

IPI NT PTY LTD T/A **DARWIN BUILDING INSPECTIONS (DBI)**

Report Date: 22/06/2023

Email: Inspections@darwinbuildinginspections.com

Address: 10/16 McCourt Yarrowonga NT 0830

Mail: PO Box 1504 Berrimah NT 0828

ABN: 24 641 136 754



BUILDING STATUS REPORT

**INCLUDING COPIES OF THE OCCUPANCY PERMIT AND/OR CERTIFICATE OF OCCUPANCY
HELD ON FILE AT THE NORTHERN TERRITORY GOVERNMENT, DEPARTMENT OF
INFRASTRUCTURE, PLANNING and LOGISTICS**



LOT 239, 49 Bagshaw Crescent Gray

Property Details

Property Address: LOT 239, 49 Bagshaw Crescent Gray

Inspection Date/Time: 14/06/2022

Date Obtained Copies of Records: 14/06/2022

Inspected By: Codie Glover

Contact: 0488 992 598

Client Details

Name: Vendor

Contact Detail: C/- Real Estate Central

Status report requested by Real Estate Central acting on behalf of the Vendor for the purpose of the 'Central's Friendly Auctions' campaign. Any warranty associated with this Status report must be requested to be transferred to the successful buyer within 14 days of the auction date if required. Requests received after 14 days of the auction date will incur a re-visit fee to re-inspect & issue a current report.

Type of Dwelling

BLOCK WALLS, CONCRETE FLOOR, ALUMINIUM WINDOWS, SHEET METAL ROOFING

Summary

The following summarises the status of the structures at the time of inspection

Structure	Status	Date of Issue	Permit Number	Class	Description
House (Not Constructed)	Expired	-	590/239/1	1a	Building Approval Expired 06/07/1997 See attached Building Approval.
House	Approved	15/03/2011	590/239/2	1a	Permit To Occupy and Plan/s on Building File Attached.
PV Panels	Approved	02/04/2020	590/239/3	10b	Occupancy Permit and Plan/s on Building File Attached.
Shade Sail/s	Unapproved	-	-	-	Record / information not found on BASB file. See Photo 1 & 2.
Glass Pool Fence	Unapproved	-	-	-	Record / information not found on BASB file. See Photo3.
Slatted Fence/s	Unapproved	-	-	-	Record / information not found on BASB file. See Photo 4.
Pool Pump	Unapproved	-	-	-	Record / information not found on BASB file. See Photo 5.
Privacy/s Screen	Unapproved	-	-	-	Record / information not found on BASB file. See Photo 6.

Note/s

- The building was constructed in a cyclonic wind loading area as defined by Australian Standard 1170.2
- The building design is in accordance with the requirements of the Building Code Australia and/or National Construction Code and the Northern Territory Building Regulations at the current time of Certification.
- The visual inspection carried out confirms that the building was generally built as approved plans excluding;
 - o Unapproved alterations and / or additions as described in the aforementioned table.

This report is for information purposes only and is intended to generally confirm that the building is consistent with the approved drawings sourced from the Department of Infrastructure, Planning and Logistics, Building Advisory Branch noting any inconsistencies between the approved drawings and the buildings on site at the time of inspection. Darwin Building Inspections cannot guarantee the accuracy of the data held on site at the Building Advisory Branch and does not accept responsibility for any loss incurred.

Inspections and certification done both during and at completion of construction ensure that all vapor, flashings, fixtures, structural components and cladding are installed in accordance with the relevant Building Codes, Australian Standard and Manufacturers specifications current at that time.

This report is not a Certificate of Compliance with the requirements of any Act, Regulations, Ordinance or By-Law. Darwin Building Inspections does not take liability beyond standard legal liability for the production of this report.

The Status report relates to the building works only, subject to reasonable access or height limitations, and does not provide any advice or information about the condition, structure, soundness of the building, fixtures or fittings, common areas, or advice or information in relation to Solar Hot Water Heaters for dwellings or roofing constructed prior to 20/06/2006 - See Building Note 56), plumbing, mechanical, electrical, pests or termites, floor coverings, pools, spas, pool/spa fencing, side or rear boundary fencing, earth works, pumps or the presence of asbestos. The inspection and report is carried out under AS 4349.1-2007, where applicable, and is a visual non-intrusive inspection only.

Your report may include photographs. Pictures are intended as a courtesy and are added for information. Some are to help clarify where the inspector has been, what was looked at, and the condition of the component at the time of the inspection.

As this report does not provide any advice or information about the condition, structure, soundness of the building, I recommend that you also seek a Building Condition Report to bring your attention to any potential interior or exterior building defects.

Expired or unapproved building work present at the time of inspection are deemed unlawful. For further advice in regards to expired permit/s or unapproved building works please contact NT Government Building Advisory Service 08 8999 8985 or a reputable building certifier.

Thank you for choosing **Darwin Building Inspections.**

SIGNED FOR AND ON BEHALF OF: Darwin Building Inspections



Photo 1:



Photo 2:



Photo 3:



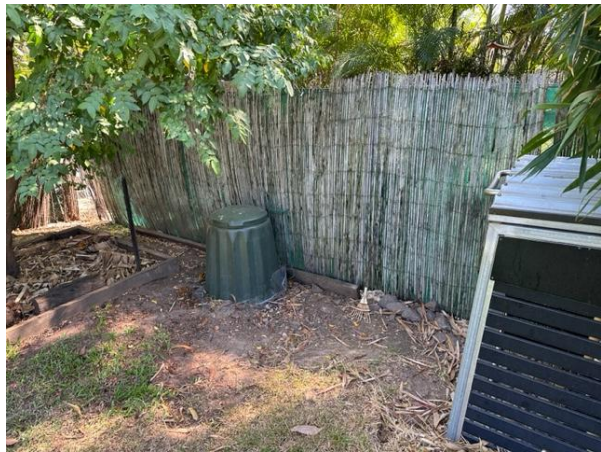
Photo 4:



Photo 5:



Photo 6:



BUILDING APPROVAL

Approval No:590-239-1

NAME OF OWNERS:.

ADDRESS:

is hereby granted approval to Construct

a building on Lot 239 Bagshaw Crescent in PALMERSTON

Nature of Construction: New Building

Purpose of Building: HOUSE

Type of Construction: C

Class of Building: 1A

This Approval is issued on the conditions that the construction, when completed will fully comply with all requirements of the Building Code of Australia, the endorsements on the approved plans and such further conditions as may be stated hereunder.

- * The building or any part of the building shall not be occupied by any person unless a Permit to Occupy has been issued.
- * Refer attached Inspection Schedule.
- * Part A and B Certification of termite treatment to AS2057 required.
- * Certification for glazing in accord Australian Standard 1288 (1989) will be required prior to the issue of a Permit to Occupy.
- * A 300 Wide x 50 Deep Concrete Mowing Strip is Required Outside All Concrete Floor Slabs to Cover Part "B" Treatment.

12627025

Date Issued 6-7-95

1. This approval requires the owner to have inspections carried out in accordance with the attached schedule.
2. The building work approval above is required to be commenced within 12 months from the date of issue of this approval.
3. The building work approved above is required to be completed within 24 months of the date of issue of the approval.

THIS APPROVAL WILL LAPSE IF 2 AND 3 ARE NOT COMPLIED WITH.

Building Act

Building Regulations

PERMIT TO OCCUPY

*Post/Pre 24 December 1974 Standard

No. 590-239-2

This is to certify that:

Pursuance to Division 1 of Part 8 of the Act, the building work in respect of *the/part of the building situated at Lot 239 Bagshaw Crescent Palmerston, being HOUSE , approved under Building Permit No. 590-239-2 is suitable for occupation as a Class 1A building subject to compliance with the conditions set out below, or attached to, this certificate.

Specifications pursuant to section 72 of the Building Act

No. of Storeys	Floor or Level No.	Type of Construction	Class/Classes of Building	Maximum Permissible Live Load	No. of Persons Exit Space is Provided
1	Ground	N/A	1A	1.5Kpa	Adequate

New	No. of WC's		New	Length and Number Urinals	
	Existing	Total		Existing	Ratable length
2	0	2	N/A	N/A	N/A

CONDITIONS

This Structure is Protected by Termite Prevention installed in accordance with Australian Standard 3660.1 .The Owner is Required by this Standard to have Termite inspections by a competent Pest Control Operator at intervals not exceeding Twelve (12) months.

Date 15 / 3 /2011

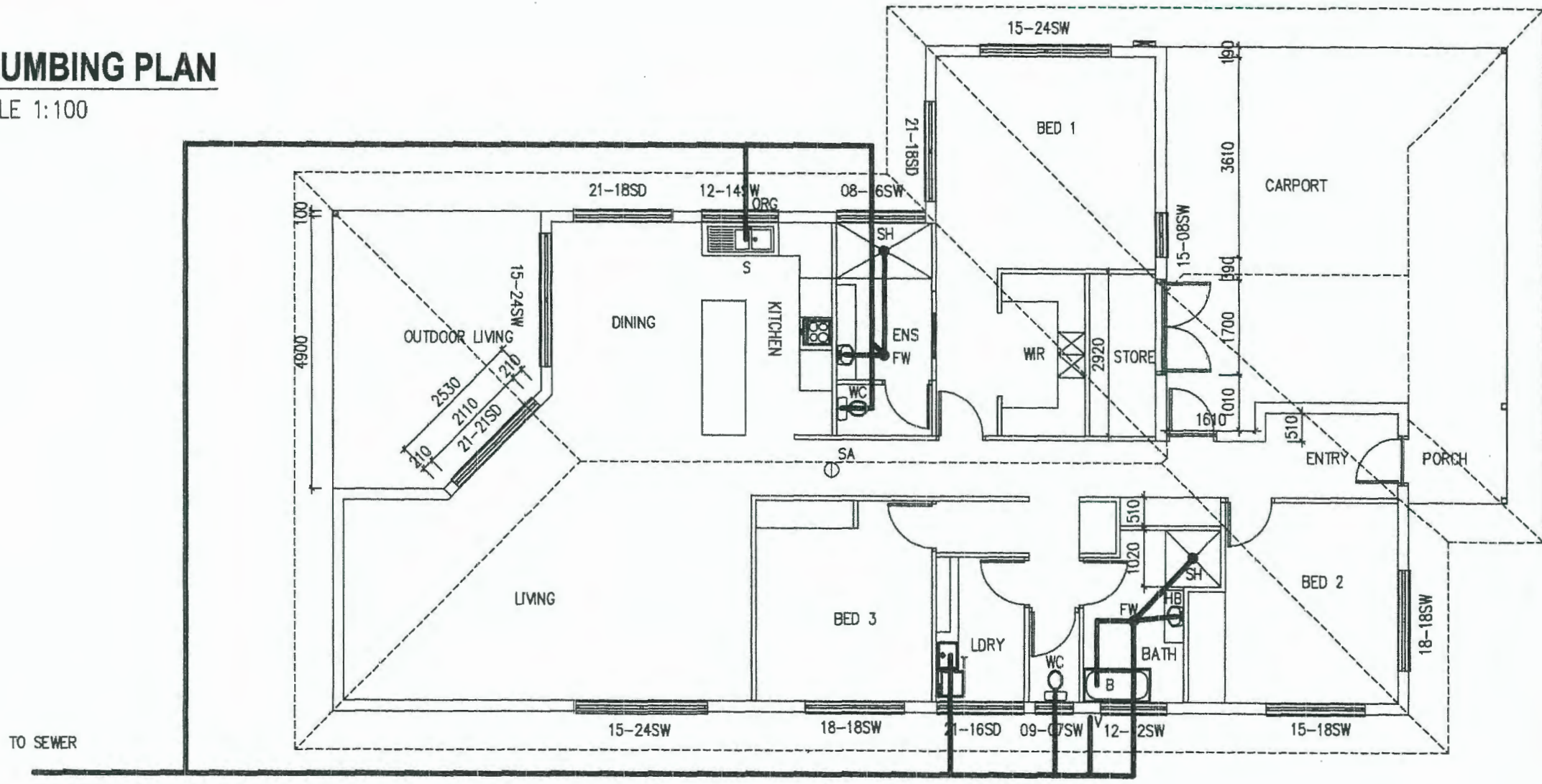
Building Certifier
Registration No: 18993Au

- LEGEND :
- WC - WATER CLOSET
 - HB - HAND BASIN
 - T - LAUNDRY THROUGH
 - V - VENT
 - S - SINK
 - FW - FLOOR WASTE
 - ORG-OVERFLOW RELIEF GULLEY
 - SH- SHOWER
 - B- BATH

** ALL WORKMANSHIP SHALL COMPLY TO AS 3500

PLUMBING PLAN

SCALE 1:100

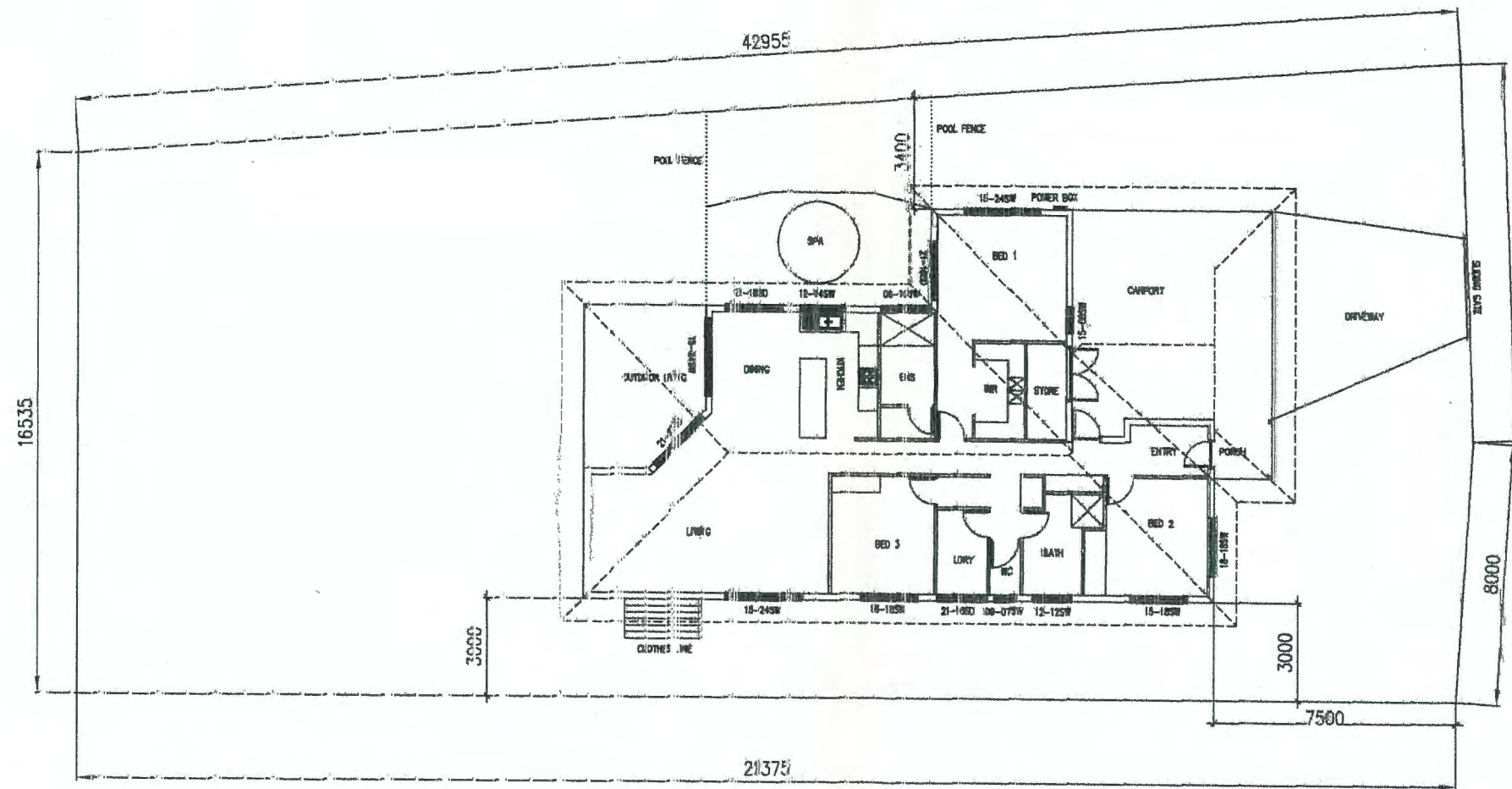


BAPU 1360
2/8/05

PROPOSED 3-BED RM.
RESIDENCE ON LOT 239
BAGSHAW CRS, GRAY
PALMERSTON N.T

DRAWN	SCALE
PM 2	AS SPECIFIED
DRAWING No:	DATE
	JUL 05
SHEET No:	REVISION
S 11 - PLUM	

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NORTHERN TERRITORY BUILDING ACT
 590-239-2
APPROVED PERMIT No. DATE 20-8-2005
 BABU 828K

Structurally Certified
 by Roetek Engineering
 Registration No. ROES 3287

Date: 28-7-05 Signed:

PROPOSED 3-BED RM.
 RESIDENCE ON LOT 239
 BAGSHAW CRS, GRAY
 PALMERSTON N.T

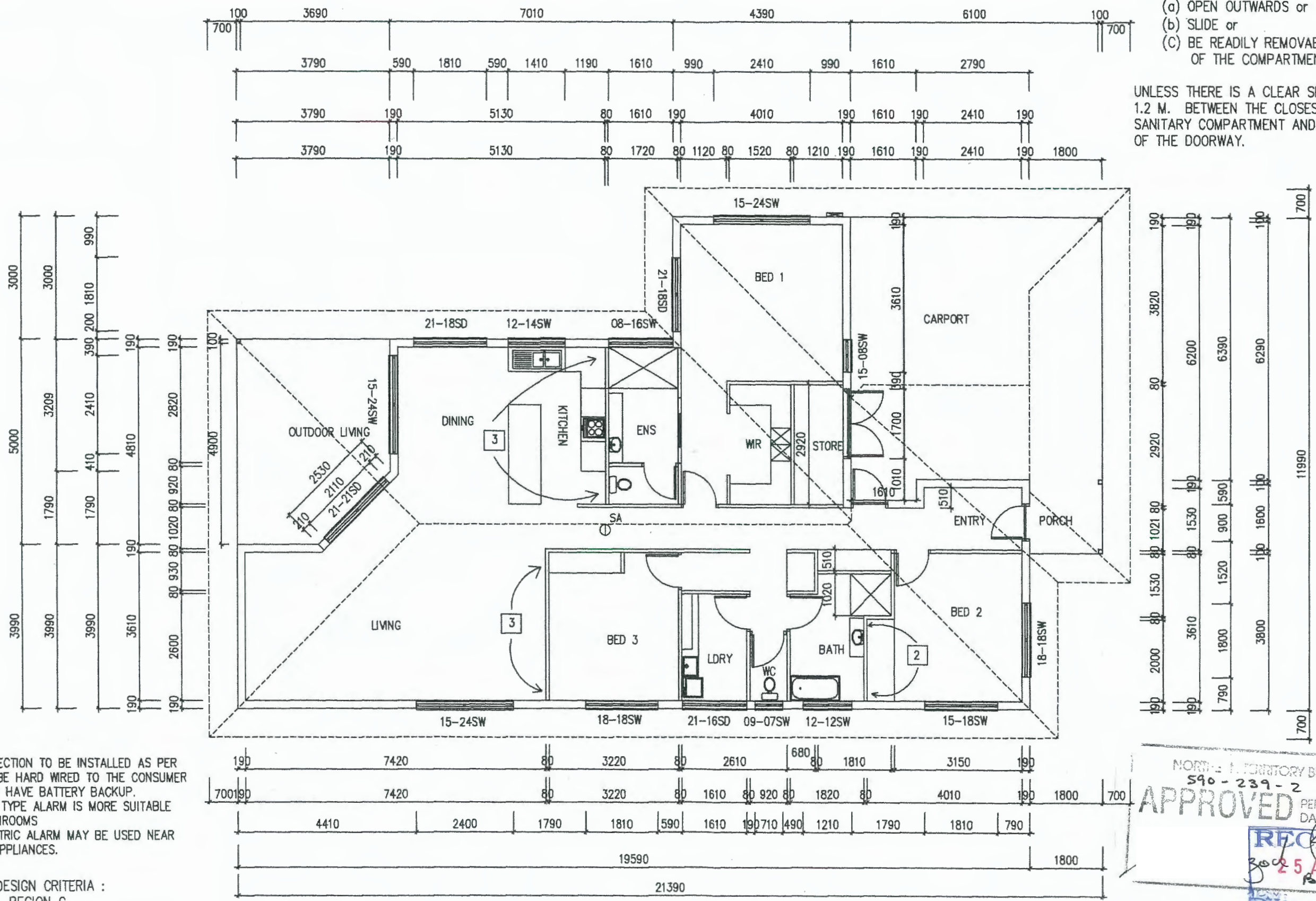
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FLOOR PLAN
SCALE 1:125

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CONSTRUCTION OF SANITARY COMPARTMENTS
THE DOOR TO A FULLY ENCLOSED SANITARY
COMPARTMENT MUST :
(a) OPEN OUTWARDS or
(b) SLIDE or
(c) BE READILY REMOVABLE FROM THE OUTSIDE
OF THE COMPARTMENT

UNLESS THERE IS A CLEAR SPACE OF ATLEAST
1.2 M. BETWEEN THE CLOSEST PART WITHIN THE
SANITARY COMPARTMENT AND THE NEAREST PART
OF THE DOORWAY.



