



(March 2024)

GUNDJEIHMI ABORIGINAL
CORPORATION JABIRU TOWN

Standard Outdoor Living Area Designs

1. Purpose

The Jabiru Masterplan Development Management Framework (JMDMF) includes Housing Design Requirements (2021) at Appendix H. The Housing Design Requirements stipulate that 'dwellings must include cool outdoor living areas for entertaining that also act as an extension of the living space' in accordance with this Standard Outdoor Living Area Designs.

Several standard designs have been drafted and certified as 'Structurally Adequate'. These designs have been approved by GACJT and are available for proponents to utilise and included in this document.

Proponents can also develop their own designs for approval by GACJT in accordance with the General Design Principals below.

2. General Design Principles

The JMDMF encourages the use of Bioclimatic design (a way of designing buildings to suit the local climate, with the aim of ensuring thermal comfort using passive design principals and environmentally sustainable resources). As part of this approach proponents are encouraged to consider the following principals when designing and positioning outdoor living areas:

- Consider the site layout and position the outdoor living area to optimize prevailing breezes and maximize shade to the outdoor living area and the home.
- Position living areas away from sleeping areas.
- Position to protect existing trees and allow space for additional planting.
- Have sufficient height to incorporate ceiling fans, 2500mm minimum 2700mm or greater optimal.
- Incorporate roof insulation, Minimum Kingspan Air-cell 65 or equal.
- Size to suit up to 8 people eating, approximately 5mx4m minimum with 1100mm eave overhang from columns.

2.1. Pre-approved Designs

Several Designs have been pre-approved by the GACJT Board. These designs are specific to 9 of the 14 standard housing types built at Jabiru and satisfy outdoor living areas requirement of the JMDMF. These designs are stamped 'Certified as Structurally Adequate'. Proponents may use these designs.

These housing types are:

- Ranger House type R3A
- Ranger House type R3B
- Ranger House type R3C
- Ranger House type R3D
- Ranger House type R4A
- Ranger House type R4B
- Parks House type L-shape
- Parks House type H-shape
- Miscellaneous House type – 3-bed

2.2. GACJT Approval Process

An Approved Managing Entity (or tenant with the landlord's written consent) may apply to install one of the Pre-Approved Designs or an alternate design by requesting consent from the GACJT CEO in writing. All requests are to:

1. be consistent with the Jabiru Masterplan Development Managing Framework.
2. include a site plan, floor plan and elevations, drawn at scale and with sufficient dimensions to assess the proposal (pre-approved design drawings or site specific drawings to a 'town planning' level of documentation).
3. include assurance that work will comply with all other requirements including the Jabiru Town Plan, the NT building act and National Construction Code;
4. include written consent from the sub-lessee, if the request is from a tenant and not the landlord; and

Alternative designs can be approved on a case-by-case basis. These requests must be approved by the GACJT Board.

2.3. Other Approvals

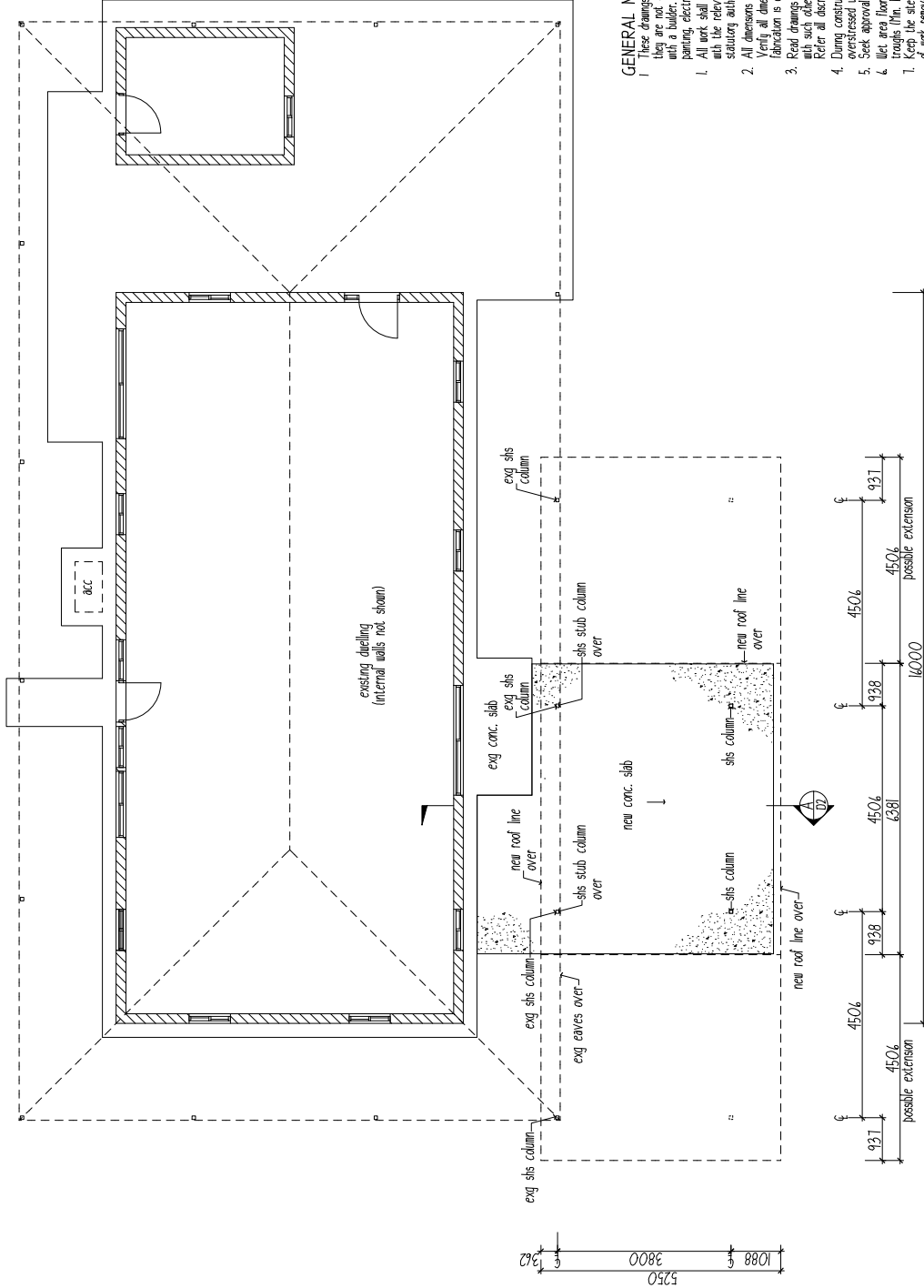
Proponents are advised that other approvals will be required under the NT Building Act and Building Regulations apply to Jabiru. Proponents are required to obtain Building certification, Building permits etc in accord with the NT Building Act and Building Regulations.

