR COLUMNS AND BEAMS. ENGTHS SHOWN IN BRACKETS APPLY TO HOF Dmm OF CONCRETE CAST BELOW THE BAR. TAL BARS WITH MORE THAN

FS1

THE BUILDER SHALL PROVIDE CONSTANT BY SUB-CONTRACTORS TO ENSURE:

REINFORCEMENT DISPLACED OFF CHAIRS PLACEMENT.

FLOOR SLAB CONSTRUCTION:

- JOGGLES TO BARS SHALL COMPRISE A LENGTH OF 12 BAR DIAMETERS BETWEEN 3EGINNING AND END OF AN OFFSET OF ONE BAR DIAMETER. REINFORCEMENT SHALL BE LAPPED TWO TRANSVERSE WIRES PLUS 50n

- ALL STEEL CHAIRS SHALL BE PLASTIC TIPPED. STEEL CHAIRS SHALL ONLY BE USED FOR EXPOSURE CONDITIONS A1 AND A2. FULLY PLASTIC CHAIRS ONLY SHALL BE USED ON ELEMENT FACES HAVING EXTERNAL EXPOSURE IN THE COMPLETED STRUCTURE. WHERE REINFORCEMENT IS GROUND SUPPORTED PROVIDE PLATES UNDER ALL BAR CHAIRS.
- AT THE END SUPPORT OF A SLAB ON A MASONRY WALL, ALL BOTTOM REINFORCEMENT SHALL EXTEND OVER THE MASONRY WALL BY 75mm FOR N12 BARS OR 95mm FOR N16 BARS. IF COVER REQUIREMENTS PROHIBIT THIS THE BARS SHALL BE COGGED.

Engineer

BRUCE BRADNAM

HENRY & HYMAS

Signature

17/02/14 4568

- - R9

- EXTRA CHAIRS MAY BE REQUIRED ADJACENT TO SLABEDGES AND JOINTS TO PREVENT THE UPWARD DEFLECTION OF THE FABRIC WHEN STOOD ON.

- - ORCEMENT SHALL BE CHAIRED AT MAXIMUM CENTERS AS FOLLOWS:-

- DENOTES D500N DEFORMED BAR TO AS 4671
 DENOTES 250R HOT ROLLED PLAIN BAR TO AS 4671
 DENOTES HARD DRAWN WIRE REINFORCEMENT FABRIC TO AS 4671
 DENOTES R500L HARD DRAWN PLAIN WIRE TO AS 4671

- ALL CONCRETE IS FULLY COMPACTED USING A POKER VIBRATOR NO SITE WATER IS ADDED TO CONCRETE OR CONCRETE IN WAITING TRU (REQUIRED SLUMP FOR PLACEMENT SHALL BE ACHIEVED USING SUPER PLASTICISER).
- NO POURS ARE EXECUTED WHEN THE AMBIENT TEMPERATURE EQUALS OR EXCEEDS $35^{\circ}\mathrm{C}.$
- POURS ARE PROTECTED FROM ANY HOT DRYING WINDS
- FS2 FINAL SURFACE COMPACTION SHALL BE ACHIEVED USING A TWO HEAD 'RIDE ON' POWER TROWEL.
- USING AT LEAST ONE OF THE FOLLOWING METHODS:

 a) PONDING OR CONTINUOUS SPRINKLING WITH WATER.
 b) THE USE OF AN ABSORBENT COVER KEPT CONSTANTLY WET.
 (WHEN THE AMBIENT TEMPERATURE EXCEEDS 32°C CURING MAY ONLY BE ACHIEVED USING METHODS a AND b).
 c) THE USE OF AN IMPERMEABLE SHEET MEMBRANE OVER A MOISTENED SURFACE. (THE MEMBRANE SHALL BE FIXED AND LAPPED SO THE NO AIR CIRCULATION CAN OCCUR AT THE CONCRETE SURFACE).
 d) THE USE OF A CURING COMPOUND COMPLYING WITH AS3799, APPLIED UNIFORMLY IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS, AND WHEN DRY THE COAT SHOULD BE CONTINUOUS, FLEXIBLE AND WITHOUT VISIBLE BREAKS OR PIN HOLES FOR SEVEN DAYS.