- SA 4.1 SMOKE DETECTION TO BE INSTALLED AS PER AS 3786, BE HARD WIRED TO THE CONSUMER MAINS AND HAVE BATTERY BACKUP.
4.2 IONISATION TYPE ALARM IS MORE SUITABLE NEAR BATHROOMS
4.3 PHOTOELECTRIC ALARM MAY BE USED NEAR COOKING APPLIANCES.

DESIGN CRITERIA :
REGION C
TERRAIN CAT 2.5
Vo = 70 MS
Vp = 57 MS
BUILDER TO CONFORM 150 KPa
ALLOWABLE BEARING OF SOIL
BEFORE CONSTRUCTION.

[3] DENOTES 'K' BRACE TYPE PER WALL FRAMING SYSTEM Certified by Roetek Engineering Registration No. ROES 3287
Date: 28-7-05 Signed: [Signature]

PROPOSED 3-BED RM.
RESIDENCE ON LOT 239
BAGSHAW CRS, GRAY
PALMERSTON N.T

NORTH-TERRITORY BUILDING ACT
590-239-2
APPROVED PERMIT No. 20-8-2605
DATE 20-8-2005
RECEIVED
5 AUG 2005
BAGSHAW 8284

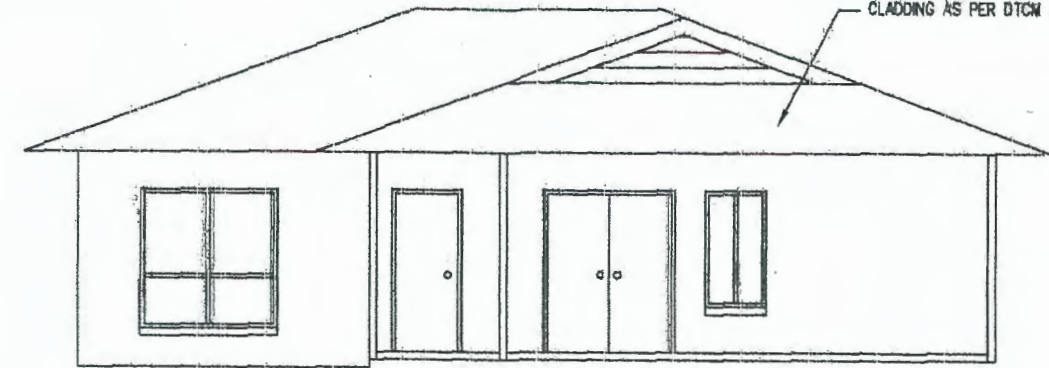
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2)

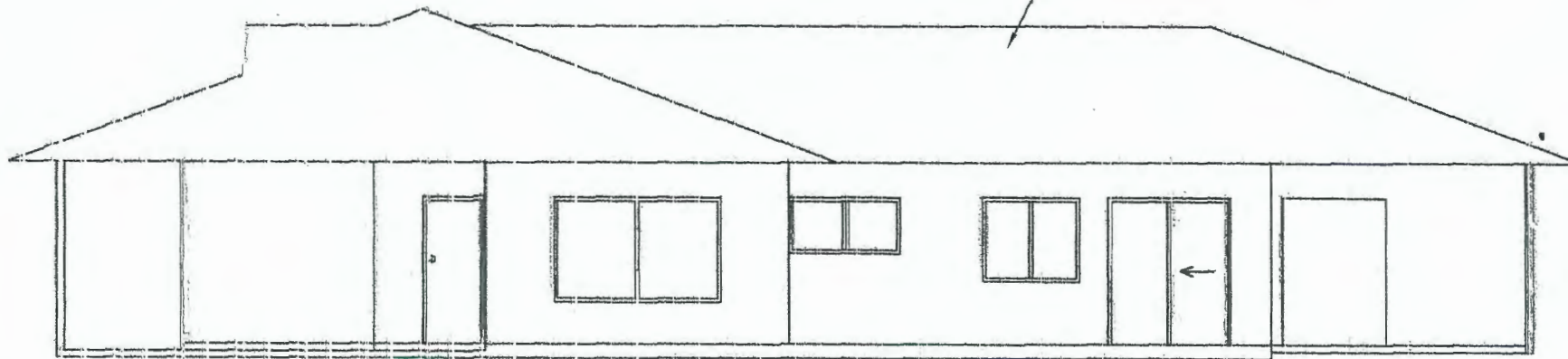
ELEVATION 4
SCALE 1:100

CUSTOM ORB ROOF CLADDING
FIXED TO DTC M/101/1, 5° MIN.
PITCH, OR EQUIVALENT ROOF
CLADDING AS PER DTCM STANDARDS



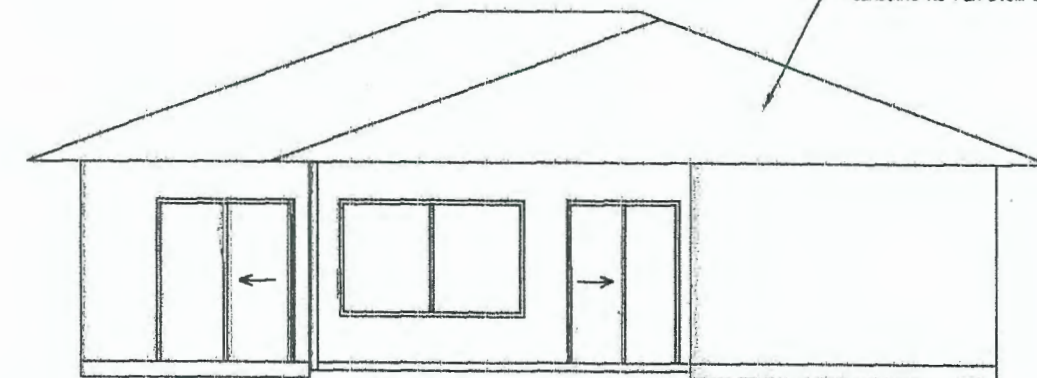
ELEVATION 1
SCALE 1:100

CUSTOM ORB ROOF CLADDING
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PITCH, OR EQUIVALENT ROOF
CLADDING AS PER DTCM STANDARDS



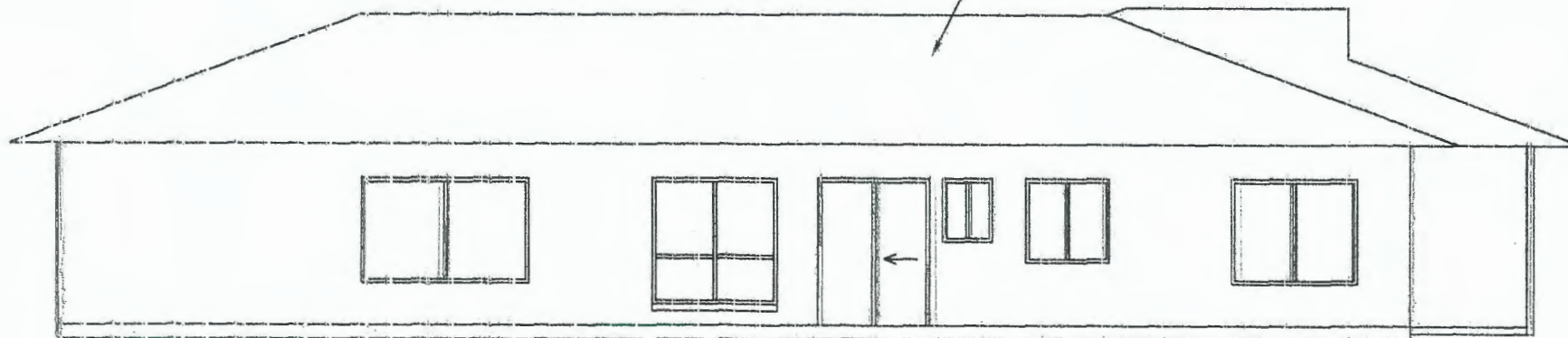
ELEVATION 2
SCALE 1:100

CUSTOM ORB ROOF CLADDING
FIXED TO DTC M/101/1, 5° MIN.
PITCH, OR EQUIVALENT ROOF
CLADDING AS PER DTCM STANDARDS



ELEVATION 3
SCALE 1:100

CUSTOM ORB ROOF CLADDING
FIXED TO DTC M/101/1, 5° MIN.
PITCH, OR EQUIVALENT ROOF
CLADDING AS PER DTCM STANDARDS



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Registration No. ROES 3287

Date: 28.7.05 Signed: [Signature]

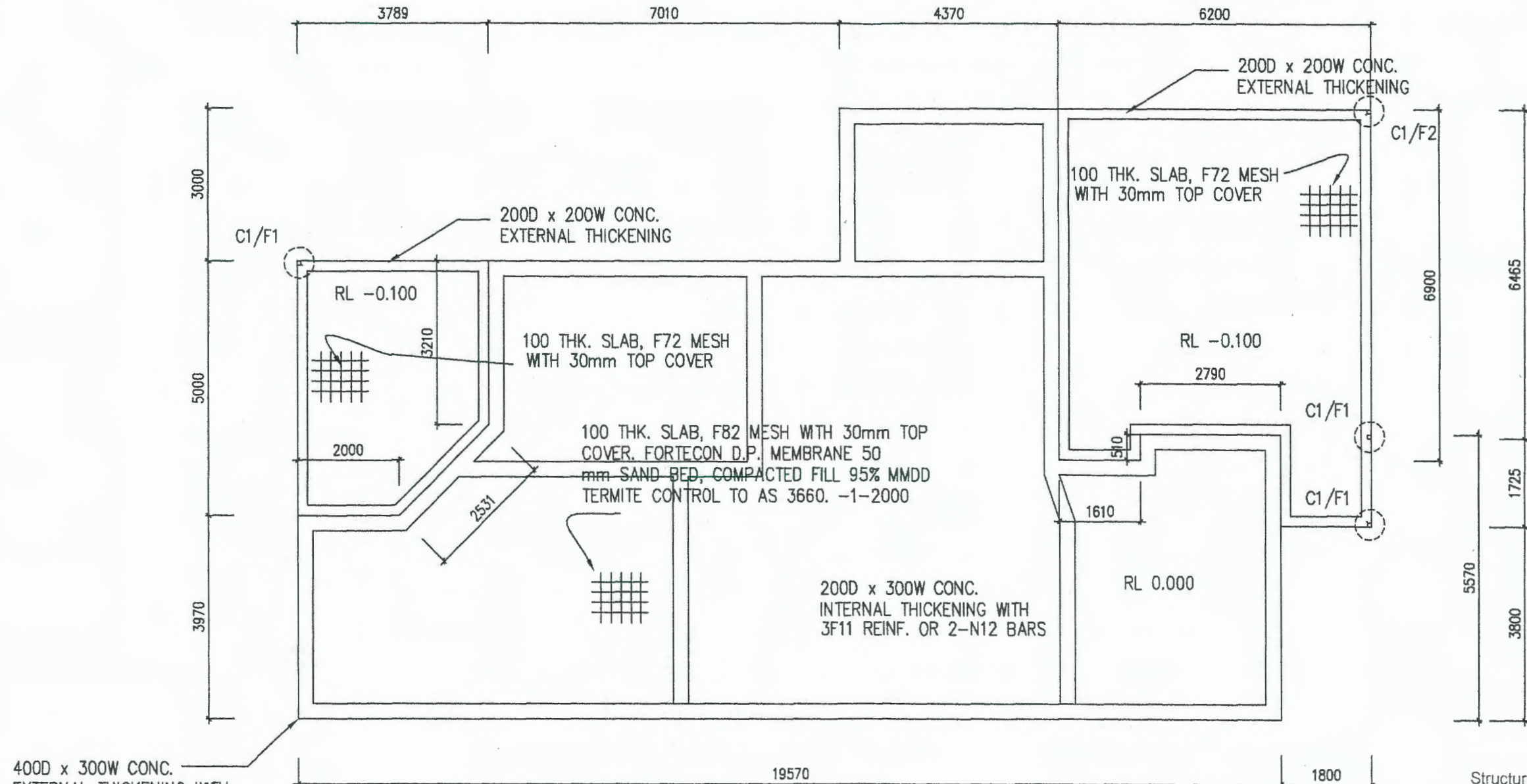
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PROPOSED 3-BED RM.
RESIDENCE ON LOT 239
BAGSHAW CRS, GRAY
PALMERSTON N.T

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FOUNDATION PLAN

SCALE 1:100



400D x 300W CONC.
EXTERNAL THICKENING WITH
3F11 REINF. OR 2-N12 BARS
WITH R6 LIGS @600 CRS.

- C1 = 100x100x3.0 SHS COLUMN (C450)
- F1 = 600 diax900 DEPTH PIER BORED FTG.
- F2 = 600 diax1200 DEPTH PIER BORED FTG.

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Date: 28-7-05 Signed:

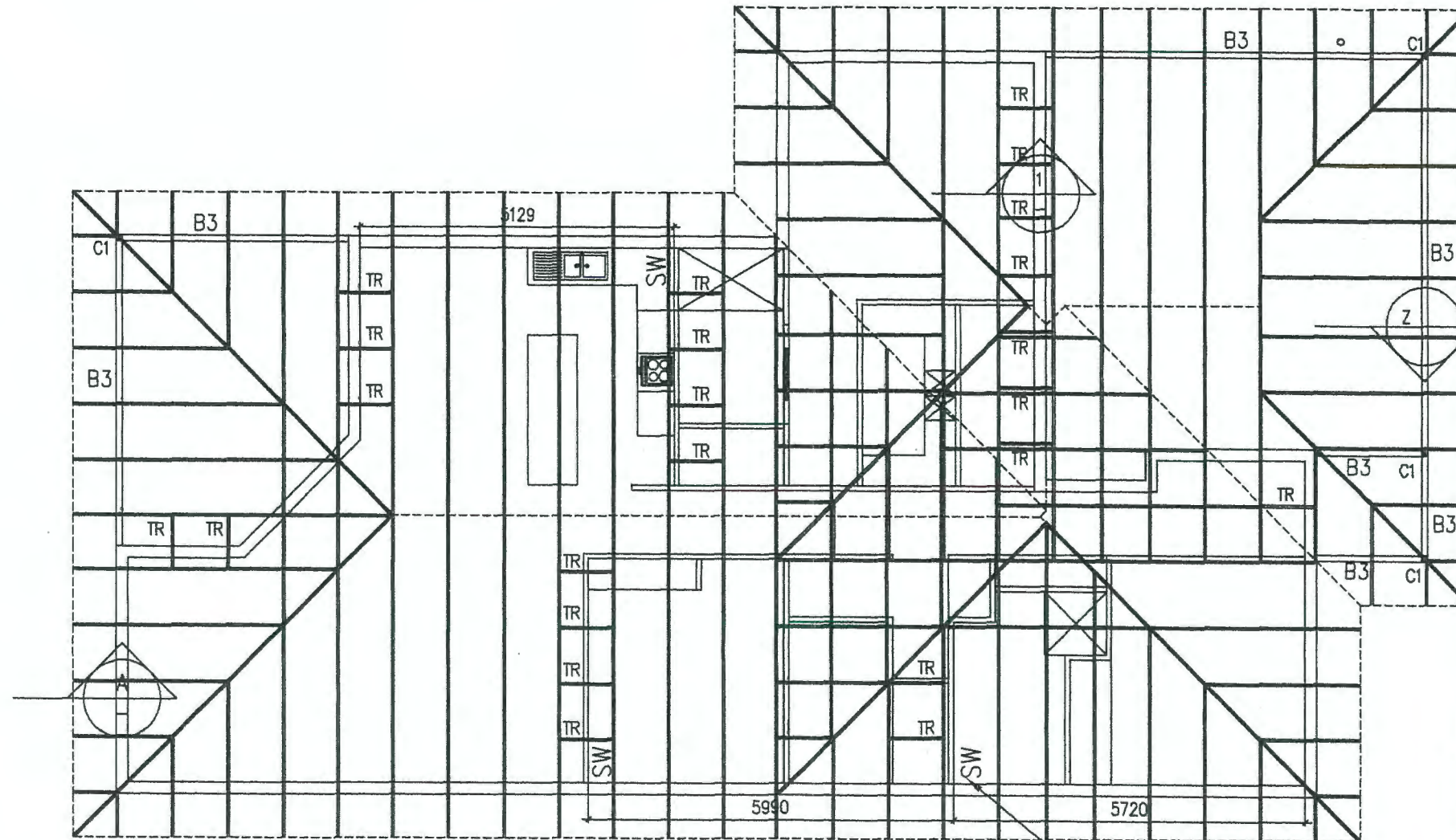
NORTHERN TERRITORY BUILDING ACT
590-239-2
APPROVED PERMIT No. DATE 20-8-2005
BABU828K

PROPOSED 3-BED RM.
RESIDENCE ON LOT 239
BAGSHAW CRS, GRAY
PALMERSTON N.T

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ROOF FRAMING PLAN

SCALE 1:100



TIMBER TRUSSES AS PER MANUFACTURER'S STANDARDS @1000 MAX. CRS.

NORTHERN TERRITORY BUILDING ACT
 590-239-2
APPROVED PERMIT No. DATE 20-8-2005
 BATSU 8284

STRUCTURAL SCHEDULE

- C1 = 100x4.5mm CHS COLUMN
- B3 = 150x100x4 RHS BEAM
- TR = 90x45 HW TRIMMER

NOTE : U.N.O. ALL CLEATS TO BE 50x4mm (C450)

C450 DURAGAL GENERALLY WHERE POSSIBLE

SW AS PER WALL FRAME MANUFACTURERS DETAIL SHEET. ALL OTHER WALL FRAMES TO BE MADE FROM RONDO LIGHT GAUGE WALL FRAMING MATERIAL. FOR 0.5 KPA INTERNAL PRESURE.