<https://nt.gov.au/property/building/build-or-renovate-your-home/building-and-renovating-a-home/residential-building-work-that-requires-permits>

Town planning approval may also be required through the NT Development Consent Authority where proposals do not align with the Jabiru Town Plan.

3. Attachments

1. Ranger House type R3A Pre-Approve Design
2. Ranger House type R3B Pre-Approve Design
3. Ranger House type R3C Pre-Approve Design
4. Ranger House type R3D Pre-Approve Design
5. Ranger House type R4A Pre-Approve Design
6. Ranger House type R4B Pre-Approve Design
7. Parks House type L-shape Pre-Approve Design
8. Parks House type H-shape Pre-Approve Design
9. Miscellaneous House type – 3-bed Pre-Approve Design.



CERTIFIED AS
STRUCTURALLY ADEQUATE



KFB Engineers

Civil & Structural

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P: 07 40320492 | F: 07 40320492 | E: email@kfbeng.com.au

Date: 2/12/21

Signed: 

Job No: K-9712

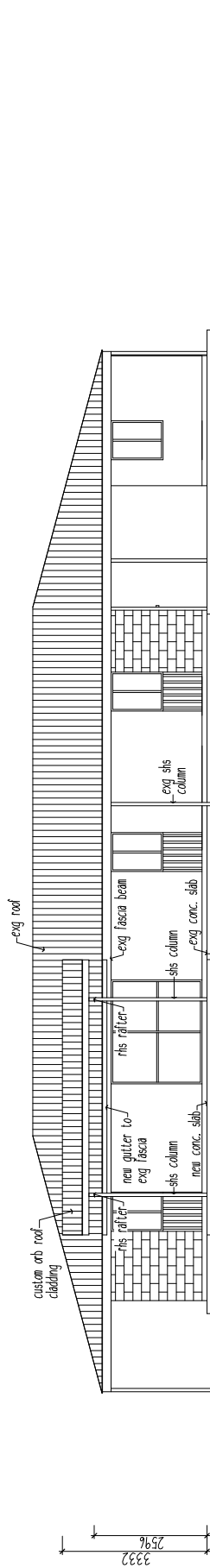
NT Reg. 33968ES

GENERAL NOTES

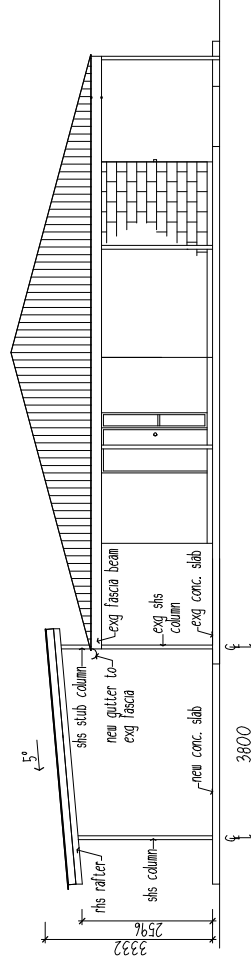
- These drawings contain information required for obtaining building permit, they are not detailed sufficiently for a specification for a building contract with a builder. An additional specification should be written to include painting, electrical & plumbing fittings & secondary fixings.
- All work shall be in accordance with the Building Code of Australia & comply with the relevant current Standards Association of Australia codes and the local statutory authorities regulations, except where varied by the contract documents.
- All dimensions are in millimetres unless stated otherwise. All levels are expressed in metres. Verify all dimensions relevant to setting out, and off-site work before construction and fabrication is commenced. Do not scale the drawings unless noted otherwise.
- Read drawings in conjunction with all other consultants' drawings and specifications and with such other written instructions as may be issued during the course of the contract. Refer all discrepancies to the Superintendent for decision before proceeding with the work.
- During construction maintain the structure in a stable condition and ensure no part is overstressed under construction activities.
- Seek approval for all substitutions from the Superintendent before the work commences.
- Use area floors to be mosaic tiles or equal. Provide splaybacks to beams, sills & troughs (min. 150 high).
- Keep the site in a clean & tidy condition throughout construction & at the completion of work remove all litter & debris to the satisfaction of the superintendent.

ELEVATION
refer Aug. No. 007

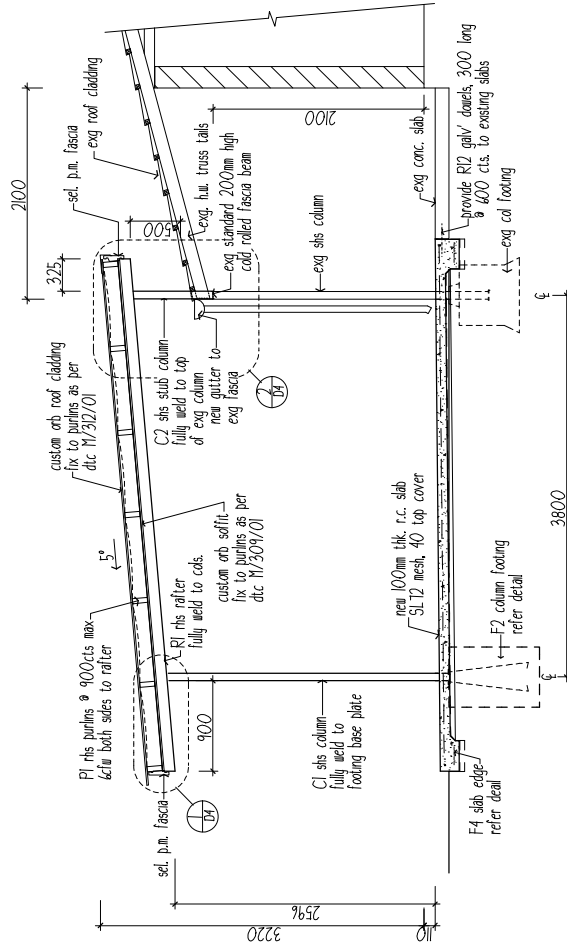
Project Title PROPOSED UNDERCOVER AREA RANGER HOUSE R3-A JABIRU HOUSING JABIRU, N.T.		Drawing Title LAYOUT PLAN GENERAL NOTES		Client Gundjini Aboriginal Corporation.	
Wilkins Drafting Service Ph: 0457889990		Scale as shown on A3		Date 02/12/2021	
		Job No. J21403-R3A		Dwg. No. DI	
				of 5	