3500 EB1 FALL 20mm 160

EB1

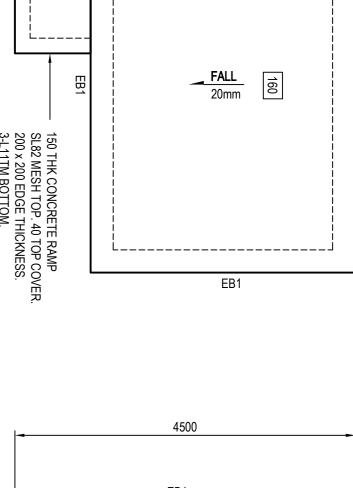
SLAB PLAN

ALL SLABS TO BE 160 THICK U.N.O. 40 MPa CONCRETE. SL82 TOP AND BOTTOM FABRIC. 40mm COVER. PLACED ON A WATERPROOF MEMBRANE, ON 50mm SAND BEDDING. PH DOSING BUILDING

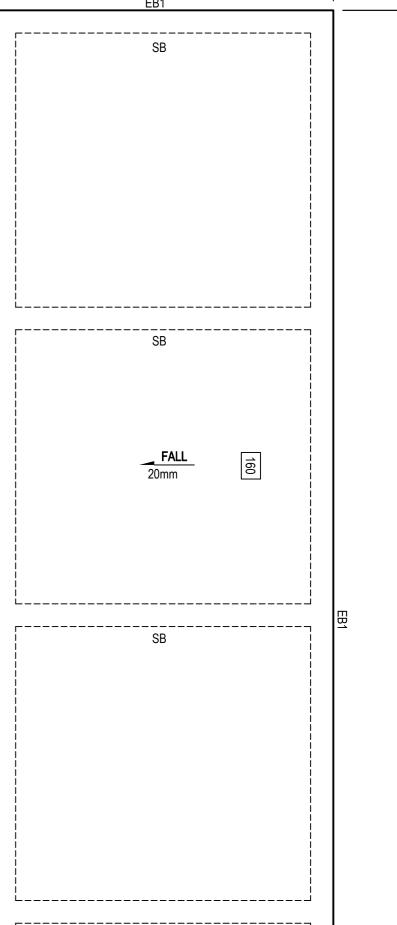
CHEMICAL RESISTANCE FLOOR COATING:

4500

150 THK CONCRETE RAMP SL82 MESH TOP. 40 TOP COVER. 200 x 200 EDGE THICKNESS. 3-L11TM BOTTOM.



SB



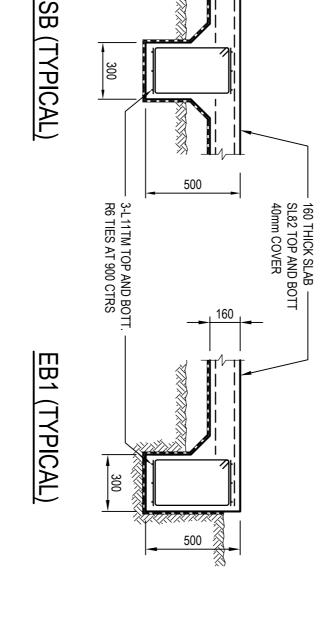
SB

EB1

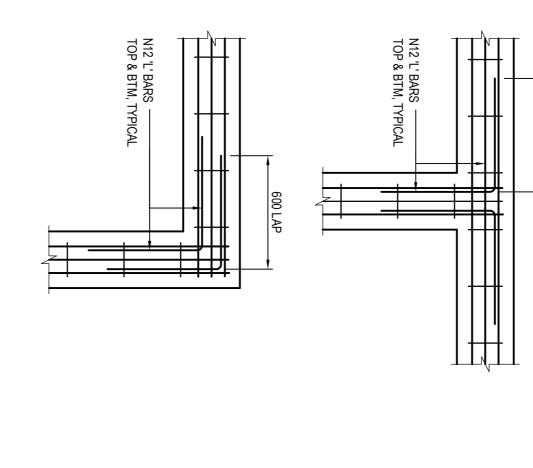
Page 72 of 72

SLAB PLAN

ALL SLABS TO BE 160 THICK U.N.O. 40 MPa CONCRETE. SL82 TOP AND BOTTOM FABRIC. 40mm COVER.
PLACED ON A WATERPROOF MEMBRANE, ON 50mm SAND BEDDING. FILTRATION BUILDING



	STRIP	FOOTING	STRIP FOOTING SCHEDULE	JLE	
MADKNO	5175	77	REINFORCEMENT	JT	STINDINGO
	'DEPTH' x 'WIDTH'	ТОР	воттом	LIGS	COMMENT
EB1	500 x 300	3-L11TM	3-L11TM	R6 - 900	***
EB2	500 x 300	3-L11TM	3-L11TM	R6 - 900	***
SB	500 x 300	3-L11TM	3-L11TM	R6 - 900	*****



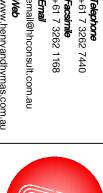
TYPICAL FOOTING INTERSECTION DETAIL

믝

THOMAS Ω COFFEY







REGIONAL L

henry&hymas

KALBAR SL B AGOONS SEWAGE PLAN AND DETAILS

TREATMENT M.W 2687-S1 00 1:50