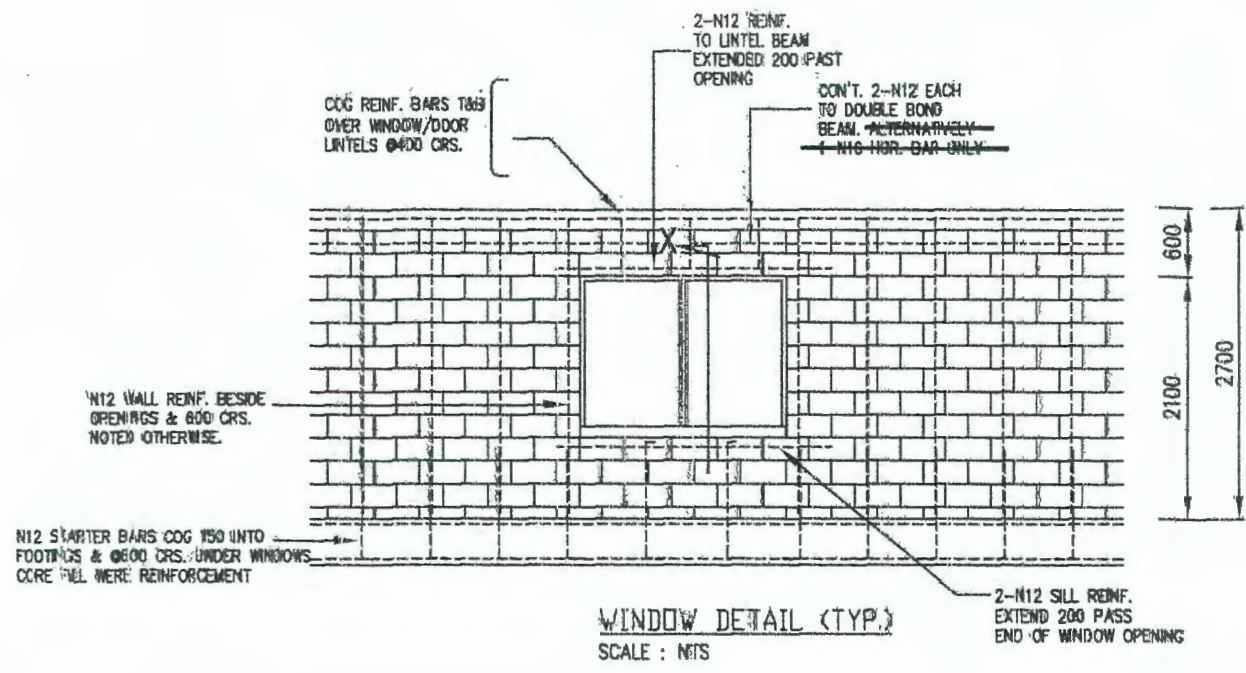
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Date: 28-7-05 Signed: [Signature]

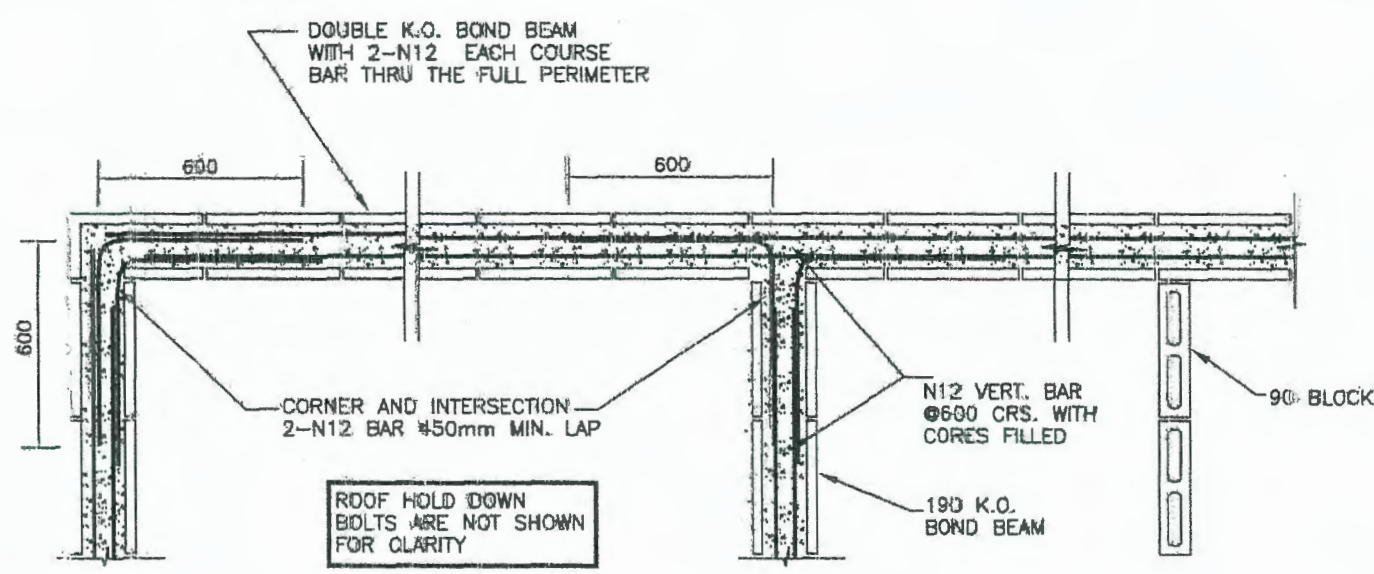
RECEIVED

PROPOSED 3-BED RM. RESIDENCE ON LOT 239 BAGSHAW CRS, GRAY PALMERSTON N.T

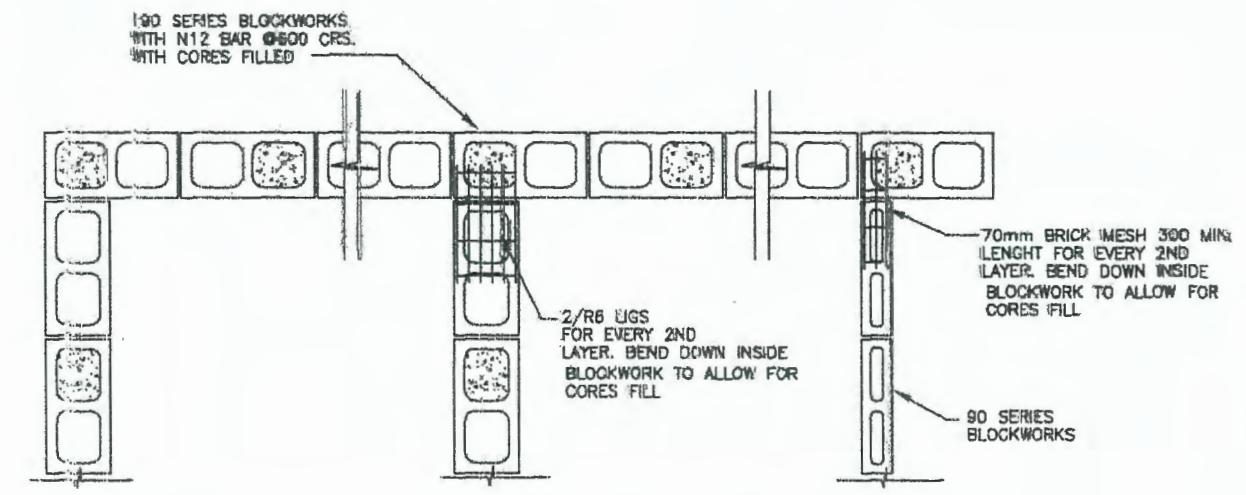
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		JUL 05	
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S 5			



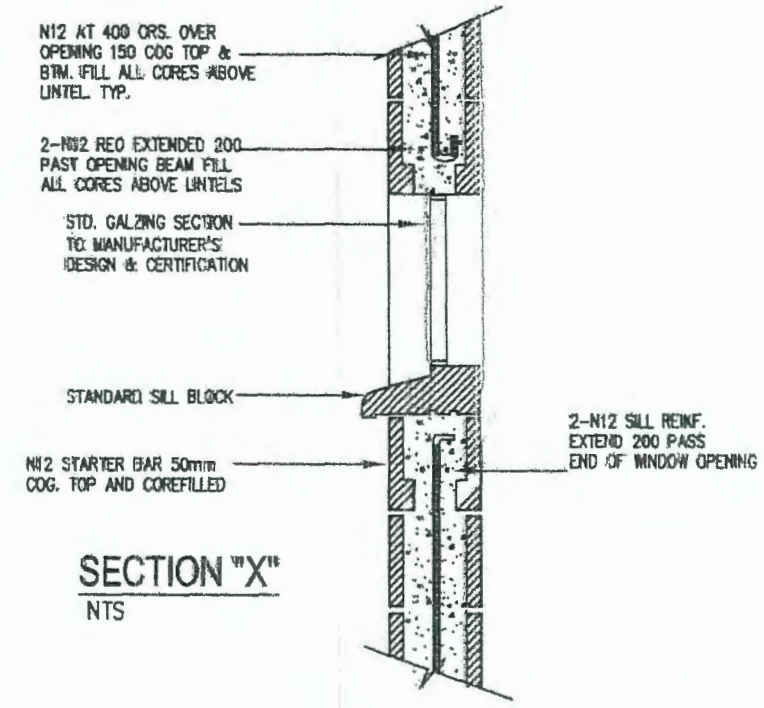
WINDOW DETAIL (TYP)
SCALE: NTS



KNOCK OUT BOND BEAM INTERSECTION DETAILS



BLOCKWORKS INTERSECTION TYPICAL DETAILS



SECTION "X"
NTS

NORTHERN TERRITORY BUILDING ACT
590-239-2
APPROVED PERMIT No. DATE 20-8-2005
BABU8284

Structurally Certified
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Registration No. ROES 3287

Date: 28.7.05 Signed:

PROPOSED 3-BED RM.
RESIDENCE ON LOT 239
BAGSHAW CRS, GRAY
PALMERSTON N.T.

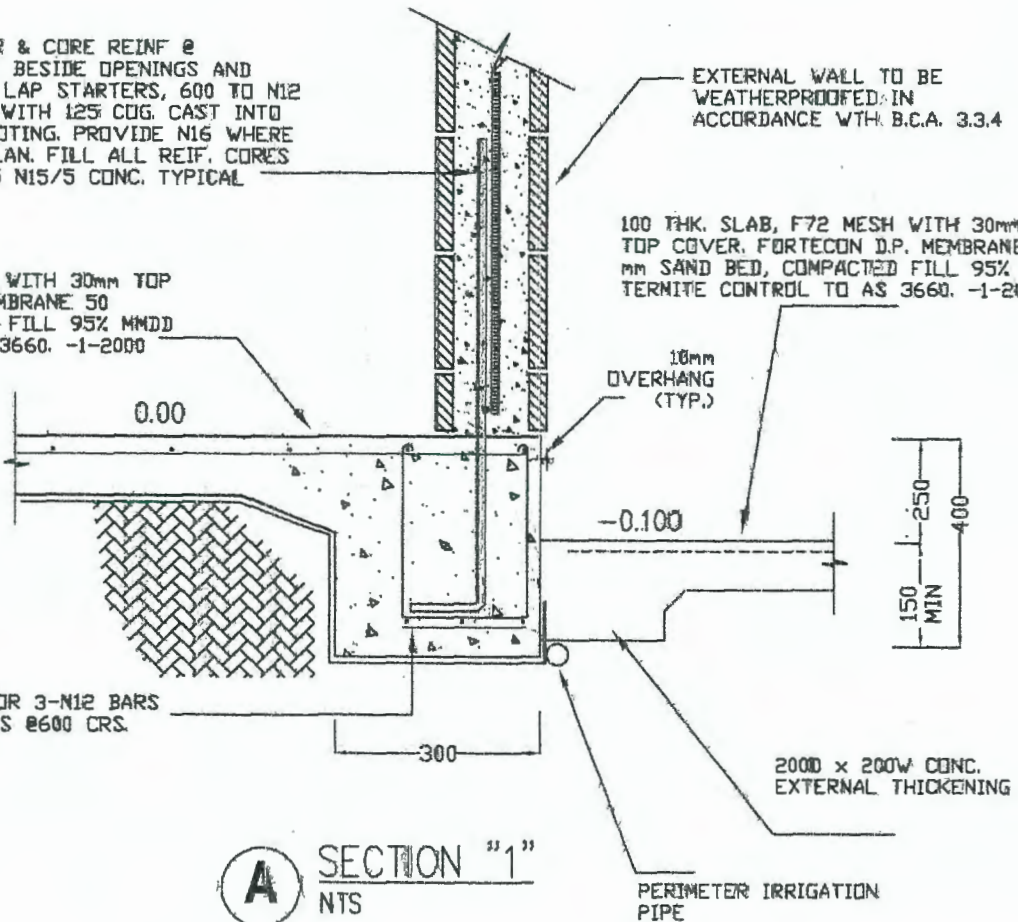
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TYP. STARTER & CORE REINF @ MAX 600 CRS. BESIDE OPENINGS AND AT CORNERS. LAP STARTERS, 600 TO N12 CORE REINF. WITH 125' COG. CAST INTO 300mm TO FOOTING. PROVIDE N16 WHERE SHOWN ON PLAN. FILL ALL REIF. CORES WITH F'C= 15 N15/5 CONC. TYPICAL

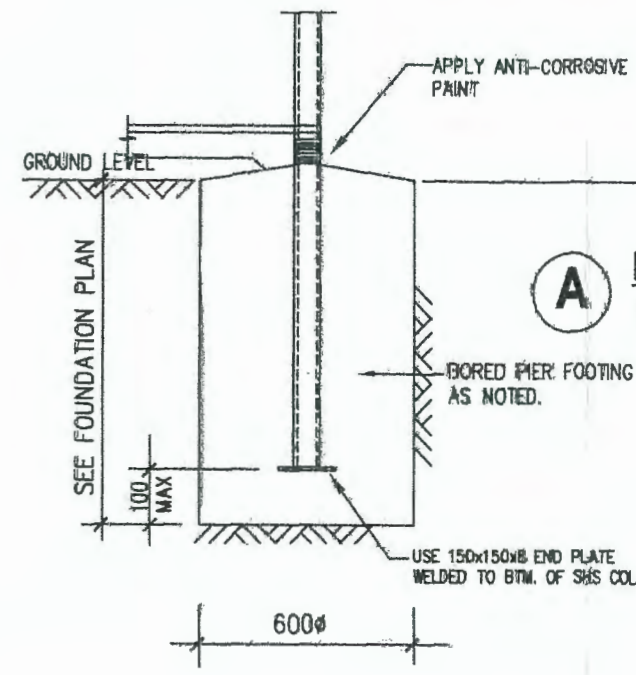
EXTERNAL WALL TO BE WEATHERPROOFED IN ACCORDANCE WITH B.C.A. 3.3.4

100 THK. SLAB, F82 MESH WITH 30mm TOP COVER. FORTECON D.P. MEMBRANE 50 mm SAND BED, COMPACTED FILL 95% MMDD TERMITE CONTROL TO AS 3660. -1-2000

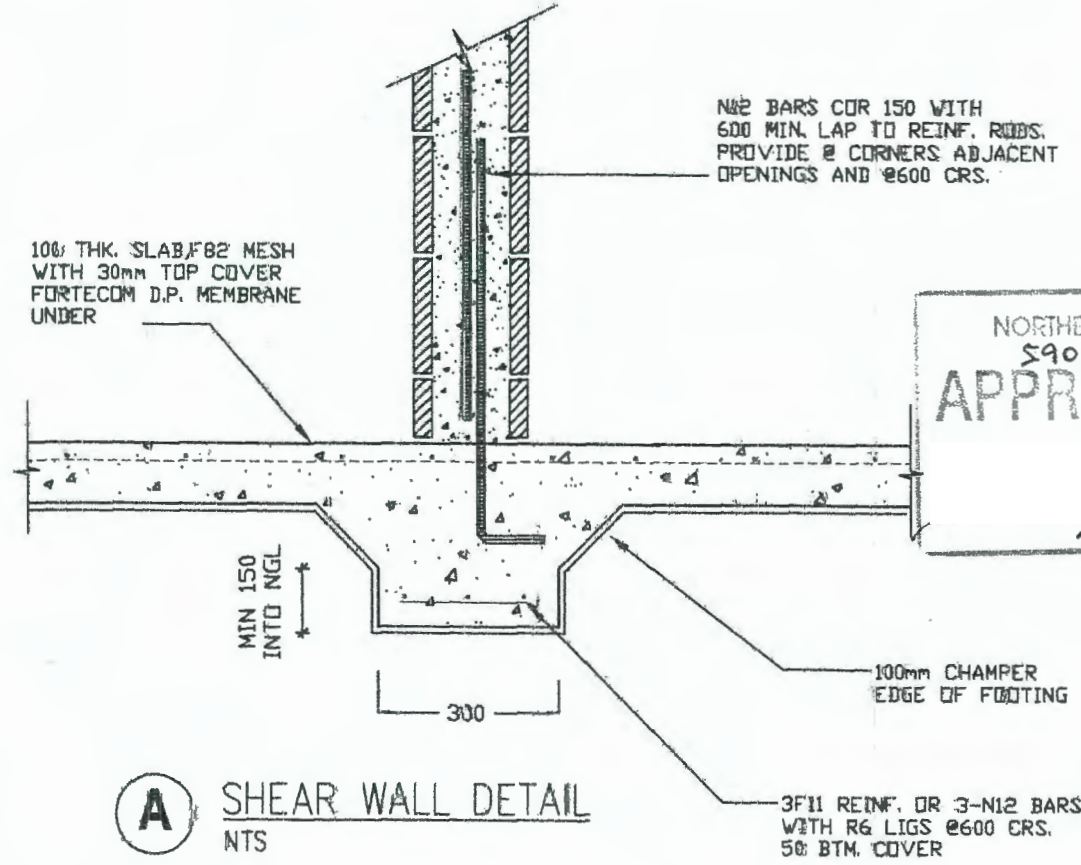
100 THK. SLAB, F82 MESH WITH 30mm TOP COVER. FORTECON D.P. MEMBRANE 50 mm SAND BED, COMPACTED FILL 95% MMDD TERMITE CONTROL TO AS 3660. -1-2000



A SECTION "1" NTS



A FOOTING DETAIL SCALE : NTS



A SHEAR WALL DETAIL NTS

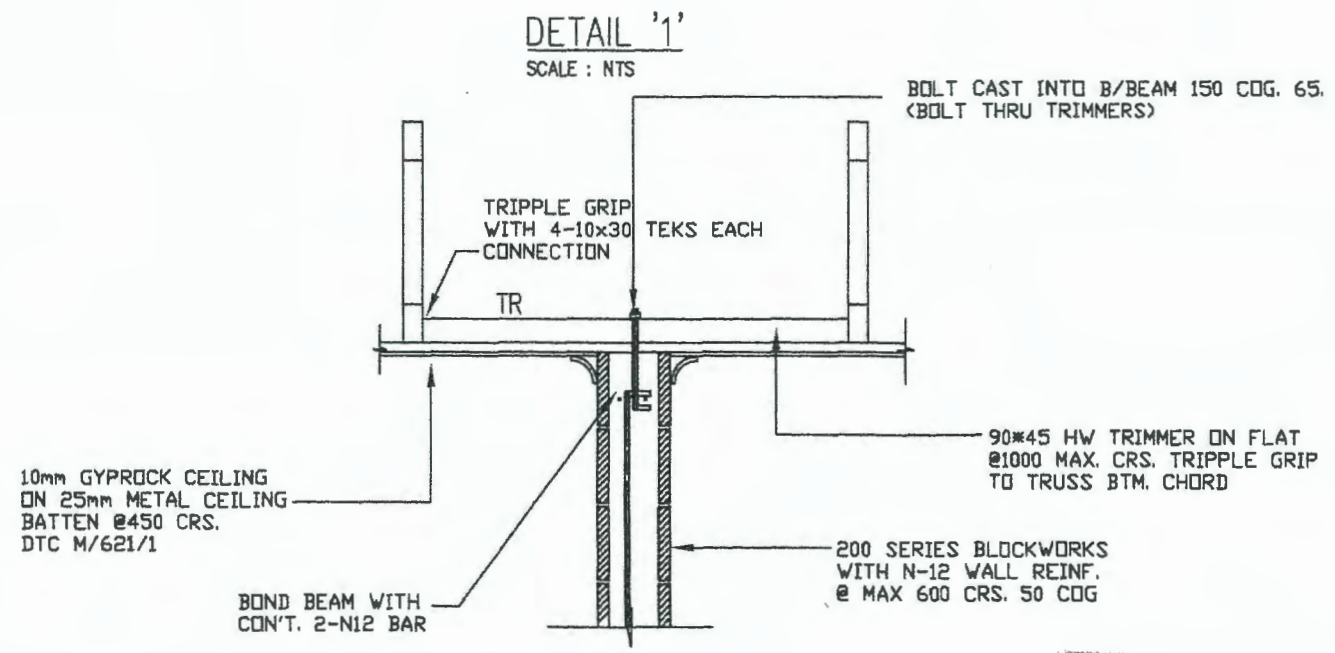
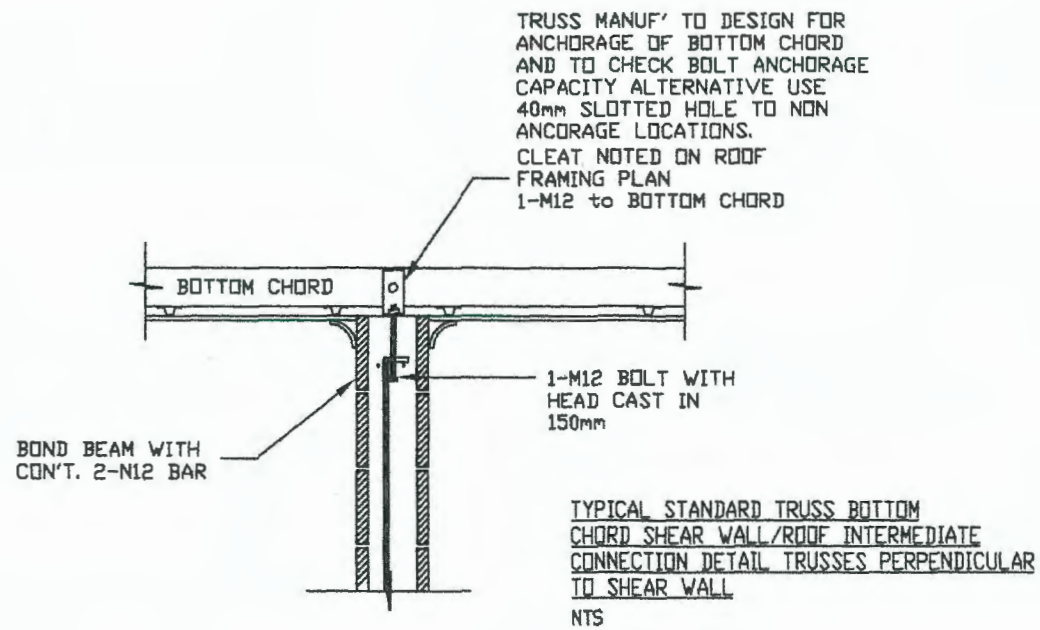
NORTHERN TERRITORY BUILDING ACT
 590-239-2
APPROVED PERMIT No. DATE 20-8-2005
 BARBARA

Structurally Certified by Roetek Engineering Registration No. ROES 3287

Date: 28-7-05 Signed: *[Signature]*

PROPOSED 3-BED RM. RESIDENCE ON LOT 239 BAGSHAW CRS, GRAY PALMERSTON N.T.