ELEVATION 1
1 : 100



ELEVATION 2
1 : 100



SECTION A
1 : 50

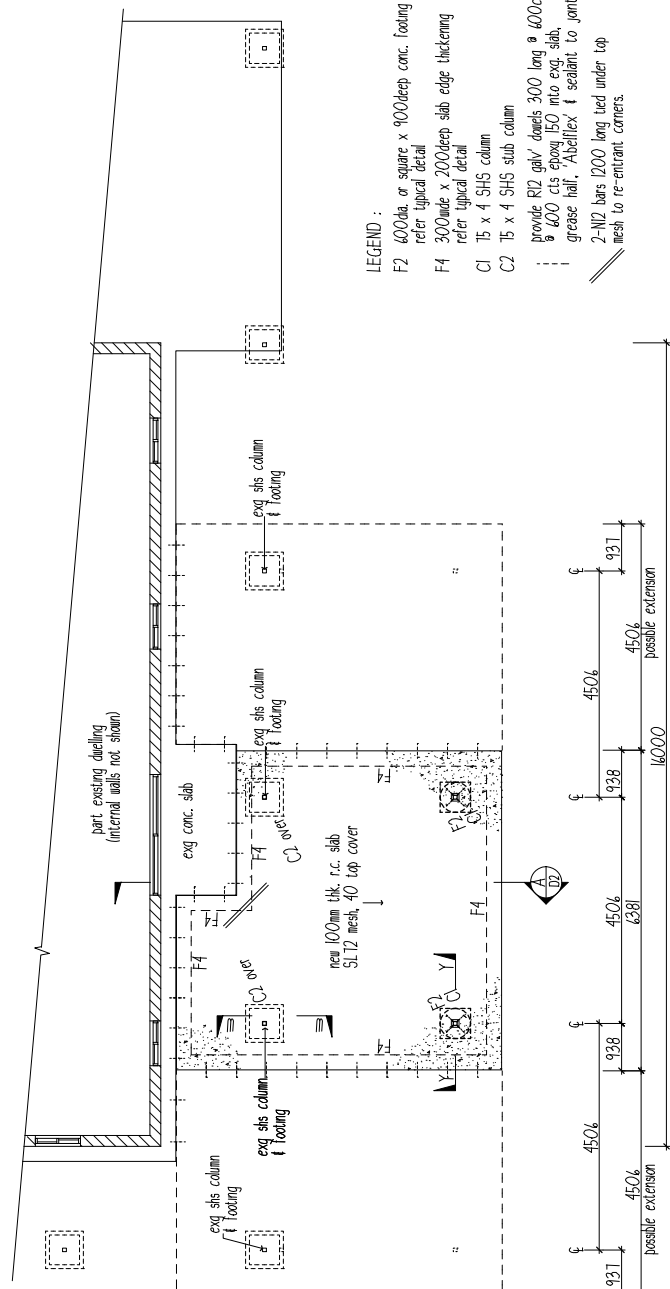
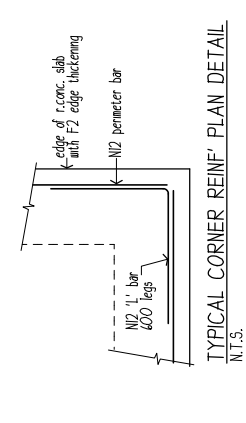
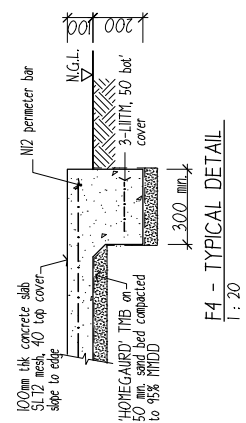
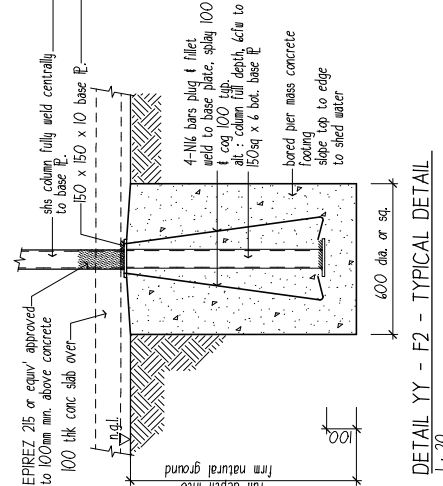
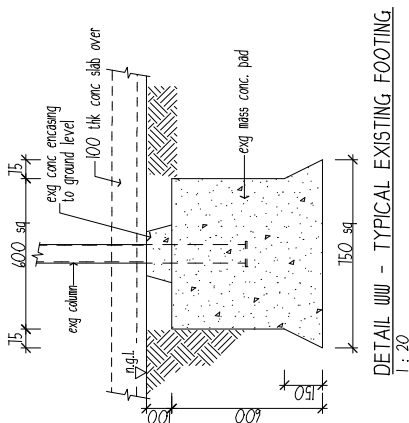
- LEGEND :
- F2 400da. x 900deep conc. footing refer typical detail
 - F4 300wide x 200deep slab edge thickening refer typical detail
 - C1 15 x 4 SHS column
 - C2 15 x 4 SHS stub column
 - R1 125 x 15 x 4 RHS rafter
 - P1 150 x 50 x 2 RHS purlin

CERTIFIED AS STRUCTURALLY ADEQUATE

KFB Engineers
Civil & Structural
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Date: 2/12/21 Signed:  NT Reg. 33968ES
Job No: K-9712

Wilkins Drafting Service Ph: 0457889990	Project Title PROPOSED UNDERCOVER AREA RANGER HOUSE R3-A JABIRI HOUSING JABIRU, N.T.	Drawing Title ELEVATIONS SECTION A	Client Gundjithim Aboriginal Corporation.
	Scale as shown on A3	Date 02/12/2021	Job No. J21403-R3A
		Date 02/12/2021	Job No. D2 of 5



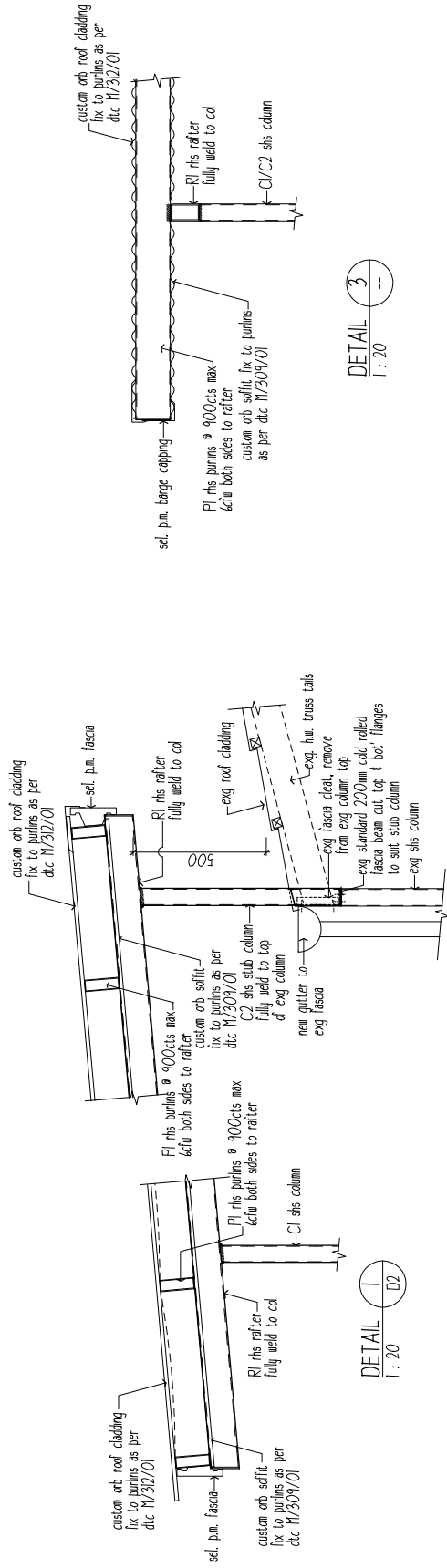
- LEGEND :
- F2 400dia. or square x 900deep conc. footing refer typical detail
 - F4 300wide x 200deep slab edge thickening refer typical detail
 - C1 15 x 4 SHS column
 - C2 15 x 4 SHS stub column
 - provide R12 giv' boards 300 long @ 400cls @ 600 cls espac 150 into exg. slab, grease hall, 'Abellex' f sealant to joint
 - 2-N12 bars 1200 long tied under top mesh to re-entrant corners.

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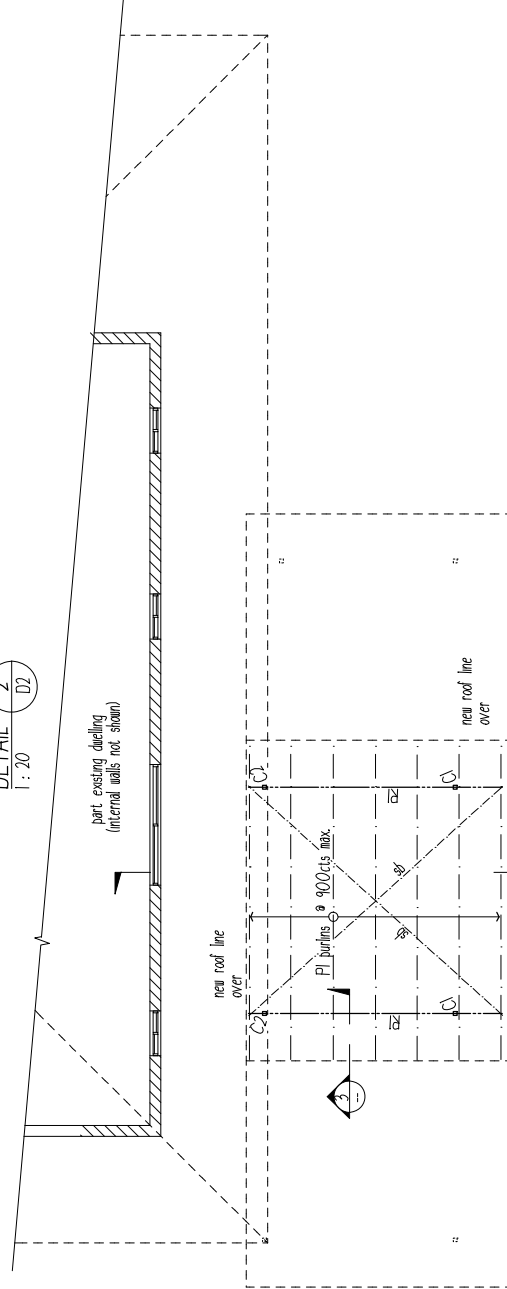
KFB Engineers Civil & Structural
103-42 Pease St, Cairns | PO Box 327, Cairns Q 4870
P: 07 40320462 | F: 07 40320062 | E: email@kfbeng.com.au

Date: 2/12/21 Signed:  NT Reg. 33968ES
Job No: K-9712

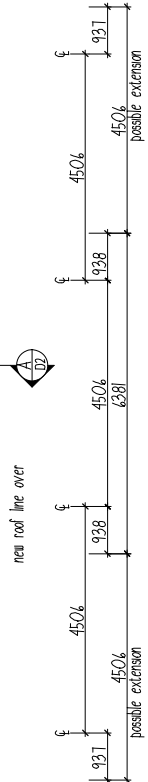
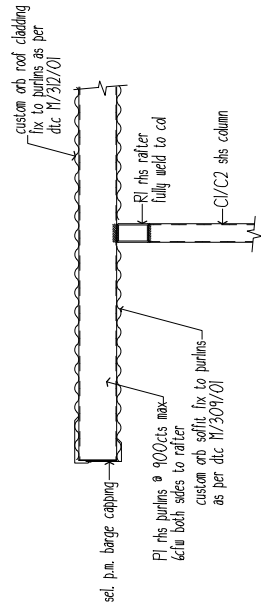
Wilkins Drafting Service Ph: 0457889990	Project Title PROPOSED UNDERCOVER AREA RANGER HOUSE R3-A JABIRU HOUSING JABIRU, N.T.	Drawing Title SLAB/FOOTING PLAN TYPICAL FOOTING DETAILS	Client Gundjinh Aboriginal Corporation.
	Scale as shown on A3	Date 02/12/2021	Job No. J21403-R3A
SLAB/FOOTING PLAN 1:100		Drawing No. D3	of 5



DETAIL 2
1 : 20



DETAIL 3
1 : 20



ROOF FRAMING PLAN
1 : 100

- LEGEND :
- C1 15 x 4 SHS column
 - C2 15 x 4 SHS stub column
 - RI 125 x 75 x 4 RHS rafter
 - PI 150 x 50 x 2 RHS purlin

CERTIFIED AS STRUCTURALLY ADEQUATE

KFB Engineers Civil & Structural
 118-42 Pease St, Cairns | PO Box 927, Cairns Q. 4870
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Date: 2/12/21 Signed: [Signature]
 Job No: K-9712 NT Reg. 33968ES

Wilkins Drafting Service Ph: 0457889990	Project Title PROPOSED UNDERCOVER AREA RANGER HOUSE R3-A JABIRU HOUSING JABIRU, N.T.	Drawing Title ROOF FRAMING PLAN DETAILS 1 - 3	Client Gundjithim Aboriginal Corporation.
	Scale as shown on A3	Date 02/12/2021	Scale as shown on A3
	Job No. J21403-R3A	Job No. J21403-R3A	Date 02/12/2021

NOTES
GENERAL

- All work shall be in accordance with the Building Code of Australia & comply with the relevant current Standards Association of Australia codes and the local statutory authorities' regulations, except where varied by the contract documents.
- Verify all dimensions relevant to setting out and off-site work before construction and fabrication is commenced. Do not scale the drawings unless noted otherwise.
- All dimensions are in millimetres unless stated otherwise. All levels are expressed in metres.
- Read drawings in conjunction with all other consultants' drawings and specifications and with such other written instructions as may be issued during the course of the contract. Refer all discrepancies to the Superintendent for decision before proceeding with the work.
- During construction maintain the structure in a stable condition and ensure no part is overstressed under construction activities.
- Seek approval for all substitutions from the Superintendent before the work commences.
- Keep the site in a clean & tidy condition throughout construction & at the completion of work remove all litter & debris to the satisfaction of the superintendent.