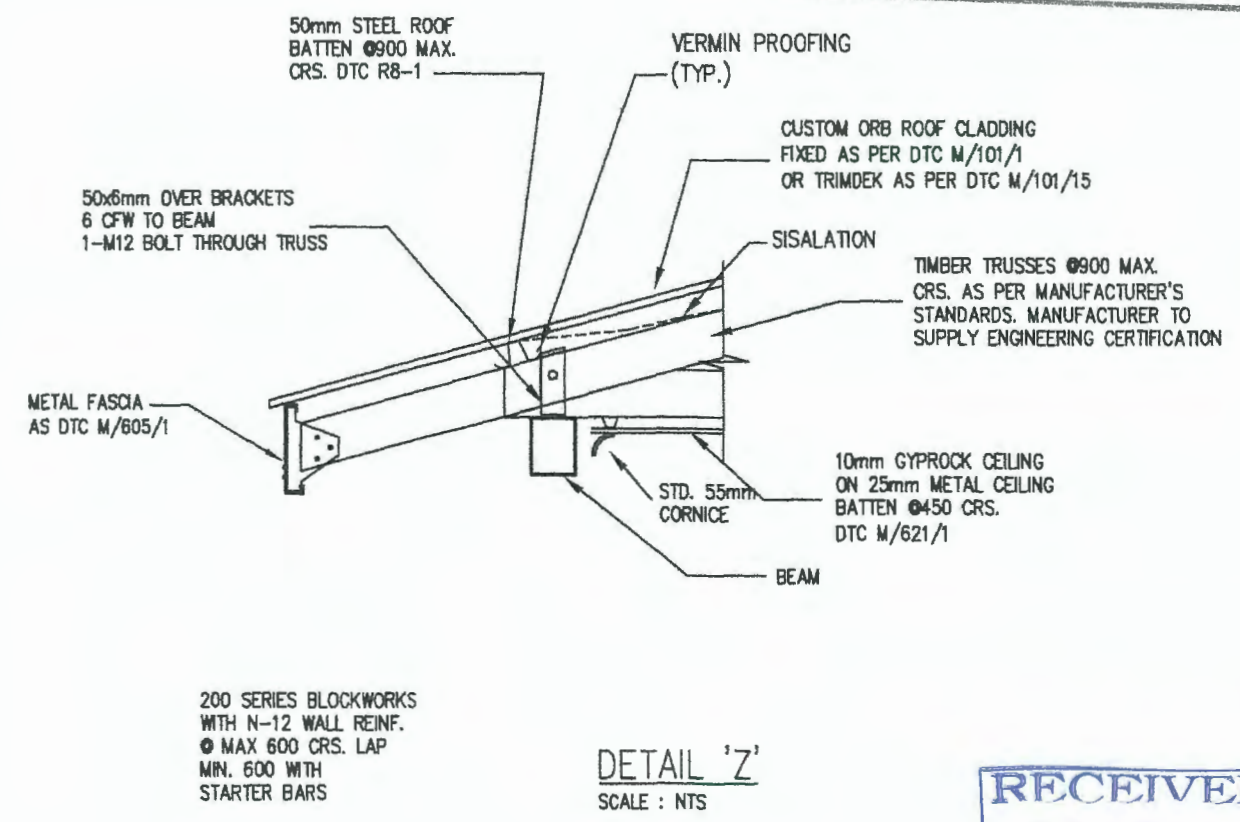
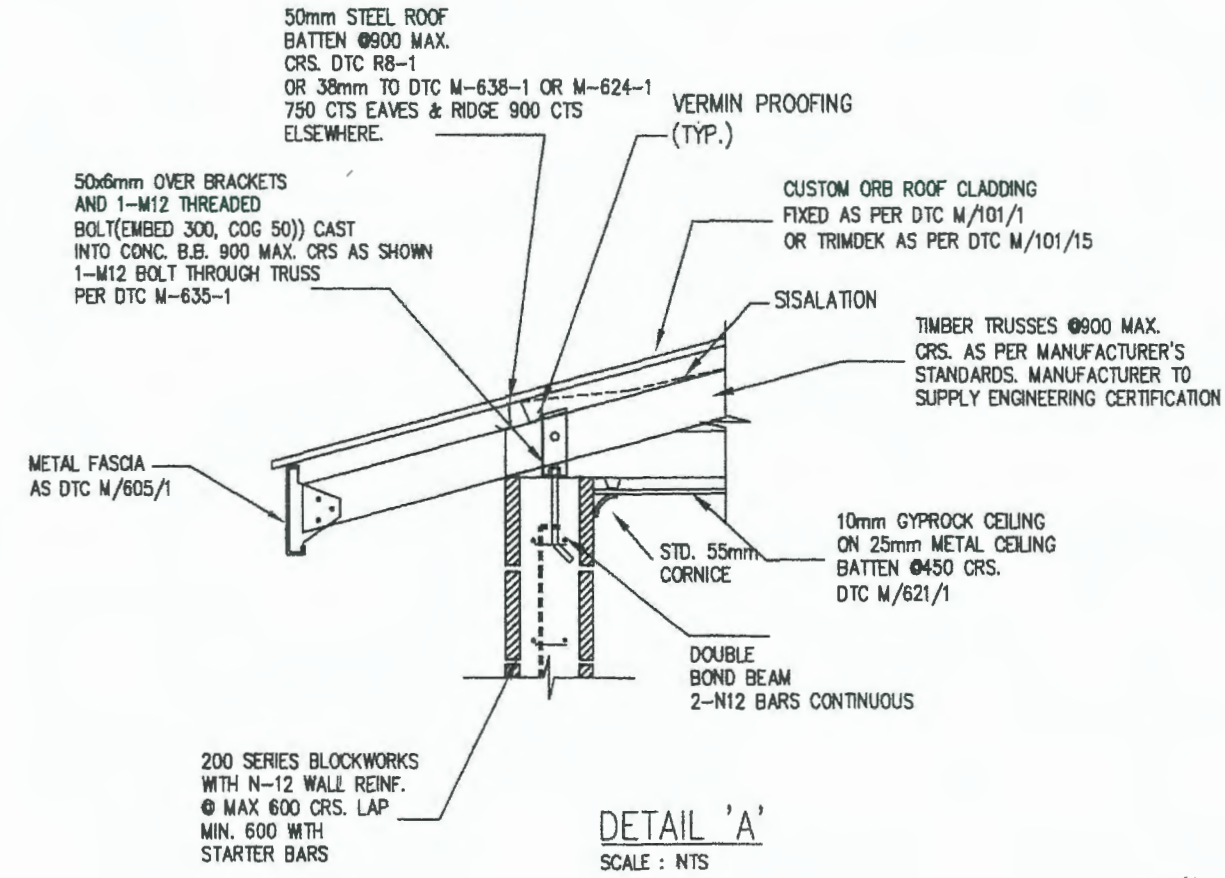
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SHEAR WALL / ROOF CONNECTION TYPICAL DETAIL TRUSSES PARALLEL TO SHEAR WALL

NTS

NORTHERN TERRITORY BUILDING ACT
 590-239-2
APPROVED PERMIT No. DATE 26-8-2005
 RABUBZY

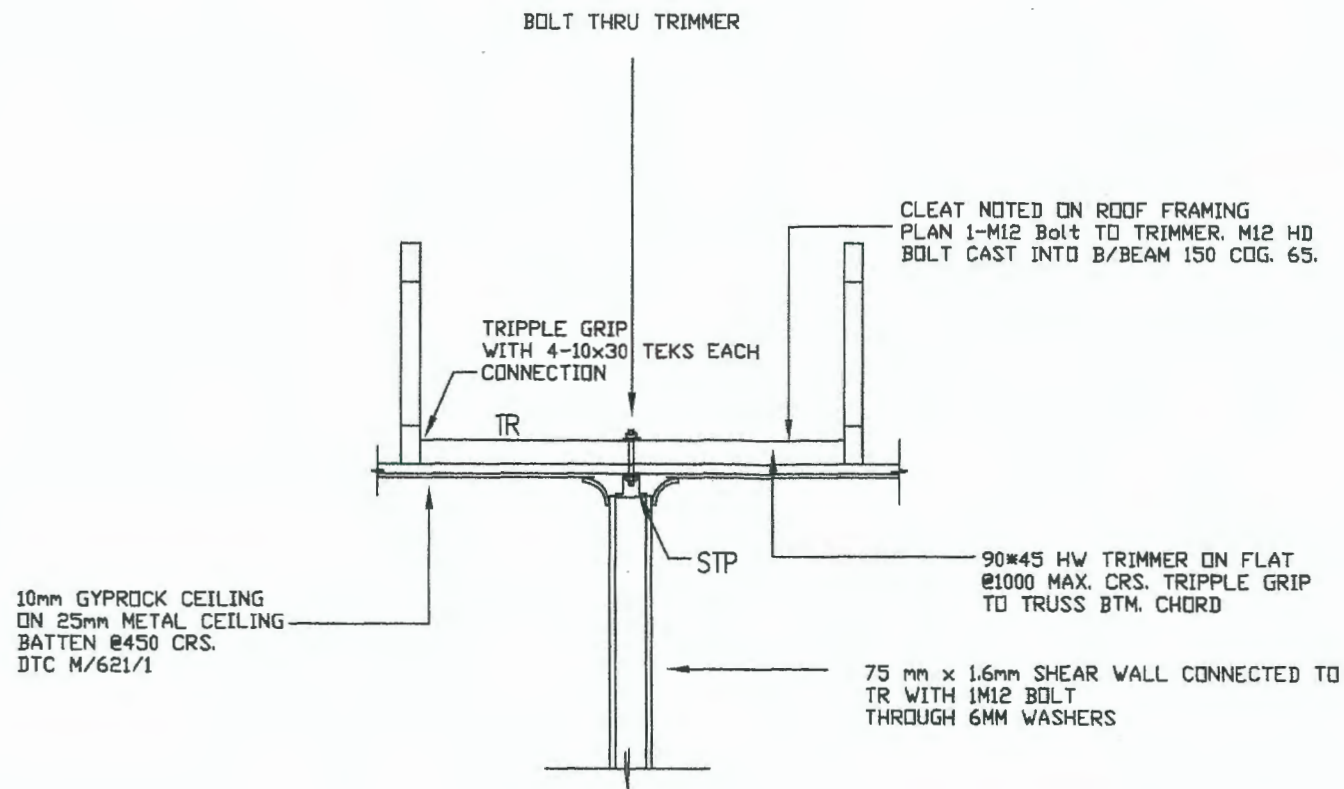


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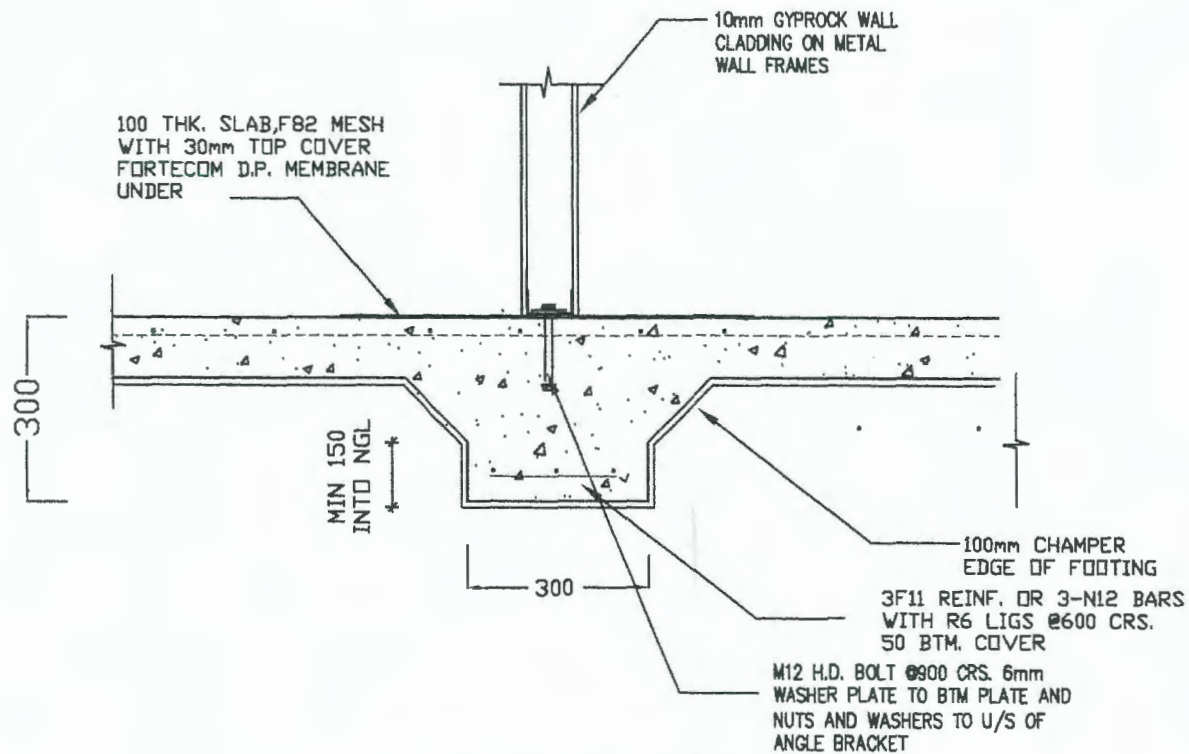
Date: 28-7-05 Signed:

PROPOSED 3-BED RM.
 RESIDENCE ON LOT 239
 BAGSHAW CRS, GRAY
 PALMERSTON N.T

DRAWN PM		SCALE AS SPECIFIED	
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SHEAR WALL / ROOF CONNECTION TYPICAL
DETAIL TRUSSES PARALLEL TO SHEAR WALL
NTS



TYPICAL DETAIL
SHEAR WALL
NTS

NORTHERN TERRITORY BUILDING ACT
590 - 239 - 2
APPROVED PERMIT No. DATE 26-8-2005
SABU8284

Structurally Certified
by Roetek Engineering
Registration No. ROES 3287

Date: 28.7.05
APPROVED
25 AUG 2005

PROPOSED 3-BED RM.
RESIDENCE ON LOT 239
BAGSHAW CRS, GRAY
PALMERSTON N.T

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SHEET No: S 9	REVISION
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GENERAL NOTES

THESE DRAWINGS ARE FOR ENGINEERING CERTIFIC. PURPOSES ONLY. WORKING DRAWINGS AT INDIVIDUAL TRADE SITE PLANS ARE NECESSARY FOR MORE DETAIL.

This drawing is to be read in conjunction with all relevant architects and specialists drawings.

All workmanship and materials shall be in accordance with any relevant Australian Standard prepared by the Standards Association of Australia.

The contractor shall be responsible for the structure during erection and shall provide adequate propping and support.

Where DTC standards are shown, these refer to the deemed to comply standards prepared by the NT department of lands and housing.

Footings and slabs on ground shall be poisoned against termites in accordance with AS 3660

For all windows, glazing and framing shall be designed and certified by the manufacturer and shall comply in strict accordance with AS1288, AS 2047 AND DTCM 412/2

The builder/contractor is to check all dimensions on site prior to the commencement of any works. Site measure takes preference over drawing scaled dimensions in all cases. If in doubt ask!

REINFORCEMENT

All materials and workmanship shall conform to AS3600

Cover to reinforcement shall be as shown on the drawings.

Where not shown, minimum splices shall be as follows:

- N12 - 600mm
- N16 - 700mm
- N20 - 900mm

Fabric - 300mm everywhere.

Reinforcement shall comply to AS1302, AS1303, AS1304 & AS3600.

CONCRETE INTERNAL SLAB N20/20

Concrete to be supplied and placed in accordance with AS3600.

Concrete to have the following strength at 28 days:

Ground floor slabs and footings N20/20

Cover to top of reinforcing to be:

Slabs - 30mm

Provide Fortecon or similar approved moisture barrier to underside of slab and raft footings. Fully tape joints

TERMITE MANAGEMENT SYSTEM

TO BE INSTALLED AND CERTIFIED BY AN APPROVED APPLICATOR IN ACCORDANCE WITH AS 3660-2000 PART 1. A DURABLE CERTIFICATION IS TO BE PLACED IN THE METER BOX ON COMPLETION

TR1. FILL IRRIGATION SYSTEM TO MANUFACTURERS SPECIFICATIONS. PROVIDE 300 WIDE x 50 DEEP CONCRETE MOWING STRIP PROTECTION OVER PERIMETER TERMITE TREATMENT AREA.

TR2. CONCRETE SLAB USED AS TERMITE BARRIER 100 SLAB ON GROUND. F82 MESH TO TOP FACE. PROVIDE 50mm SAND BLINDING LAYER AND FORTECOM VAPOUR BARRIER TO UNDERSIDE OF SLAB.

PROVIDE CHEMICAL HAND SPRAY BY LICENSED APPLICATOR. PROVIDE TERMITE COLLARS AROUND PENETRATIONS. CURE SLAB WITH CURING COMPOUND TP AS 3600 AND MANUFACTURER'S SPECIFICATION eg. "ULTRACURE" OR SIMILAR 3-F11TM TO BE USED IN FOOTINGS U.N.O.

CONCRETE GRADE N20/20 EXPOSURE CLASSIFICATION A1 FOR INTERNAL SLAB COVER FOOTINGS 50mm. 300x50 CONC. MOWING STRIP OVER EXT.

TR3. ANY PROTECTION SYSTEM COMPLYING WITH AS 3660-2000 PARTS 1,2 & 3.

STEEL

All structural steelwork shall be carried out in accordance with AS4100 - SAA steels structures code and associated Australian Standards.

Steel grades shall be in accordance with table 2.1 of AS4100.

Unless noted otherwise, steelwork shall be as follows:-

- * rolled steel sections grade 320 or higher to AS3679.
- * square and rectangular hollow sections grade 450 to AS1163.
- * circular hollow sections grade 250 (min) to AS1163.
- * cold formed purlins and girts grade 450 to AS1538.

All structural steelwork shall be thoroughly cleaned of all rust, scale and oil. grit blast finish 2.5 and painted with a minimum of two coats of approved in-organic zinc phosphate primer. red oxide zinc phosphate. Primer for internal steel

ALL WELDS, UNLESS NOTED OTHERWISE, SHALL BE A MINIMUM 6mm CONTINUOUS FILLET WELD (6CFW) OF A GENERAL PURPOSE QUALITY IN ACCORDANCE WITH AS 1554 PART 1 G.P. ALL BUTT WELDS SHALL BE OF A STRUCTURAL PURPOSE QUALITY (S.P) WELDING SHALL BE IN ACCORDANCE WITH AS 1554. RELEVANT WELDING PROCEDURE SPECIFICATION (WPS) AND WELDER QUALIFICATION DOCUMENTS TO BE SUBMITTED TO PROJECT MANAGER OR BUILDER PRIOR TO COMMENCING WELDING WORKS.

Bolts and bolting shall be carried out in accordance with AS4100 and associated standards unless noted otherwise.

- * bolt grade and category shall be 4.6/S (provide washer under all nuts).
- * thread projection beyond nut shall be minimum 1 thread.
- * cold formed purlin and girt bolts shall be LBI or equal with integral washer.
- * unless noted otherwise, all bolts shall be two M12 4.6/S bolts per connectio. Gussets and components shall be 6mm mild steel.

FILL MATERIAL AND COMPACTION

Selected fill shall be a gravel decomposed or broken rock, free from clay lumps & organic matter, conforming to the following grading & requirements:

AS metric sieve (mm) % passing by weight

75.0-100

9.530-100

2.3615-65

0.0755-25

Linear shrinkage 2% - 8%.

Prior to placement of fill (or compaction of approved natural material) the area of the works (min 100 beyond perimeter of slabs) shall be cleared & stripped of all top soil and deleterious materials. Fill up to 150mm below slab level shall be compacted in 150mm layers to 95% MMDD.

Fill (or natural material where approved) in 150mm layer immediately below slab level shall be compacted to 95% MMDD.

Sand blinding layer below concrete slab (if used) shall be compacted by vibration plate compactor to 95% MMDD.

The builder/contractor shall verify bearing capacity of foundation materials prior to placing concrete.

Concrete shall be poured against undisturbed foundation material, backfill over excavation with lean mix concrete.

Fill to underside of slabs to be crusher dust or sand placed in 150mm layers maximum loose layers and compacted to 90% MMDD. Top 150mm layer compacted to 95% MMDD.

ASSUMED SITE CLASSIFICATION "S". ASSUMED ALLOWABLE SOIL BEARING CAPACITY = 150 KPa

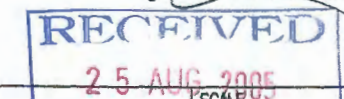
BLOCKWORK

- B1. Comply with AS 3700. Use Grade 12 blocks (12 MPa) complying with AS 2733 for all blockwork UNO.
- B2. Use mortar consisting of 1:1:6 of cement, lime and sand. Use sand which is free of clay.
- B3. Use concrete of 10mm max aggregate size with F'c = 15 MPa and slump of 225 mm plus or minus 25 mm for core, bond beam and lintel beam fi;ing.
- B4. Fully bed face shells and crosswebs.
- B5. Provide a minimum of 1 N12 each side to all openings.
- B6. The minimum cover to reinforcement from the blockface is 50 mm.
- B7. Bond all walls at intersections, either by blockwork bonding, or tie bonding using 30 x 6 plate steel ties 250 long with 50 mm downturned ends, at 400 mm centres.
- B8. Do not make any chases or holes without the approval of the Structural Engineer.
- B9. Unless noted otherwise, reinforce all blockwalls except 100 mm Series walls with 1 N12 central every third core. Provide 1 N12 minimum at the end of all walls and adjacent to all discontinuities such as openings, control joints, etc. Concrete fill all cores of party walls and external walls - refer to Architect's drawings for locations.
- B10. Concrete fill all cores containing reinforcement and cores where masonry anchors are to be used. Provide piers (i.e. wall sections 1000 wide or less) with 1N12 each core, unless detailed otherwise.
- B11. Provide a single bond beam reinforced with 2N12 over all reinforced blockwalls and under windows greater than 1800 wide.
- B12. Fill all block cores under windows greater than 1800 wide.



Structurally Certified
by Roetek Engineering
Registration No. ROES 3287

Date: 28-7-05 Signed: [Signature]



PROPOSED 3-BED RM. RESIDENCE ON LOT 239 BAGSHAW CRS, GRAY PALMERSTON N.T.		
DRAWN FM	SCALE AS SPECIFIED	
DRAWING No:	DATE JUL 05	REVISION
SHEET No: S 10	THIS DRAWING IS COPYRIGHT AND REMAINS THE PROPERTY OF ANK CONSTRUCTION ENGINEERS & CANNOT BE COPIED IN PART OR IN WHOLE WITHOUT PRIOR PERMISSION.	

WINDOW SPECIFICATIONS			
ROOM	WINDOW/DOOR TYPE	GLAZING AREA	VENTILATED AREA
BED 3	18-18 SW	3.24	1.62
BATH	12-12 SW	1.44	0.72
WC	09-07 SW	0.63	0.31
BED 2	18-18 SW 15-18 SW	3.24 2.7	1.62 1.35
			2.97
LAUNDRY	21-16 SD	3.36	1.68
T & B ENSUITE	08-16 SW	1.28	0.64
BED 1	21-18 SD 15-24 SW 15-08 SW	3.78 3.6 1.2	1.89 1.8 .6
			4.29
LIVING	21-21 SD 15-24 SW	4.41 3.6	2.2 1.8
			4.0
KITCHEN	12-14 SW	1.68	0.84
DINING	21-18 SD 15-24 SD	3.78 3.6	1.89 1.8
			3.69

Energy Efficiency Provisions
To Comply with BCA96 Volume Two
Amendment No. 12 Parts 3.12.1-5
Roof complies with part 3.12.1.2
(1) Light Colored Roof with RBM Under
+ flat ceiling with pitched roof
Roof Vents with an Aggregate Open Area of >10% of the Ceiling Area.
External Glazing complies with Part 3.12.2
Table 3.12.2.1
Building Sealing to comply with Part 3.12.3
(1) Fit sealing device to bottom edge of External swing door leafs
as per 3.12.3.3 External Doors.
Air Movement to comply with Part 3.12.4
(1) 3.12.4.2 Ventilation Openings (Refer Energy plan for airflow diagram)
Minimum total ventilation per habitable room 12.5% Floor area
(2) 3.12.4.3 Ceiling Fans (Refer Energy plan for position & size)

BED RM 3:
FLOOR AREA = 11.92 SQ.M. x 12.5% = 1.49 SQ.M.
VENTILATION AREA = 1.6 SQ.M.

BATH: (CLASS 10)
FLOOR AREA = 3.2 SQ.M. x 12.5% = 0.38 SQ.M.
VENTILATION AREA = 0.72 SQ.M.

WC: (CLASS 10)
FLOOR AREA = 1.44 SQ.M. x 12.5% = 0.18 SQ.M.
VENTILATION AREA = 0.72

LAUNDRY: (CLASS 10)
FLOOR AREA = 4.16 SQ.M. x 12.5% = 1.42 SQ.M.
VENTILATION AREA = 1.68

BED 2:
FLOOR AREA = 11.38 SQ.M. x 12.5% = 1.31 SQ.M.
VENTILATION AREA = 2.97 SQ.M.

T & B ENSUITE: (CLASS 10)
FLOOR AREA = 4.48 SQ.M. x 12.5% = 0.56 SQ.M.
VENTILATION AREA = 0.64 SQ.M.

BED 1:
FLOOR AREA = 15.31 SQ.M. x 12.5% = 1.91 SQ.M.
VENTILATION AREA = 3.69 SQ.M.

LIVING:
FLOOR AREA = 29.68 SQ.M. x 12.5% = 3.71 SQ.M.
VENTILATION AREA = 8.0 SQ.M.

KITCHEN:
FLOOR AREA = 3.96 SQ.M. x 12.5% = .5 SQ.M.
VENTILATION AREA = 0.84 SQ.M.

DINING:
FLOOR AREA = 10.64 SQ.M. x 12.5% = 1.33 SQ.M.
VENTILATION AREA = 7.38 SQ.M.

(GROUND FLOOR LEVEL)

EXTERNAL GLAZING AREA ASSESSMENT (Note separate required for BCA Health & Amenity light/ventilation) CLIMATE ZONE ONE					
FLOOR AREA OF 'CONDITIONED SPACE' FOR GLAZING ASSESSMENT PURPOSES: 144 SQ.M. (gross area of house excluding garage, carports, verandahs) (floor area determined by designer).					
GLAZING AREA UNDER VARIOUS EFFECTIVE OVERHANGS See designers drawings for effective projections					
EFFECTIVE D/H	900 MIN	600	450	300	NIL
North-facing x 50%		6.21			
face 1		11.79			
face 2		4.44			
face 3		14.97			
Total		37.41			
Permitted max for nominated frame type & glass type		31% of 144 = 44.64			
Total as % of permitted max	37.41/44.64 x 100 = 84%				
Sum of %s of permitted totals	84%				
	If total at left exceeds 100% refer to designer - glazing area may need to be reduced or frame and/or glass type changed for some or all windows.				

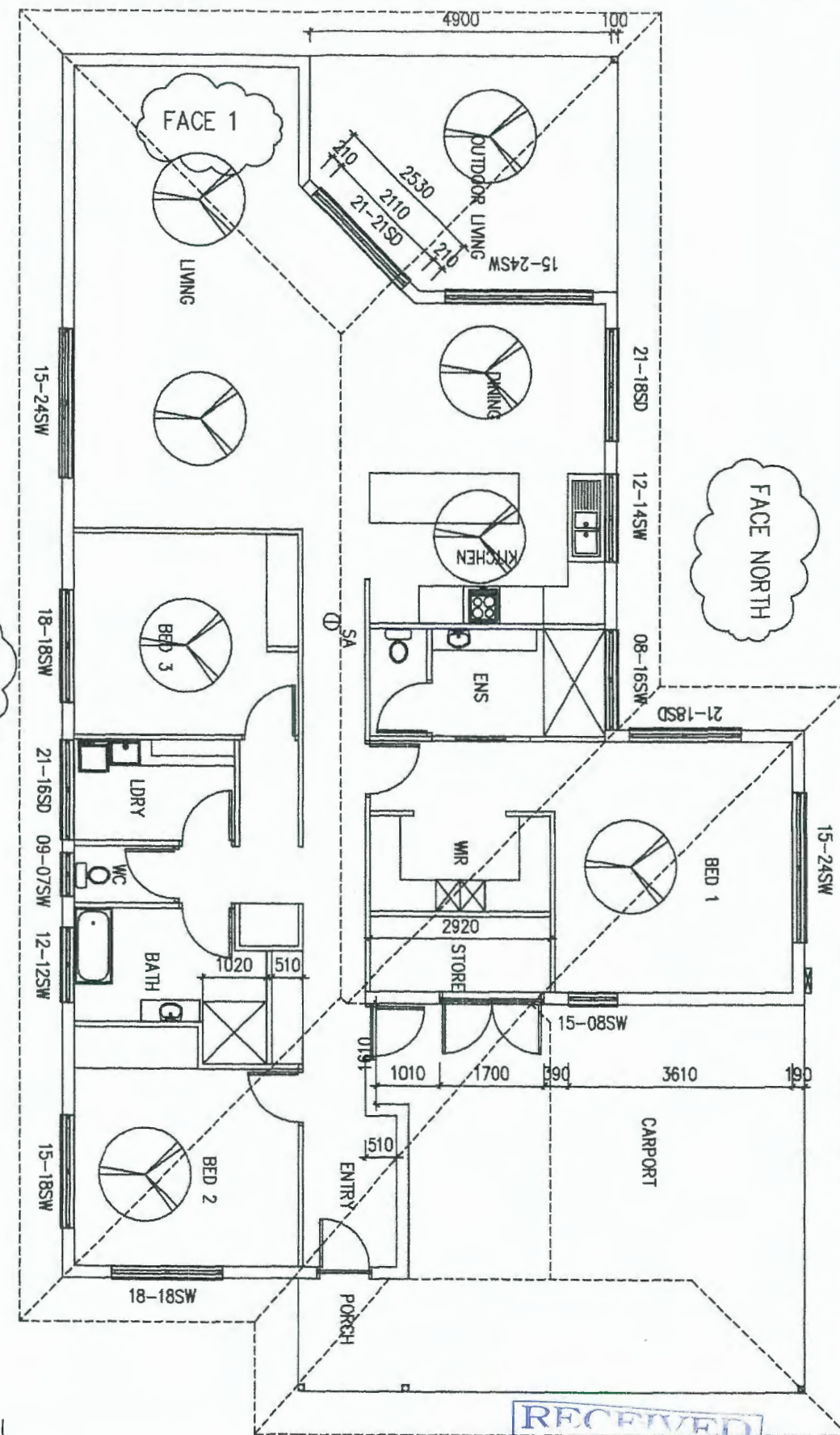


- SA 4.1 SMOKE DETECTION TO BE INSTALLED AS PER AS 3786, BE HARD WIRED TO THE CONSUMER MAINS AND HAVE BATTERY BACKUP.
4.2 IONISATION TYPE ALARM IS MORE SUITABLE NEAR BATHROOMS
4.3 PHOTOELECTRIC ALARM MAY BE USED NEAR COOKING APPLIANCES.

ENERGY EFFICIENT CALCULATION FLOOR PLAN

NORTHERN TERRITORY BUILDING ACT
590-239-2
APPROVED PERMIT No. DATE 20-8-2005
BA 2284

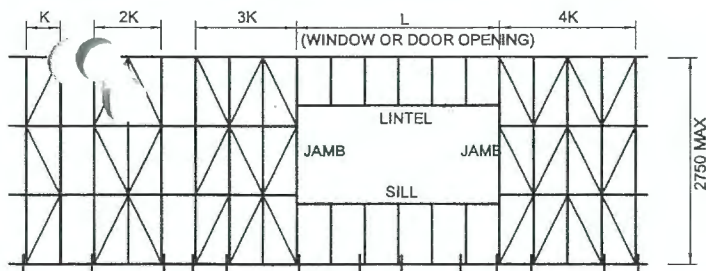
PROPOSED 3-BED RM.
RESIDENCE ON LOT 239
BAGSHAW CRS, GRAY
PALMERSTON N.T.



RECEIVED
25 AUG 2005
FACE 2

DRAWN PM	SCALE AS SPECIFIED	
DRAWING No:	DATE JUL 05	REVISION
SHEET No: S 12	THIS DRAWING IS COPYRIGHT AND REMAINS THE PROPERTY OF JMK CONSTRUCTION ENGINEERS & CANNOT BE COPIED IN PART OR IN WHOLE WITHOUT PRIOR PERMISSION.	

NOTE: EQUALLY SPACE STUDS @ 450 CTRS. TO BRACING BAYS



M12 ANCHORS TO FLOOR SLAB THROUGH 75x70x6 PLATE WASHER AT EACH 'K' BRACE WITHIN 50mm OF STUD AS INDICATED REFER PLAN FOR K BRACE LOCATIONS ALL ANCHORS TO BE INCLINED INTO FOOTING

TYPICAL EXTERNAL WALL ELEVATION

NOTE: SIZES SCHEDULED ON DRAWING SHALL TAKE PRECEDENCE

MAXIMUM OPENING LENGTH 'L'	LINTEL (See note 2 below)		LWAMB & SILL
	MAXIMUM ROOF LOADING	WIDTH	
920	75x75x2.0 SHS	75x75x2.0 SHS	75x50x1.6 RHS
1220	75x75x2.0 SHS	75x75x2.5 SHS	75x50x2.0 RHS
1520	75x75x2.0 SHS	75x75x4.0 SHS	75x50x2.0 RHS
1820	75x75x3.0 SHS	125x75x2.5 RHS	75x50x2.5 RHS
2120	75x75x4.0 SHS	125x75x4.0 RHS	75x50x2.5 RHS
2420	125x75x2.5 RHS	125x75x5.0 RHS	75x50x3.0 RHS
2720	125x75x3.0 RHS	125x75x6.0 RHS	75x50x3.0 RHS

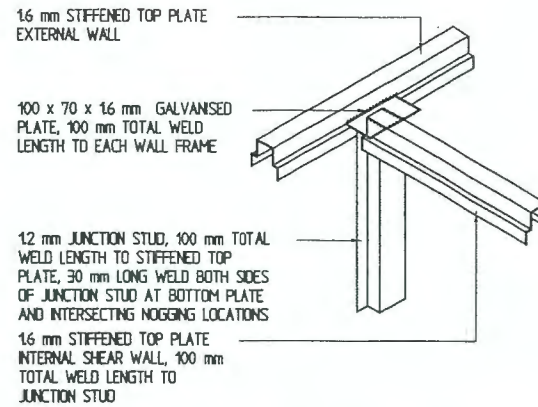
THIS DRAWING TO BE READ IN CONJUNCTION WITH 'LYSAGHT' SPECIFICATION SWF7-1 (May 88) FOR STEEL WALL FRAMING CYCLONIC AREAS TERRAIN CATEGORIES 2.5 AND 3, SWF1 - DESIGN DATA, SWF2 - FABRICATION DATA, AND SWF3 - ERECTION DATA.

ALL WELDS TO BE WELL FORMED 1.6mm CONTINUOUS FILLET M.I.G. PROCESS WITH LWI OR EQUIVALENT ELECTRODES WIRES

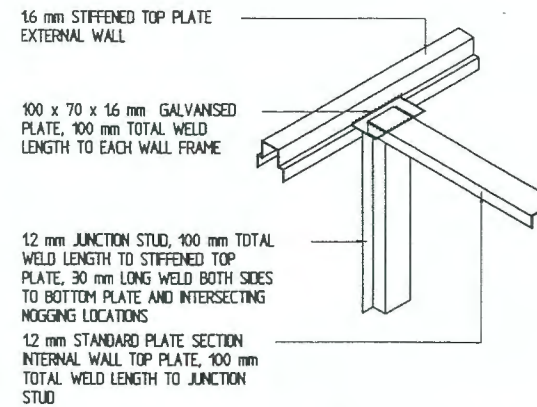
WIRE BRUSH AND TOUCH UP ALL WELDS WITH ZINC RICH PAINT.