DESIGN CRITERIA

- Dead & live loads - in accordance with AS1170.1 - 2011
- The Design Wind Criteria is as follows :
Region V5000
Design Wind Speed 25
Terrain Category 2
Internal Pressure Coefficient +0.1 / -0.45
External Pressure Coefficient in accordance with AS1170 - 2011
Foundation design bearing capacity = 100kPa (allowable).
- Wind Classification C2 (AS4035)

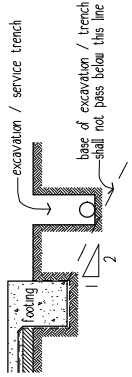
Ultimate and Serviceability Limit State Design

Wind Pressures

Wind Classification	Design gust wind speed (m/s)		Design pressures for windoms (kPa)	
	V _W	V _S	Greater than 1.2m from corners	Up to 1.2m from corners
C1	ULS	SLS	ULS	SLS
	50	32	+1.60	+0.55 -2.10 -0.83
C2	ULS	SLS	ULS	SLS
	41	25	+1.28	+0.88 -1.62 -1.23
C3	ULS	SLS	ULS	SLS
	34	21	+1.04	+0.71 -1.39 -1.19

EARTHWORKS

- Earthworks construction shall comply with AS3798 & AS2810.
- Excavation & service trenches shall comply with the following guidelines unless otherwise approved by the engineer



TERMITE MANAGEMENT SYSTEM

- Termite Management System to be installed & certified & by an approved applicator in accordance with AS 3601.
- Provide Min. 300 wide x 50mm concrete mowing strip over perimeter reticulation system as to AS3601
- A durable certificate is to be fixed in the meter box on completion.

FOOTINGS

- Found all footings in original undisturbed ground having a safe bearing capacity of 150 kPa as noted on drawings. Before any concrete is placed, ensure the safe bearing capacity is verified.
- Backfill seepers, stormwater drains and other in-ground services adjacent to buildings, if laid before footings are constructed, with approved fill placed in 200mm Max. layers and compacted to 95% MDD.
- If laid after footings are constructed, avoid undermining of footings by either fully shoring trenches, or keeping excavation outside an influence line extended downwards at a slope of 1 in 2 from the bottom corner of all footings. Backfill trenches as noted above.
- Use selected fill (gravel, decomposed or broken rock) free from clay clumps and organic matter, conforming with the following grading requirements :

AS METRIC SIEVE	% PASSING BY WEIGHT	AS METRIC SIEVE	% PASSING BY WEIGHT
15.0 mm	100	2.36 mm	20 - 50
9.5 mm	90 - 100	0.075 mm	5 - 25

Strip the area of the works of all top soil and deleterious material prior to placement of fill or compaction. Compact fill up to 150 mm below slab level in 150 mm layers to 95% MDD.

- Compact fill in the 150 mm layer immediately below slab level to 95% MDD. Compact sand binding layer below concrete slab by vibration plate or tamping to 95% MDD.
- Backfill over excavation with lean mix concrete.
- Builder to confirm site classification 'S' to AS2810

DRAINAGE

- The contractor shall determine the exact location of existing services prior to any installation or commencement of work.

CONCRETE

- All slabs & footings shall be constructed to comply with the requirements of AS2810 - 2011
- Concrete slump shall be 80 ± 15mm. No admixtures to be used without approval from the engineer.
- Concrete cover to be maintained by the use of approved chairs at nominal 800c/c. Conduits & pipes shall not be placed within concrete cover.
- Mesh reinforcement laps shall be at least one full wire spacing plus 25mm. Reinforcement shall be in accordance with AS471.
- Continuously cure slabs for a minimum of 7 days after casting by ponding, covering with a waterproof membrane or other approved means.

STEEL

- All structural steelwork shall comply with AS 400 - SAA Steel Struct. Code & associated Australian Standards.
- Ensure welding is performed by an experienced operator in accordance with AS 1554.
- Use hot dipped galvanised commercial bolts (Grade 4.6/S) to AS11 and AS 1112. Tightened to a snug tight fit, unless otherwise shown. Where bolts are designated grade 8.8/S, use high strength bolts to AS 1252, tightened to a snug tight fit.
- Where bolts are designated 8.8/TIF or grade 8.8/TB use high strength steel bolts (grade 8.8/S) to AS 1252, fully tensioned in accordance with AS 1511.
- During construction provide and leave in place, until permanent bracing elements are constructed, such temporary bracing as is necessary to stabilise the structure during erection.
- Spall the ends of all tubular members with normal thickness plates and continuous fillet welds unless otherwise shown.
- Except where otherwise shown fully weld connections with 6mm continuous fillet, general purpose (G.P.) welds for the full contact area. Special purpose welds are designated (S.P.).
- Unless otherwise specified, paint all external steelwork with one shop coat of Inorganic Zinc Silicate primer after blast cleaning to a class 2.5 finish. Touch up damaged areas with cold galv after painting. Members encased in concrete, fire sprayed or HSTF bolted connections must not be painted.
- Unless otherwise specified paint all internal steelwork with one shop coat of Red Oxide Zinc Phosphate primer, followed by two coats of Red Oxide Zinc Phosphate paint. Touch up areas as required after power cleaning. Alternatively, Epoxies may be used. Touch up with Duxac Zedon or equal and paint for long term protection to manufacturers recommendations.
- Unless otherwise specified paint steelwork below finished surface level and not concrete encased with high build epoxy.
- Unless otherwise specified paint all steelwork one shop coat of Red Oxide Zinc Phosphate primer. Do not paint members encased in concrete, fire sprayed or friction grip bolted connections.
- Protective coatings to all external steelwork to comply with BCA-% Table 3.4.4.2.

TIMBER

- Structural timber shall be minimum stress grade F11 (UKO.) to comply with AS1720

SITE DRAINAGE

- Ground adjacent to building shall be graded away to fall at least 50mm over 1 metre width to satisfy BCA clause 3.12.3 surface water drainage.