NOTES:

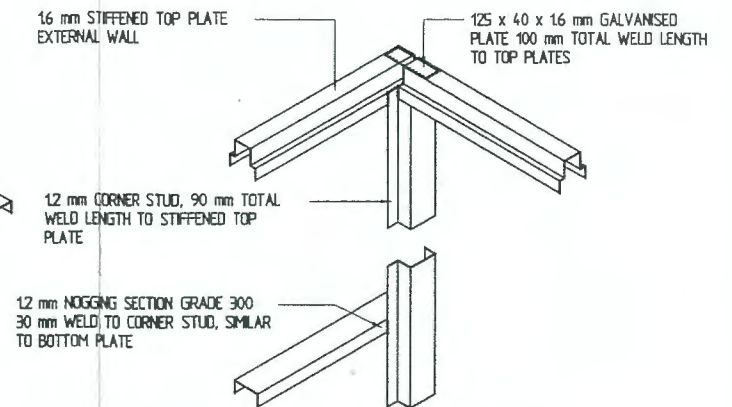
- ALL SHS AND RHS MEMBERS TO BE 'DURAGAL' GRADE C450LO.
- LINTELS SHOWN ARE NOT APPLICABLE WHERE SUPPORTING A GIRDER TRUSS.
- WHERE THE WALL FRAME IS NON LOAD BEARING, THE LINTEL MAY BE MADE THE SAME SIZE AS THE SILL.
- THIS DRAWING TO BE READ IN CONJUNCTION WITH LYSAGHTS SPECIFICATION FOR STEEL WALL FRAMING SWF6-1; ALSO SWF1-1, SWF2-1 AND SWF3-1



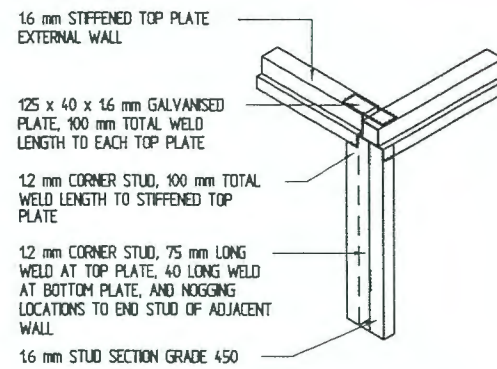
EXTERNAL WALL / INTERNAL SHEAR WALL CONNECTION



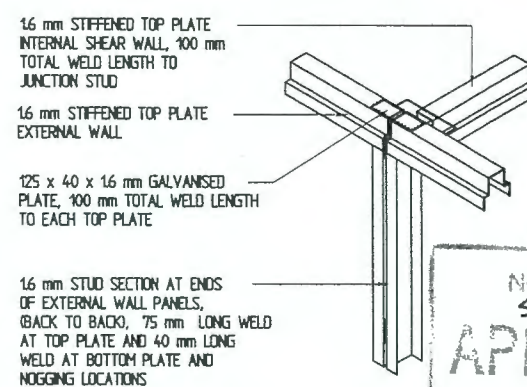
EXTERNAL WALL / INTERNAL WALL CONNECTION



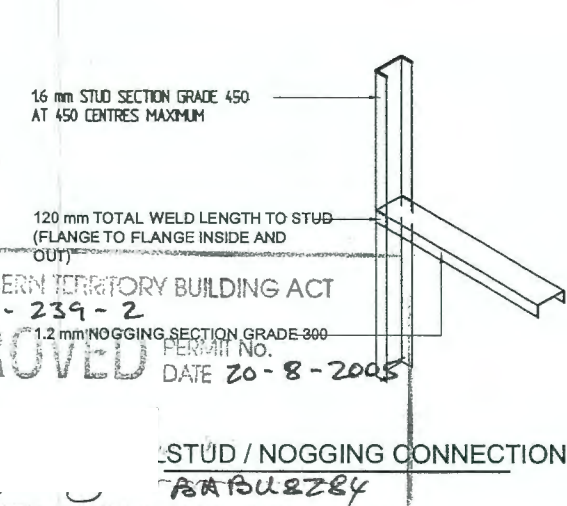
EXTERNAL WALL / EXTERNAL WALL CORNER CONNECTION



EXTERNAL WALL / EXTERNAL WALL CORNER CONNECTION

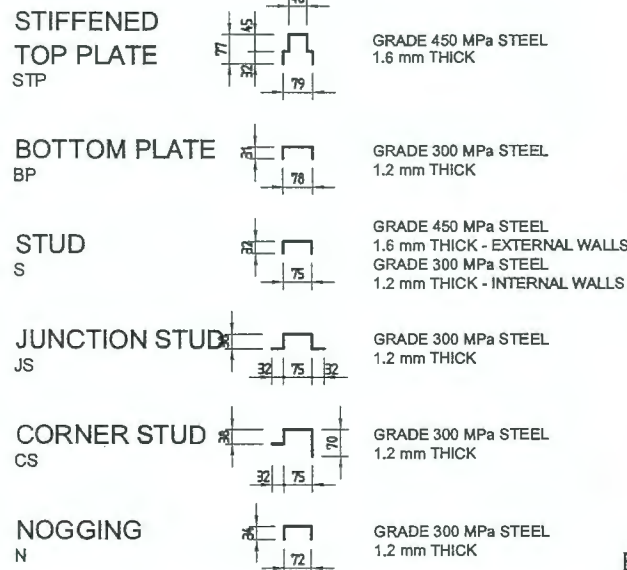


EXTERNAL WALL / EXTERNAL WALL JOIN CONNECTION



STUD / NOGGING CONNECTION

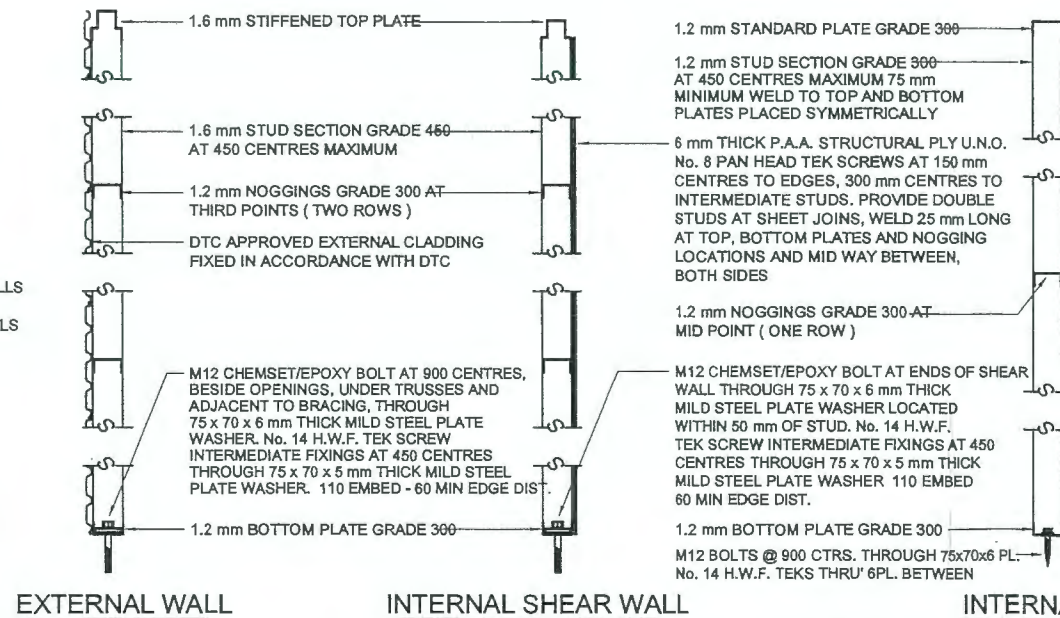
NORTHERN TERRITORY BUILDING ACT
590-239-2
APPROVED PERMIT NO. DATE 20-8-2005
A. BUZZEY



FRAMING SECTION DETAILS

FURTHER NOTES:

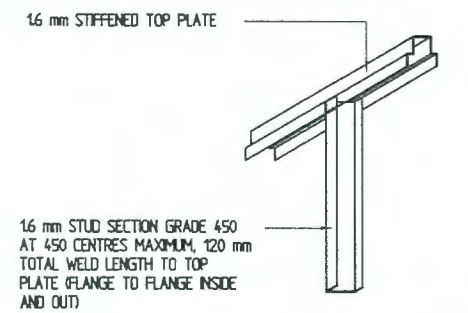
INCLINE EDGE BOLTS INWARDS FOR FIXING TO RHS/SHS MEMBERS, STP CAN BE SUBSTITUTED WITH 78x1.2 PLATE MIG WELDED (1.6mm) 50mm LONG AT 600 CENTRES EACH SIDE TO RHS/SHS FOR STUDS ADJACENT TO RHS/SHS MEMBERS, No.14 HWF TEK SCREW FIX AT 450 CENTRES OR 1.6 MIG WELD 50 LONG EACH SIDE AT 900 CENTRES INSTALL D.P.M. TO U/S OF BOTTOM PLATE TYP.



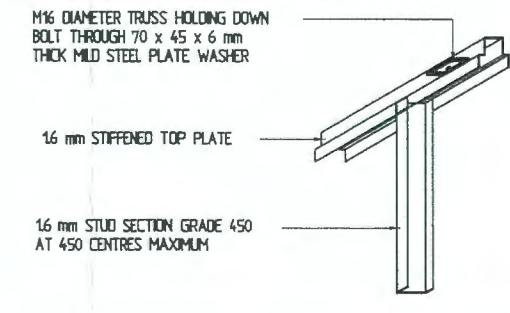
WALL SECTION DETAILS

Structurally Certified by Roetek Engineering Registration No. ROES 3287

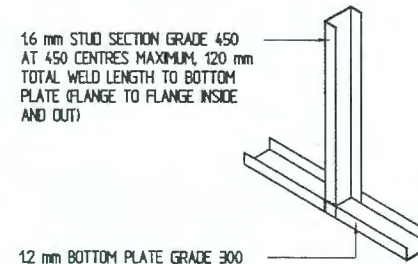
Date: 28-7-05 Signed: [Signature]



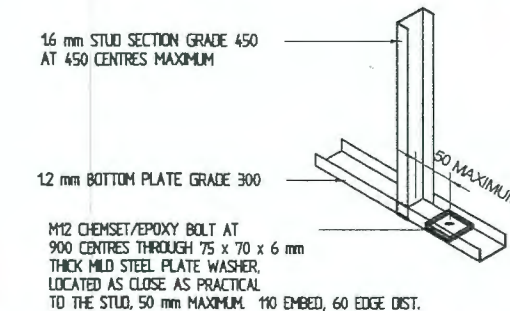
TOP PLATE / STUD CONNECTION



TRUSS HOLDING DOWN CONNECTION



BOTTOM PLATE / STUD CONNECTION



BOTTOM PLATE HOLDING DOWN CONNECTION

PROPOSED 3-BED RM. RESIDENCE ON LOT 239 BAGSHAW CRS, GRAY PALMERSTON N.T.

DRAWN: PM	DATE: 25 AUG 2005	SCALE: AS SPECIFIED
DRAWING No:	DATE: JUL 05	REVISION:
SHEET No: S0	THIS DRAWING IS COPYRIGHT AND REMAINS THE PROPERTY OF JAK CONSTRUCTION ENGINEERS & CANNOT BE COPIED IN PART OR IN WHOLE WITHOUT PRIOR PERMISSION.	

**HENDRY**

Hendry Group Pty Ltd

ABN: 13 006 693 232

3 Shepherd Street Darwin NT 0801

P 08 8941 9727 / F 03 8417 6599 / E darwin@hendry.com.au

hendry.com.auNorthern Territory of Australia
*Building Act*Schedule 3 Clause 4 of the *Building Act***OCCUPANCY PERMIT**Permit
Number

590/00239/3

Issue Date

14/08/2019

OP – 02/04/2020

IN RELATION TO PROPERTY ATLot/Portion
Number

239

Location Code

590

Property
Address

49 Bagshaw Crescent

Gray NT 0832

FOR THE FOLLOWING BUILDING WORKSThis Occupancy Permit relates to Part or the Whole of the building work or Change of Use.Description of
Work

PV Panels

No. of Storeys	Floor or Level No.	Type of Construction	Class of Building	Maximum Permissible Load	No of Persons Accommodated
1	Roof	N/A	10b	0.25 kPa	N/A

No of WC			Length & Number of Urinals		
New	Existing	Total	New	Existing	Rateable Length
N/A	N/A	N/A	N/A	N/A	N/A

THIS OCCUPANCY PERMIT REVOKES OCCUPANCY PERMIT NUMBER

N/A

THIS PERMIT IS ISSUED WITH**ALTERNATIVE SOLUTION**

Details of Alternative Solution

N/A

**HENDRY**

Hendry Group Pty Ltd

ABN: 13 006 693 232

3 Shepherd Street Darwin NT 0801

P 08 8941 9727 / F 03 8417 6599 / E darwin@hendry.com.au

hendry.com.au**SECTION 40 CERTIFICATION**

Type	By	Registration No.	Date
N/A	N/A	N/A	N/A

CONDITIONS: N/A

If this occupancy certificate relates to prescribed building works, the registered builder contractor residential or the owner-builder details must be completed below

BUILDING CONTRACTOR	REGISTRATION NO.
Eco Smart Electrical NT	N/A
OWNER-BUILDERS NAME	OWNER BUILDER CERTIFICATE NO.
N/A	N/A

I Peter Dounas hereby certify pursuant to section 72 of the *Building Act* (the 'Act') that the building works listed above are suitable for occupation and complies in all material respects with the Regulations.

Company Name

Hendry Group Pty Ltd

Registration Number

200848BU

Signature**Date**

02/04/2020

NOTE: -

1. The building (or part of the building) must not be occupied in contravention of this permit, including the building use/classification and any conditions imposed. Maximum penalty 85 penalty units (section 65(1) & (2))
2. If it is proposed to change the use of the building (or any part), a new occupancy permit must firstly be obtained permitting the new use. Maximum penalty 85 penalty units (section 65(2))

Permit No. 590/00239/3

Date Issued

14/08/2019
OP – 02/04/2020

88-20190510

1. DESIGN WIND SPEED:

- 1.1 AS1170.2
- 1.2 BUILDING IMPORTANCE LEVEL: 2
- 1.3 REGION: C
- 1.4 TERRAIN CATEGORY: 2.5
- 1.5 V500 = 69.3 M/S
- 1.6 CPN = EXISTING ENCLOSED STRUCTURES -1.7 & CPN = -1.2 EXISTING OPEN OR PARTIALLY OPEN STRUCTURES

2. DESIGN LIMITATIONS:

- 2.1 MAX BUILDING/ INSTALLATION HEIGHT = REFER TO CURRENT SOLAR PANEL TEST REPORT & NT DTC FOR CLEANERGY RAILS.
- 2.2 MAX ROOF/ SURFACE PITCH = REFER TO CURRENT
- 2.3 ROOF STRUCTURES THAT DATE BACK PRIOR TO 1974, MUST BE INSPECTED TO DETERMINE IF THEY HAVE BEEN UPGRADED TO POST CYCLONIC DESIGN STANDARDS OR ALTERNATIVELY TO CONFIRM IF THEY ARE STRUCTURALLY ADEQUATE TO SUPPORT THE LOADS FROM THE ROOF SOLAR PANEL SYSTEM.
- 2.4 EXISTING: BASE BUILDING; ROOF CLADDINGS; ROOF STRUCTURE & ASSOCIATED CONNECTIONS DESIGNED & CERTIFIED BY OTHERS.
- 2.5 PANEL LOCATION MAY ONLY BE ALTERED WITHIN THE NOMINATED ROOF AREA PROVIDED THAT THE INSTALLATION STILL COMPLIES WITH ALL THE DESIGN & NT DTC REQUIREMENTS.
- 2.6 THE TYPE OF ROOF BATTENS MUST BE CONFIRMED PRIOR TO INSTALLATION WORKS. REFER TO APPROPRIATE L FEET CENTERS FOR APPLICABLE TYPE ROOF CLADDING.

NOTES:

- 1. SOLAR PANELS SHOWN ON THESE DRAWINGS ARE INDICATIVE ONLY, BUILER/ INSTALLER TO CONFIRM ON SITE PRIOR TO INSTALLATION WORKS. SHOULD THERE BE ANY DISCREPANCIES ONSITE IN REGARDS TO THE LOCATION OF THE PANELS AND OR THE ROOF FRAMING ELEMENTS FROM WHAT IS CURRENTLY APPROVED - THE DESIGN ENGINEER OR BUILDING CERTIFIER MUST BE NOTIFIED IMMEDIATELY.
- 2. IF THE IMMEDIATE SUPPORTING MEMBERS ARE DIFFERENT TO THE APPROVED DESIGN CRITERIA - THE DESIGN ENGINEER OR BUILDING CERTIFIER MUST BE NOTIFIED IMMEDIATELY.
- 3. REFER TO MANUFACTURERS SPECIFICATIONS FOR PANEL OVERHANGS, CLEARANCES AND HOLD DOWN POINTS FOR APPLICABLE SOLAR PANELS.
- 4. INSTALLATION MUST BE IN ACCORDANCE WITH THE ENCUMBRANCE OR COVENANT APPROVAL. INSTALLATER TO NOTIFY ENGINEER IF ENCUMBRANCE OR COVENANT APPROVALS CUASE ISSUES WITH MIN REQUIRED EDGE DISTANCES SPECIFIED ON THESE DRAWINGS.
- 5. THIS STRUCTURAL CERTIFICATION EXCLUDES THE EXISTING BASE BUILDING & ROOF FRAMING ELEMENTS, AS WELL AS THE ROOF FRAME HOLD DOWN CONECTIONS. DESIGNED & CERTIFIED BY OTHERS.
- 6. INSTALLER TO ENSURE THAT ONLY APPROVED SOALR PANELS & SUPPORTING RAILS FOR CYCLONIC AREAS ARE USED FOR INSTALLATION WORKS.
- 7. THIS STRUCTURAL CERTIFICATION EXCLUDES THE SOLAR PANEL MODULES, DESIGNED & CERTIFIED BY OTHERS. JINKO PANELS THAT ARE BEING USED FOR INSTALLATION MUST BE COVERED UNDER APPROVED SOLAR PANEL MODULE TEST REPORT, ISSUED BY SECA PTY LTD, REPORT REFERENCE NUMBER 18299-4, DATED 27 NOVEMBER 2018.
- 8. THIS STRUCTURAL CERTIFICATION EXCLUDES THE CLEANERGY RAILING SYSTEM, DESIGNED & CERTIFIED BY OTHERS. APPROVED UNDER NT DTC NT DTC M/577/02 TO M/577/06.
- 9. INSTALLER TO INSTALL SOLAR PANEL MODULES IN ACCORDANCE WITH REQUIREMENTS SETOUT IN THE APPROVED TEST REPORT & SOLAR PANEL MANUFACTURERS SPECIFICAITONS

3. INSTALLATION NOTE:

- 3.1 HATCHING DENOTES PROPOSED LOCATIONS OF SOLAR PANEL MODULES, FIXED TO CLEANERGY RAILS AS NOTED.
- 3.2 INSTALLATION WORKS OF ROOF MOUNTED SOLAR PANEL SYSTEM TO EXISTING ROOF STRUCTURE MUST BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS SET OUT BY THE APPROVED STRUCTURAL DRAWINGS AS WELL AS NT DTC M/577/02 TO M/577/06 & MANUFACTURER SPECIFICATIONS. SOLAR PANELS ARE NOT TO BE INSTALLED WITHIN THE NOMINATED ROOF EDGE ZONES, UNLESS NOTED OTHERWISE BY THE STRUCTURAL ENGINEER.
- 3.3 PANELS MUST BE LOCATED WITHIN 700MM MAX FROM ALL GABLE END OVERHANGS & 300MM MAX FROM ALL OTHER ROOF EDGES.
- 3.4 REFER BELOW FOR INSTALLATION REQUIREMENTS FOR EXISTING METAL ROOF CLADDED ROOFS:

TRIMDEK ROOF:

FOR HARD WOOD TMBER BATTENS:
INSTALL NEW SCREWS/ NEW SCREWS HOLES, FIX USING 14 GAGE TYPE 17 CYCLONIC ROOF SCREWS, WITH 35MM MINIMUM EMBEDMENT. INSTALL @ 500 MAX SPACINGS.

FOR STEEL BATTENS, LESS THAN 1.0MM BMT:
INSTALL NEW SCREWS/ NEW SCREWS HOLES, FIX USING M6.5- TYPE 17 CYCLONIC ROOF ZIP SCREWS. INSTALL @ 300 MAX SPACINGS.

FOR STEEL BATTENS AND OR PURLINS, GREATER THAN 1.2MM BMT: INSTALL NEW SCREWS/ NEW SCREWS HOLES, FIX USING NO.14 GAGE TEK SCREWS. INSTALL @ 500 MAX SPACINGS.

CUSTOM ORB ROOF:

FOR HARD WOOD TMBER BATTENS:
INSTALL NEW SCREWS/ NEW SCREWS HOLES, FIX USING 14 GAGE TYPE 17 CYCLONIC ROOF SCREWS, WITH 35MM MINIMUM EMBEDMENT. INSTALL @ 500 MAX SPACINGS.

FOR STEEL BATTENS, LESS THAN 1.0MM BMT:
INSTALL NEW SCREWS/ NEW SCREWS HOLES, FIX USING M6.5- TYPE 17 CYCLONIC ROOF ZIP SCREWS. INSTALL @ 300 MAX SPACINGS.

FOR STEEL BATTENS AND OR PURLINS, GREATER THAN 1.2MM BMT:
INSTALL NEW SCREWS/ NEW SCREWS HOLES, FIX USING 14 GAGE TEK SCREWS. INSTALL @ 500 MAX SPACINGS.

3.5 WATER TIGHTNESS & SELAING OF ROOF BY INSTALLER. RUBBER WASHERS MUST BE USED WERE APPROPRIATE.

FOR GABLE OR SKILLION ROOFS:

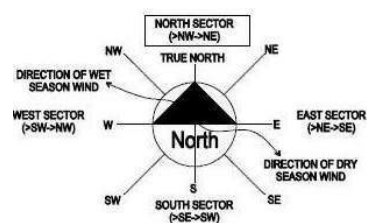
ALL SOLAR PANELS ARE TO BE MIN 700MM AWAY FROM ROOF EDGES.

FOR HIP & VALLEY ROOFS:

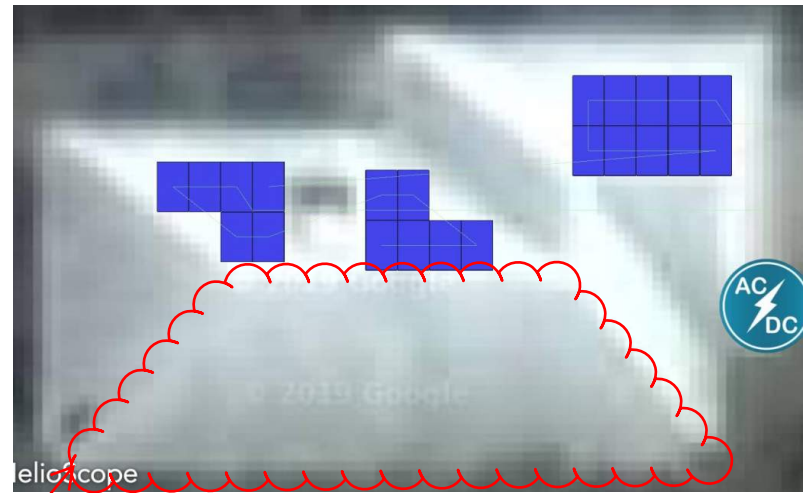
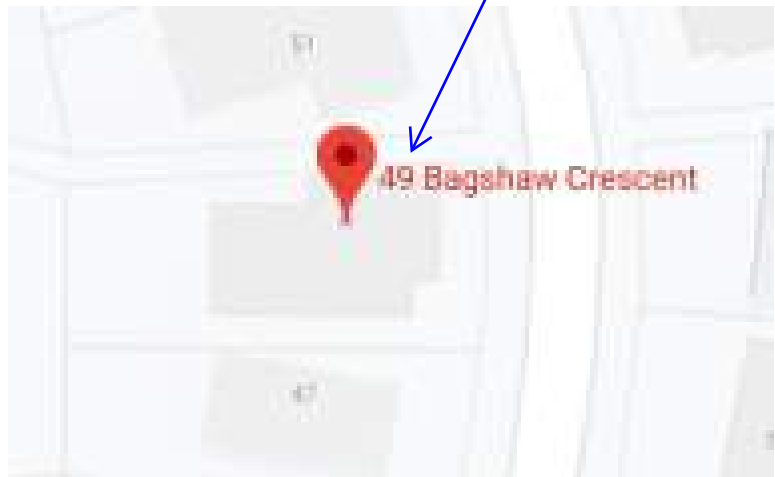
ALL SOLAR PANELS TO BE MIN 300MM FROM ALL ROOF EDGES



HATCHING DENOTES PROPOSED LOCATION(S) OF JINKO SOLAR PANEL MODULES, JKM300M-60 SOLAR PANEL MODULES FIXED TO CLEANERGY RAILS, REFER TO APPROVED NT DTC M/577/02 TO M/577/06.



LOCATION OR WORKS, BASE BUILDING & ROOF FRAMING ELEMENTS IS EXCLUDED FROM THIS STRUCTURAL CERTIFICATION AND IS DESIGNED & CERTIFIED BY OTHERS.



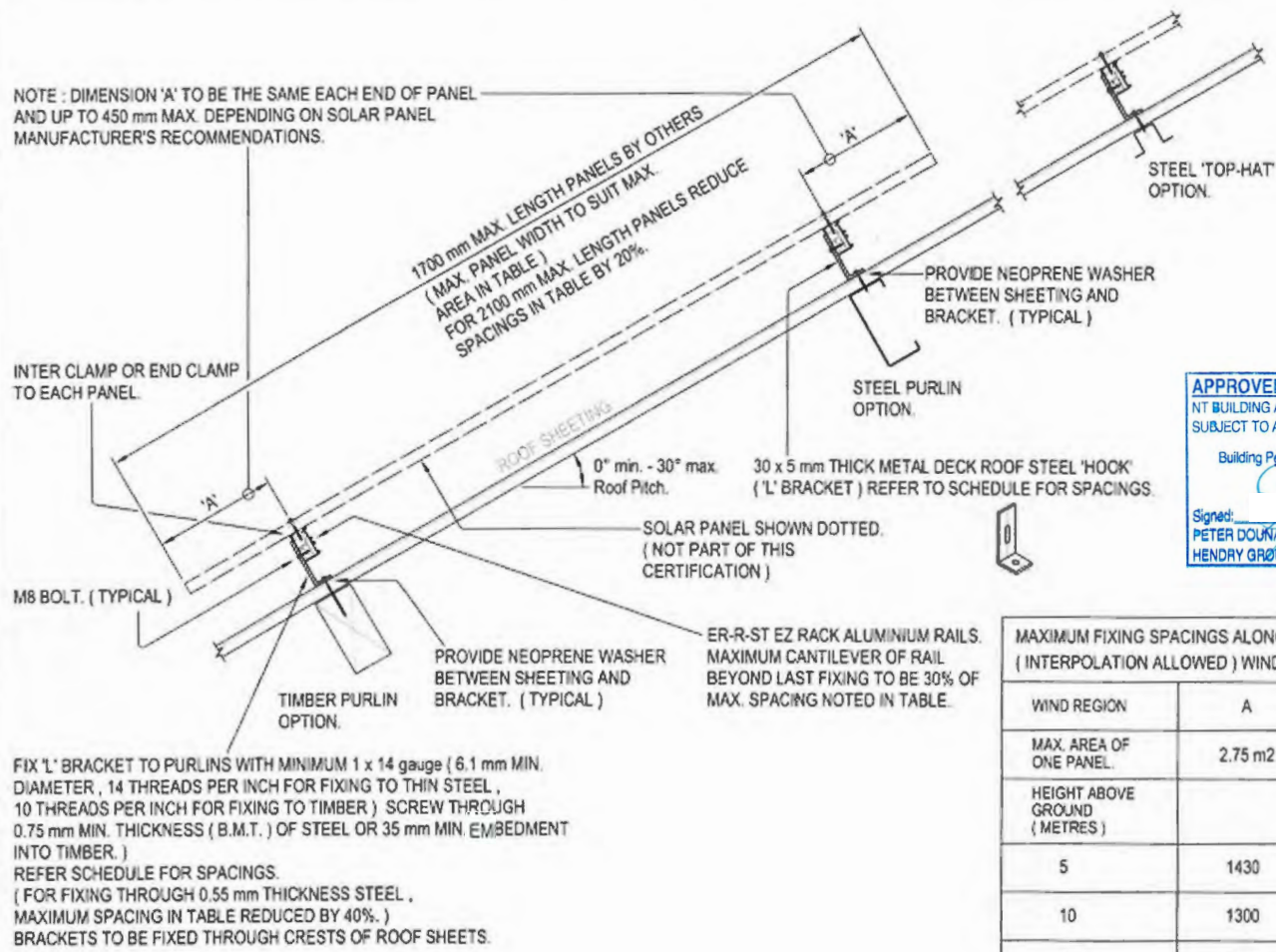
SECTION 40 DESIGN CERTIFICATION CONCURRED STRUCTURAL ONLY
STRUCTURAL ENGINEERING CONSULTANTS AUSTRALIA PTY LTD
 PO BOX 2393 PALMERSTON NT 0831
 ABN: 94 606 513 160 PH: 89 47 49 99 EMAIL: seca@secaust.com.au
 JOB NUMBER:19301.....
 SIGNATURE..... DATE: 08/08/2019
 NICHOLAS KASTELLORIZIOS 169894ES

location of solar panel installation

APPROVED
 NT BUILDING ACT
 SUBJECT TO ATTACHED CONDITIONS
 Building Permit No: 590/00239/3
 Job No: 88-20190510
 Signed: PETER DOUNAS Date: 14/08/19
 HENDRY GROUP PTY LTD 200848BU peter.dounas@hendry.com.au

AS CONSTRUCTED

<p>SECA STRUCTURAL ENGINEERING CONSULTANTS AUSTRALIA PTY LTD Structural Engineering Consultants Australia Pty Ltd ABN 94606513160 Unit 2 662 Stuart Hwy Berrimah NT PH 89 474999 Email seca@secaust.com.au</p>	<p>ALBRIGHT CONSULTING ENGINEERS Mob: 0402 123 891; E: admin@albrightsg.com.au PO BOX, PALMERSTON, NT 0831 ABN: 44 600 817 463;</p>	<p>ROOF MOUNTED SOLAR PANELS TO EXISTING RESIDENCE ROOF PLAN & GENERAL NOTES LOT 239 49 BAGSHAW CRESCENT GRAY</p>	DRAWING 190301 S01	SHEET S01
			SCALE	DATE



FIX 'L' BRACKET TO PURLINS WITH MINIMUM 1 x 14 gauge (6.1 mm MIN. DIAMETER , 14 THREADS PER INCH FOR FIXING TO THIN STEEL , 10 THREADS PER INCH FOR FIXING TO TIMBER) SCREW THROUGH 0.75 mm MIN. THICKNESS (B.M.T.) OF STEEL OR 35 mm MIN. EMBEDMENT INTO TIMBER.) REFER SCHEDULE FOR SPACINGS. (FOR FIXING THROUGH 0.55 mm THICKNESS STEEL , MAXIMUM SPACING IN TABLE REDUCED BY 40% .) BRACKETS TO BE FIXED THROUGH CRESTS OF ROOF SHEETS.

APPROVED
 NT BUILDING ACT
 SUBJECT TO ATTACHED CONDITIONS

Building Permit No: 590/00239/3
 Job No: 88-20190510

Signed: PETER DOUNAS Date: 14/08/19
 HENDRY GROUP PTY LTD 200848BU peter.dounas@hendry.com.au

MAXIMUM FIXING SPACINGS ALONG LENGTH OF ALUMINIUM RAILS. (mm) (INTERPOLATION ALLOWED) WIND REGION TO AS/NZS.1170.2 - 2011			
WIND REGION	A	B	C
MAX. AREA OF ONE PANEL.	2.75 m ²	2.75 m ²	1.9 m ²
HEIGHT ABOVE GROUND (METRES)			
5	1430	690	605
10	1300	810	550
15	1235	770	520
20	1170	730	490
MAX. ULTIMATE UPLIFT PER FIXING BRACKET (kN) EXISTING ROOF STRUCTURE TO BE VERIFIED TO SUPPORT UPLIFT LOAD.	2.29	2.29	2.29


NOTE : ALL SCREW / BOLT FIXINGS TO BE CLASS 4 FINISH

CORRUGATED OR TRAPEZOIDAL METAL DECK INSTALLATION
 (CLENERGY PV - EZ RACK SOLAR ROOF MOUNTING SYSTEM)
 15kg/m² MAX. WEIGHT SOLAR PANELS
 (SCALE 1:10)

Product Name PV - EZ RACK SOLAR ROOF MOUNTING SYSTEM WITH ER-R-ST RAIL. (CORRUGATED & TRAPEZOIDAL METAL DECK)

Product Description SOLAR PANEL ROOF MOUNTING RACK FOR (CORRUGATED & TRAPEZOIDAL METAL DECK)

Manufacturers Name



1/10 DUERDIN STREET, CLAYTON VIC 3168

- Design Criteria
- 15 kg/m² MAX. SOLAR PANEL WEIGHT.
 - AS/NZS.1170.2 - 2011 (REC 2016) ARI = 500 CATEGORY 2 , VARIOUS WIND REGIONS. Ms = 1.0 Ml = 1.0
 - IMPORTANCE LEVEL 2
 - VARIES FOR HEIGHTS UP TO 20 metres
 - C fig = -1.7 OR +0.8

Limitations ROOF STRUCTURE TO BE CHECKED AND CERTIFIED BY A NORTHERN TERRITORY REGISTERED STRUCTURAL ENGINEER AS SUITABLE FOR APPLIED BRACKET UPLIFT LOADS. SOLAR PANELS TO BE STRUCTURALLY CERTIFIED AS ABLE TO RESIST WIND LOADS IN ACCORDANCE WITH AS/NZS. 1170.2 - 2011. NOT SUITABLE FOR TRAY TYPE DECK PROFILES WHERE CREST WIDTH LESS THAN 20 mm.

CLIVE STEELE PARTNERS PTY LTD
 CONSULTING ENGINEERS - STRUCTURAL & CIVIL



BUILDING 6
 62/195 WELLINGTON ROAD
 CLAYTON, VICTORIA
 AUSTRALIA. 3168
 Telephone (03) 9545 0223
 Facsimile (03) 9545 3022
 Email csp@clivesteele.com.au
 A.C.N. 005 353 735 A.B.N. 92 627 427 751

ORG. No. 16434-17-SR2P, Accepted for Inclusion

DTCM ref: M/577/02

Chairman's Signature: *Paul Nowland*
 Chairman's Name: Paul Nowland
 Date of Approval: 25-01-2019 Expiry Date: 25-01-2024

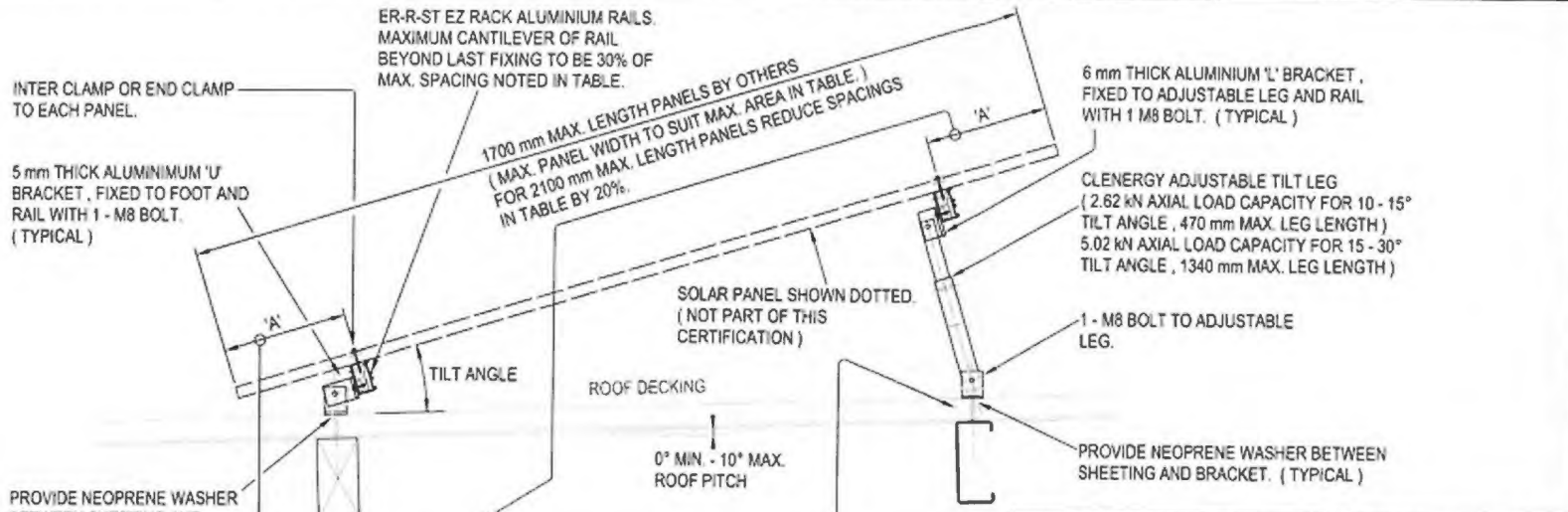
REFER DRAWINGS 16434-17-SR4K,5K AND 6J FOR DETAILS OF RAILS , HOOKS , CLAMPS , TILT LEGS ETC.

SHEET 2 OF 6

Notes covering basis of DTC (Relevant test reports etc.)
 COMPUTATION SHEETS , PROJECT No. 16434 , SHEETS A1 - A9 (INCL.)
 PREPARED BY CLIVE STEELE PARTNERS , DATED 28/09/18
 TILE HOOKS TEST REPORT No. MT-18/997-A , DATED 21/09/18
 TILT LEG STRUTS TEST REPORT No. MT-17/906-A , DATED 9/10/17

Design Engineer's Certification :
 Name : IAN FLANDERS
 Registration No. EC-1353
 Date : 18th. DEC. 2018
 Signature: _____
 Registered as a Structural Engineer in Victoria

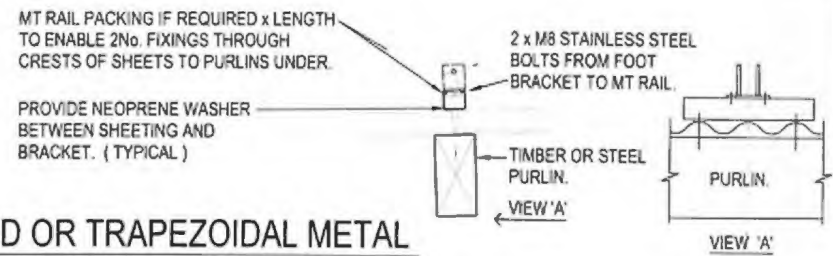
Certifying Engineer's Certification :
 Name : JIANZENG GENG
 Registration No. 239858ES
 Date : 18th. DEC. 2018
 Signature: _____
 Registered as a Structural Engineer in Northern Territory



8 mm THICK ALUMINIUM SHAPED FIX FOOT BRACKET (OR CORRUGATED ADAPTER FOR CUSTOM ORB ONLY) FIXED TO PURLINS WITH 2 x 12 GAUGE (5.6 mm MIN. DIAMETER, 14 THREADS PER INCH FOR FIXING TO THIN STEEL, 10 THREADS PER INCH FOR FIXING TO TIMBER) SCREWS THROUGH 0.55 mm MIN. THICKNESS (B.M.T.) OF STEEL OR 35 mm MIN. EMBEDMENT INTO TIMBER. REFER SCHEDULE FOR SPACINGS. BRACKETS TO BE FIXED THROUGH CRESTS OF ROOF SHEETS. (REFER ALTERNATIVE DETAIL BELOW)

MAXIMUM FIXING SPACINGS ALONG LENGTH OF ALUMINIUM RAILS. (mm) (INTERPOLATION ALLOWED) WIND REGION TO AS/NZS.1170.2 - 2011

10 - 15° TILT LEGS			
WIND REGION	A	B	C
MAX. AREA OF ONE PANEL	2.75 m ²	2.75 m ²	1.9 m ²
UP TO 5 m	1240	770	530
UP TO 10 m	1130	700	480
UP TO 15 m	1075	665	455
UP TO 20 m	1020	630	430
MAX. ULTIMATE UPLIFT PER FIXING BRACKET (kN) EXISTING ROOF STRUCTURE TO BE VERIFIED TO SUPPORT UPLIFT LOAD.	1.98	1.98	1.98



CORRUGATED OR TRAPEZOIDAL METAL DECK ROOF INSTALLATION ONLY
 (CUSTOM ORB TRIMDECK OR SPANDEK OR SIMILAR PROFILES)
 (CLENERGY PV - EZ RACK SOLAR ROOF)
 15kg/m² MAX. WEIGHT SOLAR PANELS (SCALE 1:10)

ALTERNATIVE ROOF FIXING DETAIL
 WHERE SHEETING CRESTS DO NOT MATCH FOOT BRACKET FIXING HOLES.

NOTE : ALL SCREW / BOLT FIXINGS TO BE CLASS 4 FINISH

Product Name PV - EZ RACK SOLAR ROOF MOUNTING SYSTEM ER-R-ST RAIL, TILT LEGS. (CORRUGATED OR TRAPEZOIDAL METAL DECK)

Product Description SOLAR PANEL ROOF MOUNTING RACK FOR CORRUGATED ROOFS

Manufacturers Name

1/10 DUERDIN STREET, CLAYTON VIC. 3168

- Design Criteria
- 15 kg/m² MAX. SOLAR PANEL WEIGHT.
 - AS/NZS.1170.2 - 2011 (REC 2016) ARI = 500 CATEGORY 2, VARIOUS WIND REGIONS. Ms = 1.0 Mt = 1.0
 - IMPORTANCE LEVEL 2
 - VARIES FOR HEIGHTS UP TO 20 metres
 - C fig = -1.7 min., -2.7 max.