CERTIFIED AS
STRUCTURALLY ADEQUATE

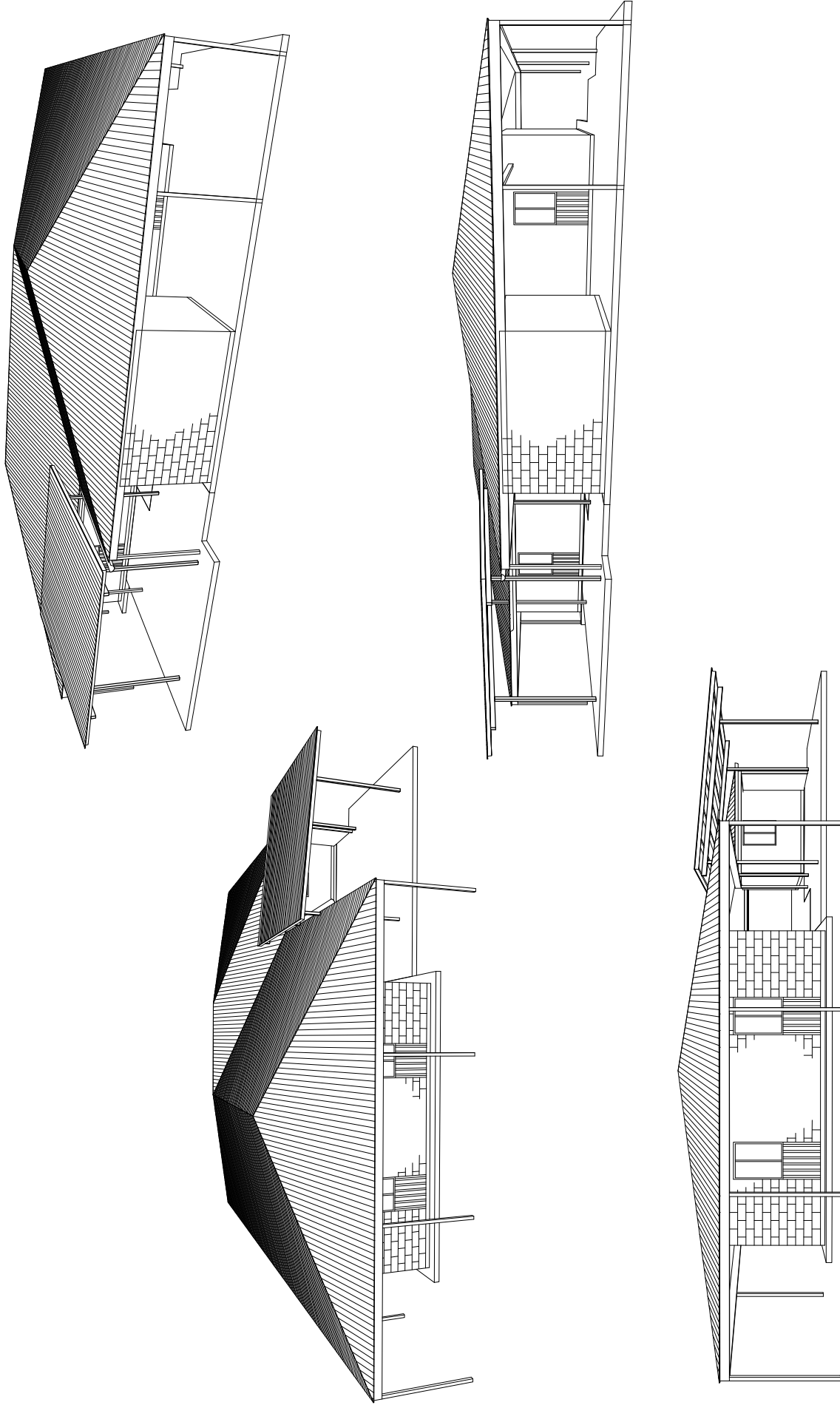


Date: 2/12/21
Signed: K-9712
Job No: NT Reg. 33968ES

Project Title
**PROPOSED UNDERCOVER AREA
RANGER HOUSE R3-A
JABIRI HOUSING
JABIRI, N.T.**

Drawing Title
STRUCTURAL NOTES

Client: Gundjilmi Aboriginal Corporation.
Scale: as shown on A3
Date: 02/12/2021
Job No: J21403-R3A
Dwg. No: D5
of 5

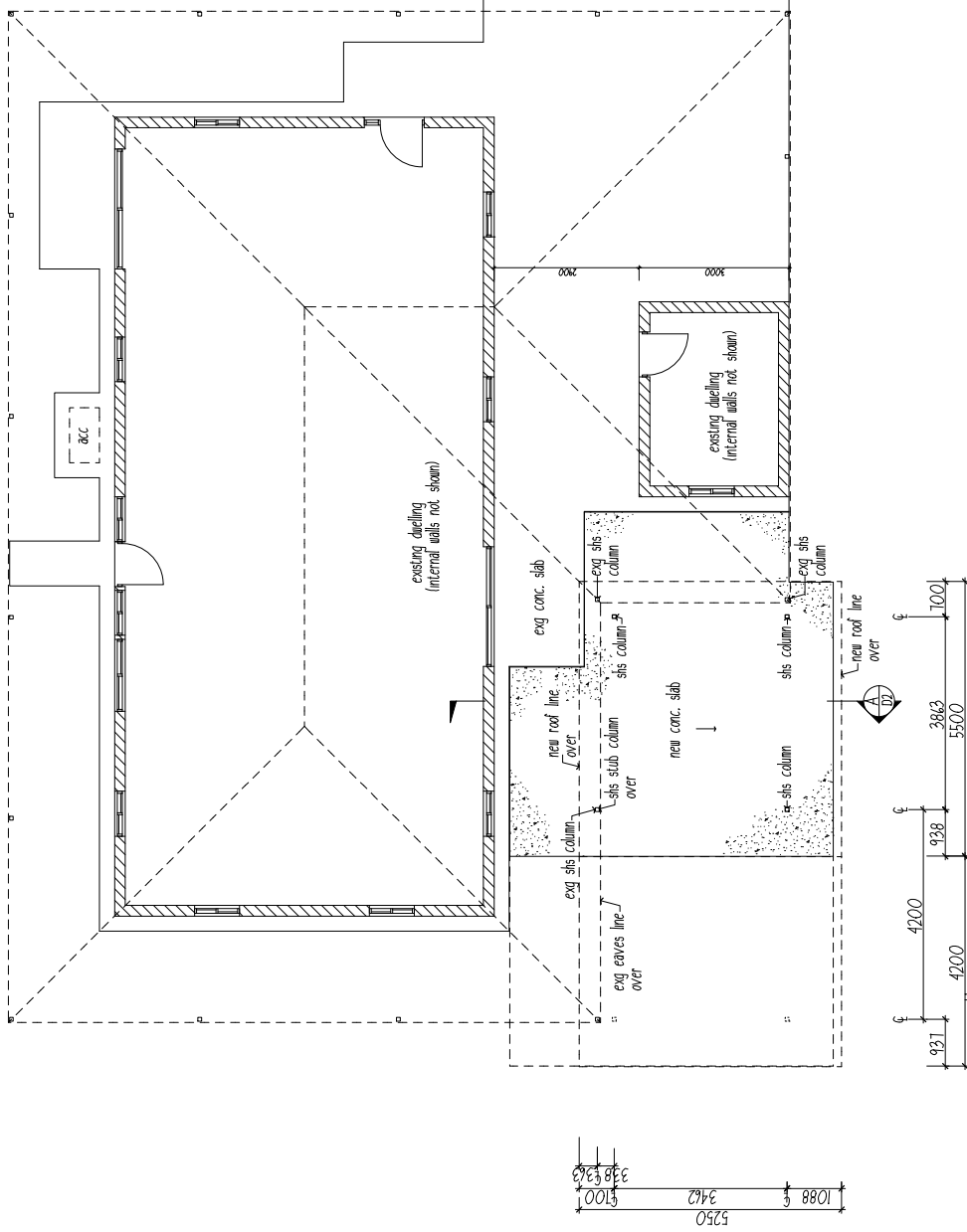


Wilkins
Drafting
Service
Ph: 0457889990

Project Title
**PROPOSED UNDERCOVER AREA
RANGER HOUSE R3-B
JABIRI HOUSING
JABIRI, N.T.**

Drawing Title
PERSPECTIVE VIEWS

Client **Gundjitchim Aboriginal Corporation**
Scale **as shown on A3**
Job No. **J21403-R3B**
Date **02/12/2021**
Dwg. No. **DO** of **5**



GENERAL NOTES

- These drawings contain information required for obtaining building permit, they are not intended sufficiently for a specification for a building contract with a builder. Any additional specification should be written to include planning, electrical & plumbing fittings & secondary fixings.
- All work shall be in accordance with the Building Code of Australia & comply with the relevant current Standards Association of Australia codes and the local statutory authorities regulations, except where varied by the contract documents.
- All dimensions are in millimetres unless stated otherwise. All levels are expressed in metres. Verify all dimensions relevant to setting out and off-site work before construction and fabrication is commenced. Do not scale the drawings unless noted otherwise.
- Read drawings in conjunction with all other consultants' drawings and specifications and with such other written instructions as may be issued during the course of the contract. Refer all discrepancies to the Superintendent for decision before proceeding with the work.
- During construction maintain the structure in a stable condition and ensure no part is overstressed under construction activities.
- Seek approval for all substitutions from the Superintendent before the work commences.
- Keep the site in a clean & tidy condition throughout construction & at the completion of work remove all litter & debris to the satisfaction of the superintendent.

**CERTIFIED AS
STRUCTURALLY ADEQUATE**

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Date: 2/12/21
Job No: K-9712

Signed: 
NT Reg. 33988ES



ELEVATION
refer to drawing No. 10

**Wilkins
Drafting
Service**
Ph: 0457889990

Project Title
PROPOSED UNDERCOVER AREA
RANGER HOUSE R3-B
JABIRU HOUSING
JABIRU, N.T.

Drawing Title
LAYOUT PLAN
GENERAL NOTES

Client
Gundjini Aboriginal Corporation.

Scale
as shown on A3

Date
02/12/2021

Job No.
J21403-R3B

Dwg. No.
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of
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Date: 2/12/21 Signed: 
Job No: K-9712 NT Reg. 33968

Client Gundjehmi Aboriginal Corporation.

Scale	as shown on A3	Date	02/12/2021
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Job No.	Dwg. No.
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J21403-R3B D2 of 5

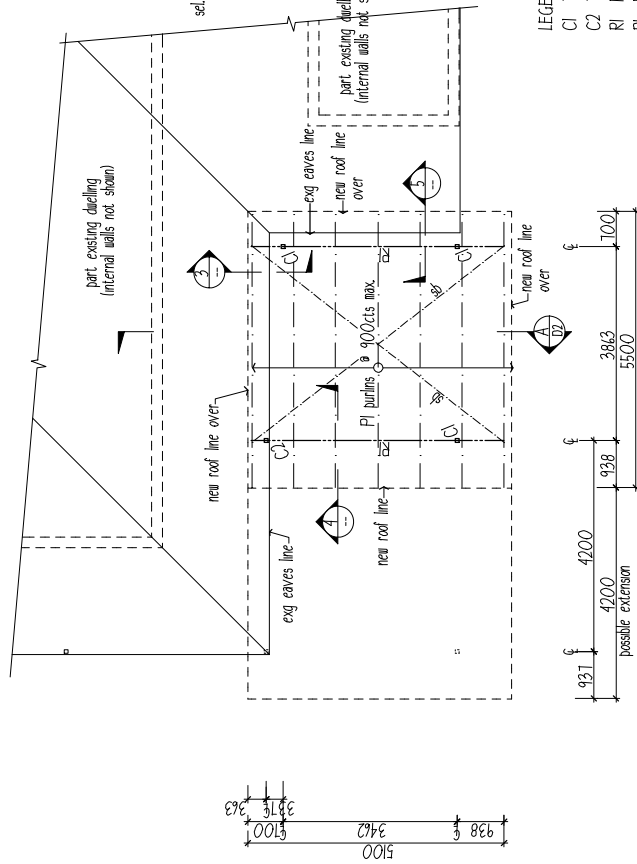
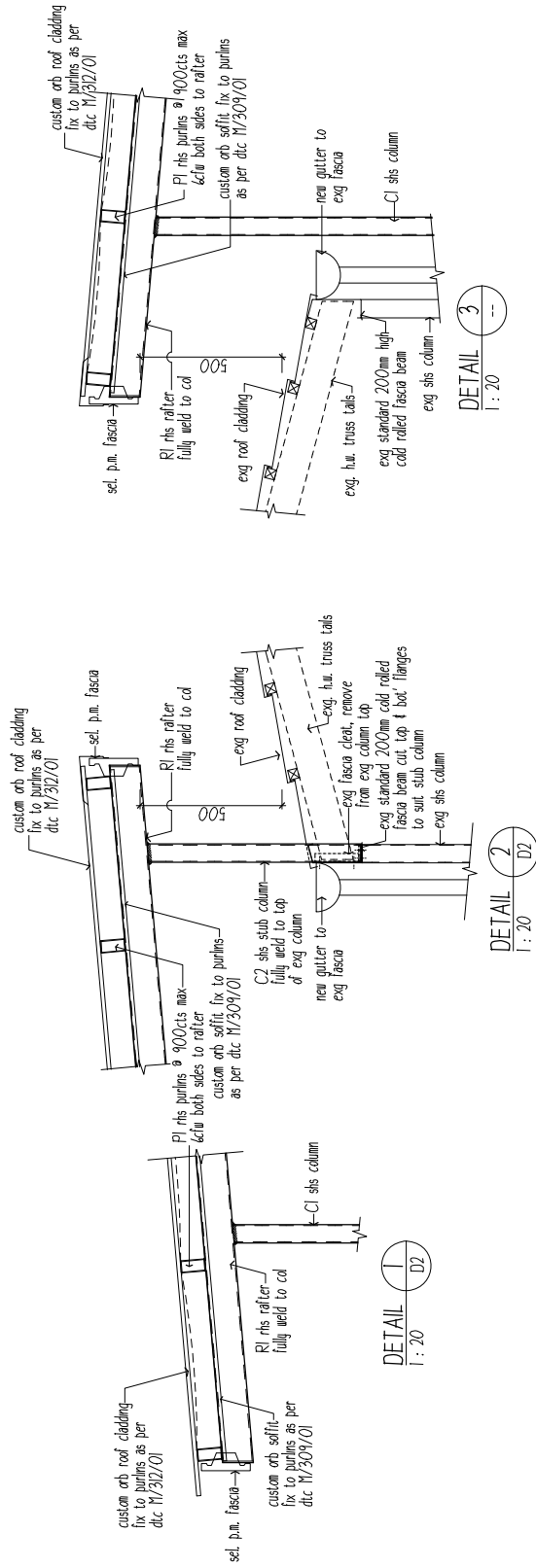
Drawing Title
ELEVATIONS
SECTION A

Wilkins Project Title
Drafting PROPOSED UNDERCOVER AREA
Service RANGER HOUSE R3-B
 Ph. 0457889990 JABRU HOUSING
 JABRU, N.T.