Limitations

ROOF STRUCTURE TO BE CHECKED AND CERTIFIED BY A NORTHERN TERRITORY REGISTERED STRUCTURAL ENGINEER AS SUITABLE FOR APPLIED BRACKET UPLIFT LOADS. SOLAR PANELS TO BE STRUCTURALLY CERTIFIED AS ABLE TO RESIST WIND LOADS IN ACCORDANCE WITH AS/NZS. 1170.2 - 2011 APPLICABLE TO CUSTOM ORB, TRIMDEK OR SPANDEK OR SIMILAR SHEETING PROFILES

CLIVE STEELE PARTNERS PTY LTD
 CONSULTING ENGINEERS - STRUCTURAL & CIVIL

BUILDING 6
 62/195 WELLINGTON ROAD
 CLAYTON, VICTORIA
 AUSTRALIA. 3168
 Telephone (03) 9545 0223
 Facsimile (03) 9545 3022
 Email csp@clivesteele.com.au
 A.C.N. 005 363 735 A.B.N. 32 627 427 761

DRG. No. 16434-17-SR3P.

Accepted for Inclusion

DTCM ref: 4/577/03

Chairman's Signature:

Chairman's Name: Paul Nowland

Date of Approval: 25-01-2019 Expiry Date: 25-01-2024

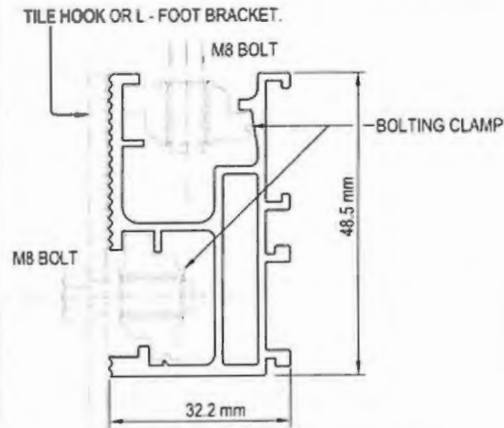
REFER DRAWINGS 16434-17-SR4K,5K AND 6J FOR DETAILS OF RAILS, HOOKS, CLAMPS, TILT LEGS ETC.

Notes covering basis of DTC (Relevant test reports etc.)

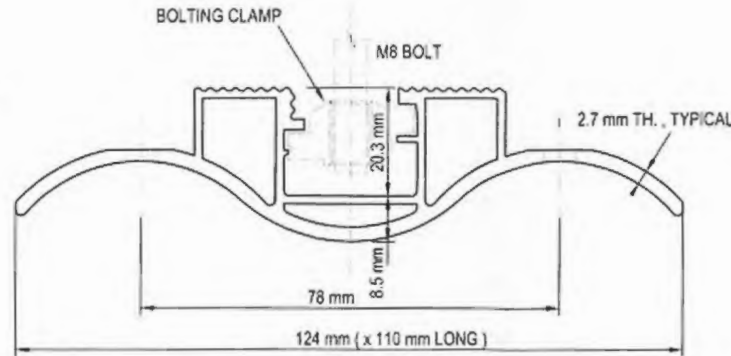
COMPUTATION SHEETS, PROJECT No. 16434, SHEETS A1 - A9 (INCL.)
 PREPARED BY CLIVE STEELE PARTNERS, DATED 28/09/18
 TILE HOOKS TEST REPORT No. MT-18/997-A, DATED 21/09/18
 TILT LEG STRUTS TEST REPORT No. MT-17/906-A, DATED 9/10/17

Design Engineer's Certification:
 Name: IAN FLANDERS
 Registration No. EC-1353
 Date: 18th. DEC. 2018
 Signature:
 Registered as a Structural Engineer in Victoria

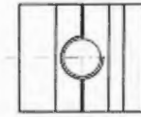
Certifying Engineer's Certification:
 Name: JIANZENG GENG
 Registration No. 239858ES
 Date: 18th. DEC. 2018
 Signature:
 Registered as a Structural Engineer in Northern Territory



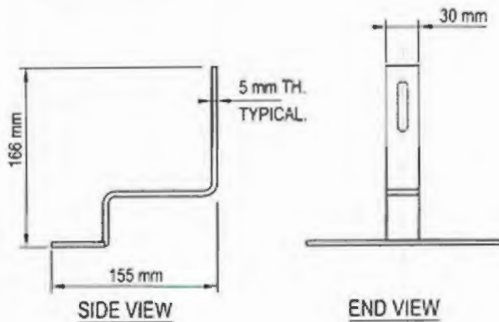
'ER-R-ST' EZ RACK ALUMINIUM RAILS.
GRADE 6005-T5 ALUMINIUM
(SCALE 1:1)



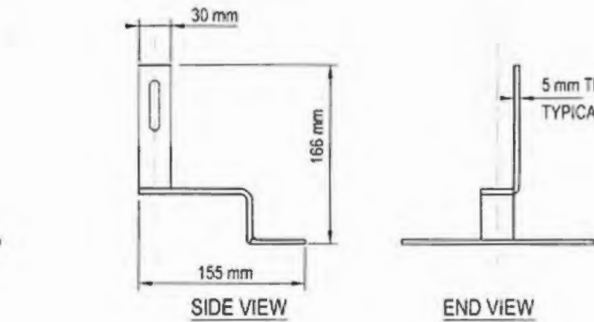
'EZ-AD-C110' CORRUGATED ADAPTER
GRADE 6005-T5 ALUMINIUM
(SCALE 1:1)



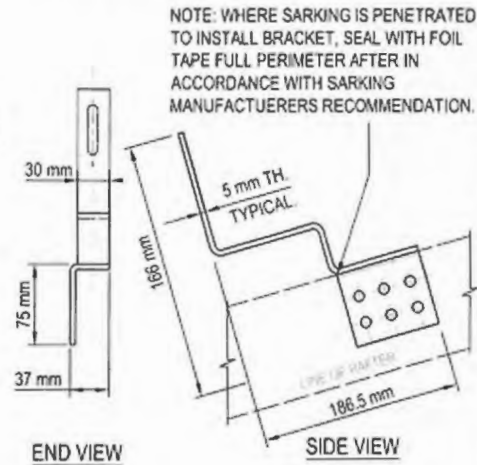
'EZ-Z-ST' BOLTING CLAMP FOR FIXING OF 'ER-R-ST' EZ' RAIL TO BRACKETS
GRADE 6005-T5 ALUMINIUM
(SCALE 1:1)



'ER-I-01' TILE HOOK DETAILS (TYPE 1)
GRADE 304 MIN. STAINLESS STEEL
(SCALE 1:5)
(USED WHEN RAILS PERPENDICULAR TO RAFTER DIRECTION)



'ER-I-23' TILE HOOK DETAILS (TYPE 2)
GRADE 304 MIN. STAINLESS STEEL
(SCALE 1:5)
(USED WHEN RAILS PARALLEL TO RAFTER DIRECTION)



'ER-I-26' TILE HOOK DETAILS (TYPE 3)
GRADE 304 MIN. STAINLESS STEEL
(SCALE 1:5) (USED WHEN RAILS PERPENDICULAR TO RAFTER DIRECTION)

APPROVED
NT BUILDING ACT
SUBJECT TO ATTACHED CONDITIONS

HENDRY

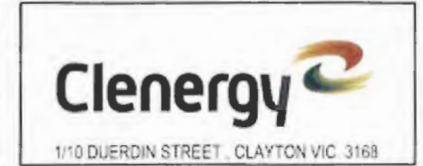
Building Permit No: 590/00239/3
Job No: 88-20190510

Signed: PETER DOUNAS Date: 14/08/19
HENDRY GROUP PTY LTD 200848BU peter.dounas@hendry.com.au

Product Name **PV - EZ RACK SOLAR ROOF MOUNTING SYSTEM WITH ER-R-ST RAIL.**
(BRACKET / FIXING DETAILS)

Product Description **SOLAR PANEL ROOF MOUNTING RACK.**

Manufacturers Name



Design Criteria

REFER TO RACK DRAWINGS 16434-17-SR1P, SR2P AND SR3P FOR DESIGN CRITERIA AND GENERAL ARRANGEMENTS.

Limitations

REFER TO RACK DRAWINGS 16434-17-SR1P, SR2P AND SR3P FOR DESIGN CRITERIA AND GENERAL ARRANGEMENTS.

CLIVE STEEL PARTNERS PTY LTD
CONSULTING ENGINEERS - STRUCTURAL & CIVIL



BUILDING 6
62/195 WELLINGTON ROAD
CLAYTON, VICTORIA
AUSTRALIA. 3168
Telephone (03) 9545 0223
Facsimile (03) 9545 3022
Email csp@divesteele.com.au
A.C.N. 605 383 735 A.B.N. 62 627 427 761

DRG. No. 16434-17-SR4K

Accepted for Inclusion

DTCM ref:

M/527/04

Chairman's Signature :

Chairman's Name :

Paul Noland

Date of Approval :

25-01-2019

Expiry Date :

25-01-2024

Notes covering basis of DTC (Relevant test reports etc.)

COMPUTATION SHEETS , PROJECT No. 16434 , SHEETS A1 - A9 (INCL.)
PREPARED BY CLIVE STEEL PARTNERS , DATED 28/09/18
TILE HOOKS TEST REPORT No. MT-18/997-A , DATED 21/09/18
TILT LEG STRUTS TEST REPORT No. MT-17/906-A , DATED 9/10/17

Design Engineer's Certification :

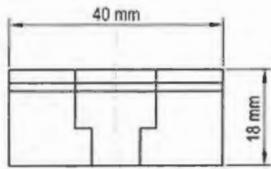
Name : IAN FLANDERS
Registration No. EC-1353
Date : 18th. DEC. 2018
Signature :

Registered as a Structural Engineer in Victoria

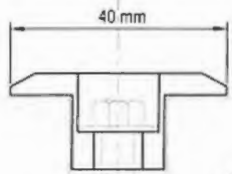
Certifying Engineer's Certification :

Name : JIANZENG GENG
Registration No. 239858ES
Date : 18th. DEC. 2018
Signature :

Registered as a Structural Engineer in Northern Territory

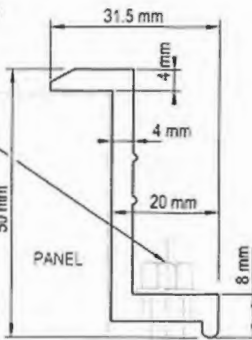


SIDE VIEW



PANEL

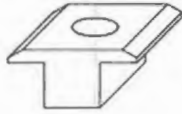
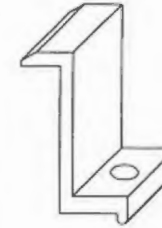
M8 BOLT TO BOLTING CLAMP.



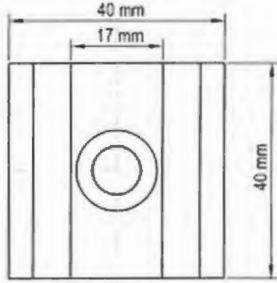
SIDE VIEW



ELEVATION



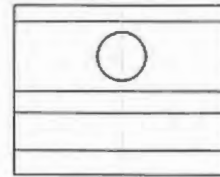
'ER-IC-ST'
PANEL INTER CLAMP DETAIL
GRADE 6005-T5 ALUMINIUM
(SCALE 1:2)



PLAN

TOP OF ER-R-ST EZ RACK RAIL.

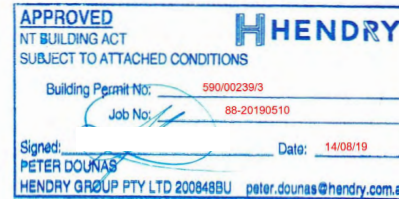
'ER-EC-ST'
PANEL END CLAMP DETAIL
GRADE 6005-T5 ALUMINIUM
(SCALE 1:2)



PLAN



'ER-R-MT' RAIL DETAIL
GRADE 6005-T5 ALUMINIUM
(SCALE 1:2)



Product Name PV - EZ RACK SOLAR ROOF MOUNTING SYSTEM WITH ER-R-ST RAIL. (BRACKET / FIXING DETAILS)

Product Description SOLAR PANEL ROOF MOUNTING RACK.

Manufacturers Name



1/10 DUERDIN STREET CLAYTON VIC. 3168

Design Criteria

REFER TO RACK DRAWINGS 16434-17-SR1P, SR2P AND SR3P FOR DESIGN CRITERIA AND GENERAL ARRANGEMENTS.

Limitations

REFER TO RACK DRAWINGS 16434-17-SR1P, SR2P AND SR3P FOR DESIGN CRITERIA AND GENERAL ARRANGEMENTS.

CLIVE STEELE PARTNERS PTY LTD
CONSULTING ENGINEERS - STRUCTURAL & CIVIL



BUILDING 6
62/195 WELLINGTON ROAD
CLAYTON, VICTORIA
AUSTRALIA. 3168
Telephone (03) 9545 0223
Facsimile (03) 9545 3022
Email csp@clivesteele.com.au
A.C.N. 036 363 735 A.B.N. 92 627 427 761

DRG. No. 16434-17-SR5K

Accepted for Inclusion

DTCM ref:

M/577/05

SHEET 5 OF 6

Notes covering basis of DTC (Relevant test reports etc.)

COMPUTATION SHEETS, PROJECT No. 16434, SHEETS A1 - A9 (INCL.)
PREPARED BY CLIVE STEELE PARTNERS, DATED 28/09/18
TILE HOOKS TEST REPORT No. MT-18/997-A, DATED 21/09/18
TILT LEG STRUTS TEST REPORT No. MT-17/906-A, DATED 9/10/17

Design Engineer's Certification :

Name : IAN FLANDERS
Registration No. EC-1353
Date : 18th. DEC. 2018
Signature:

Registered as a Structural Engineer in Victoria

Certifying Engineer's Certification :

Name : JIANZENG GENG
Registration No. 239850ES
Date : 18th. DEC. 2018
Signature:

Registered as a Structural Engineer in Northern Territory

Chairman's Signature :

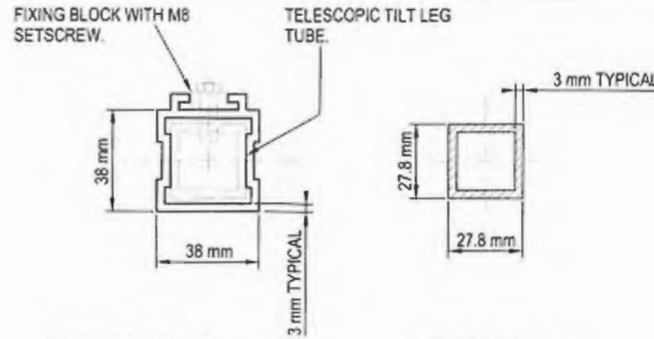
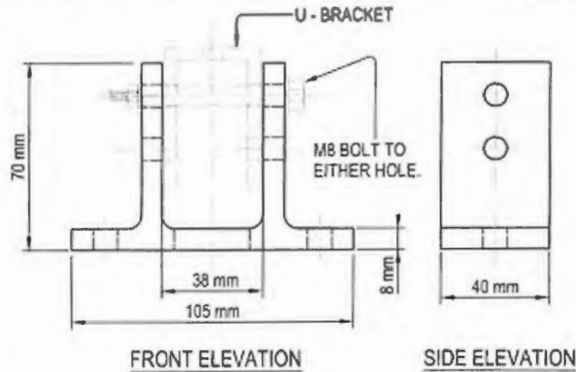
Chairman's Name : Paul Nowland

Date of Approval :

25-01-2019

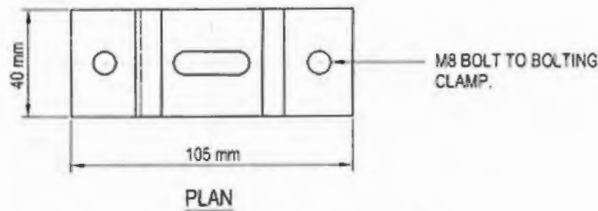
Expiry Date :

25-01-2024

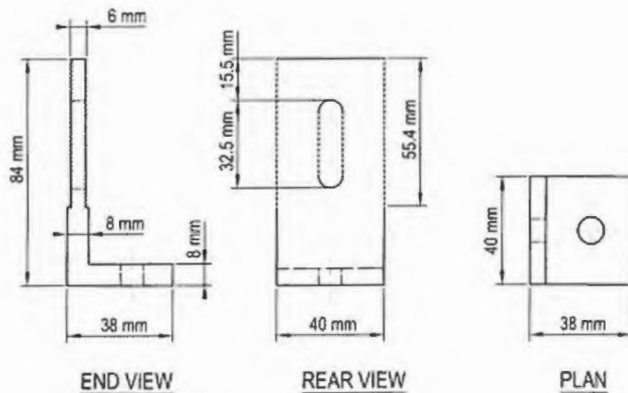


TILT LEG STRUT
GRADE 6005-T5 ALUMINIUM
(SCALE 1:2)

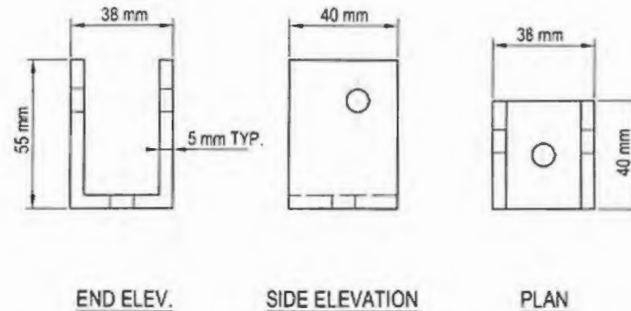
TILT LEG TUBE
GRADE 6005-T5 ALUMINIUM
(SCALE 1:2)



'ER-TL' FIX - FOOT BRACKET DETAIL
GRADE 6005-T5 ALUMINIUM
(SCALE 1:2)



'ER-I-05' L-FOOT BRACKET DETAIL
GRADE 6005-T5 ALUMINIUM
(SCALE 1:2)

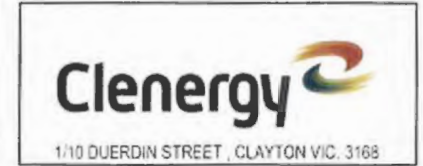


'U' BRACKET DETAIL
GRADE 6005-T5 ALUMINIUM
(SCALE 1:2)

Product Name **PV - EZ RACK SOLAR ROOF MOUNTING SYSTEM WITH ER-R-ST RAIL. (BRACKET / FIXING DETAILS)**

Product Description **SOLAR PANEL ROOF MOUNTING RACK FOR CORRUGATED ROOFS**

Manufacturers Name



Design Criteria

REFER TO RACK DRAWINGS 16434-17-SR1P, SR2P AND SR3P FOR DESIGN CRITERIA AND GENERAL ARRANGEMENTS.

Limitations

REFER TO RACK DRAWINGS 16434-17-SR1P, SR2P AND SR3P FOR DESIGN CRITERIA AND GENERAL ARRANGEMENTS.

CLIVE STEELE PARTNERS PTY LTD
CONSULTING ENGINEERS - STRUCTURAL & CIVIL



BUILDING 6
62/195 WELLINGTON ROAD
CLAYTON, VICTORIA
AUSTRALIA. 3168
Telephone (03) 9545 0223
Facsimile (03) 9545 3022
Email csp@clivesteele.com.au
ACN 105 353 735 A B N. 92 627 427 761

DRG. No. 16434-17-SR6J

Accepted for Inclusion

DTCM ref: *M/577/06*

Chairman's Signature:

Chairman's Name: *Paul Nowland*

Date of Approval: *25-01-2019* Expiry Date: *25-01-2024*

Notes covering basis of DTC (Relevant test reports etc.)

COMPUTATION SHEETS , PROJECT No. 16434 , SHEETS A1 - A9 (INCL.)
PREPARED BY CLIVE STEELE PARTNERS , DATED 28/09/18
TILE HOOKS TEST REPORT No. MT-18/997-A , DATED 21/09/18
TILT LEG STRUTS TEST REPORT No. MT-17/906-A , DATED 9/10/17

Design Engineer's Certification :

Name : IAN FLANDERS
Registration No. EC-1353
Date : 19th DEC. 2018
Signature:

Registered as a Structural Engineer in Victoria

Certifying Engineer's Certification :

Name : JIANZENG GENG
Registration No. 239858ES
Date : 18th DEC. 2018
Signature:

Registered as a Structural Engineer in Northern Territory