F1	400sq x 900deep conc. footing
F2	400dia or square x 900deep conc. footing
F3	400sq x 900deep conc. footing
F4	300wide x 200deep slab edge thickening
C1	15 x 4 SHS column
C2	15 x 4 SHS sub column
:	provide R12 girds 300 long x 400dia
:	provide C13 eqwp I/ds into ext. slab,
:	grease half, Allflex 1 sealant to joint
	2-12" bars 1200 long under top mesh to re-entrant corners.



 Wilkins Drafting Service Ph: 0457889990	Project Title	Drawing Title	Client: Gundjehmi Aboriginal Corporation. Scale: as shown on A3 Date: 02/12/2021 Job No. Diag. No. D3 of 5
	PROPOSED UNDERCOVER AREA		
	RANGER HOUSE R3-B		
	JABIRU HOUSING		
JABIRU, N.T.		TYPICAL FOOTING DETAILS	



LEGEND :

- CI T5 x 4 SHS column
- C2 T5 x 4 SHS stub column
- RI 125 x 75 x 4 RHS rafter
- PI 100 x 50 x 2 RHS purlin

CERTIFIED AS STRUCTURALLY ADEQUATE

KFB Engineers
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Date: 21/12/21
Job No: K-9712

Signed: [Signature]
NT Reg. 33968ES

Wilkins Drafting Service Ph: 0457889990	Project Title PROPOSED UNDERCOVER AREA RANGER HOUSE R3-B JABIRU HOUSING JABIRU, N.T.	Drawing Title ROOF FRAMING PLAN DETAILS 1 - 5	Client Gundjilmi Aboriginal Corporation.
	Scale as shown on A3	Date 02/12/2021	Scale as shown on A3
	Job No. J21403-R3B	Job No. J21403-R3B	Date 02/12/2021

ROOF FRAMING PLAN
1 : 100

1. All work shall be in accordance with the Building Code of Australia & comply with the relevant current Standards Association of Australia codes and the local statutory authorities' regulations, except where varied by the contract documents.
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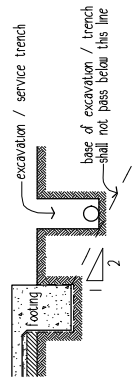
1. Dead & live loads – in accordance with AS1070.1 – 2001
2. The Design Wind Criteria is as follows :

Region C	V ₅₀₀	Vr = 69m/s
Design Wind Speed	2.5	
Terrain Category	+0.1	-0.45
Internal Pressure Coefficient		
External Pressure Coefficient		in accordance with AS1070
3. Foundation design bearing capacity = 100kPa (allowable).

Ultimate and Serviceability Limit State Design

Wind Classification	Design gust wind speed (m/s)	Design pressures for windows (kPa)
	V _{W0}	V _{W3}
		Up to 12m from corners
		Up to 12m from corners
C1	50	SLS SLS SLS SLS
C2	41	-1.60 -0.55 -2.10 -0.83
C3	34	-2.48 -0.88 -4.02 -1.23
		+1.9 -5.9 +1.9 -5.9

1. Earthworks construction shall comply with AS3798 & AS2870.
2. Excavation & service trenches shall comply with the following guidelines unless otherwise approved by the engineer



1. Termite Management System to be installed & certified by an approved applicator in accordance with AS 3660.1.
2. Provide Min. 300 wide x 50mm concrete mousing strip over perimeter reticulation system as to AS3660.1
3. A durable certificate is to be fixed in the meter box on completion.

1. Find all footings in original undisturbed ground having a safe bearing capacity of 150 HPa as noted on drawings. Before any concrete is placed, ensure the safe bearing capacity is verified.
 2. Backfill sewers, stormwater drains and other in-ground services adjacent to buildings, if bad conditions are encountered, with approved fill placed in 2.00m thick layers and compacted to 95% MDD.
 3. If bad after footings are constructed, avoid undermining of footings by either fully shoring trenches, or keeping excavation outside an influence the extended demands at a slope of 1 in 2 from the bottom corner of all footings. Backfill trenches as noted above.
- Use selected fill (gravel, decomposed or broken rock) free from clay clumps and organic matter, conforming with the following grading requirements:

AS METRIC SIEVE	% PASSING BY WEIGHT	AS METRIC SIEVE	% PASSING BY WEIGHT
15.0 mm	100	2.36 mm	20 - 50
9.5 mm	30 - 100	0.075 mm	5 - 25

4. Compact fill in the 150 mm layer immediately below slab level to 95% MDD. Compact sand bedding layer below concrete slab by vibration plate or flooding to 95% MDD.

1. The contractor shall determine the exact location of existing services prior to any installation or commencement of work.

1. All slabs **t** footings shall be constructed to comply with the requirements of AS2810 - 2011
2. Concrete slump shall be 80 ± 15 mm. No admixtures to be used without approval from the engineer.
3. Concrete cover to be maintained by the use of approved chairs at nominal 800c/c's. Conduits **t** pipes shall not be placed within concrete cover.

4. Mesh reinforcement laps shall be at least one full wire spacing plus 25mm. Reinforcement shall be in accordance with AS4711.
5. Continuously cure slabs for a minimum of 7 days after casting by ponding, covering with a watertight membrane or other approved means.

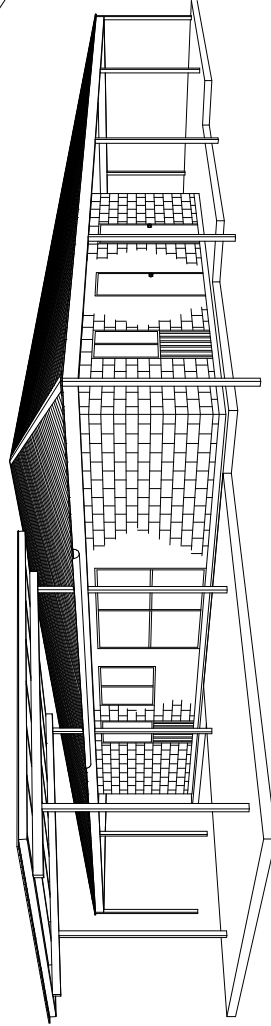
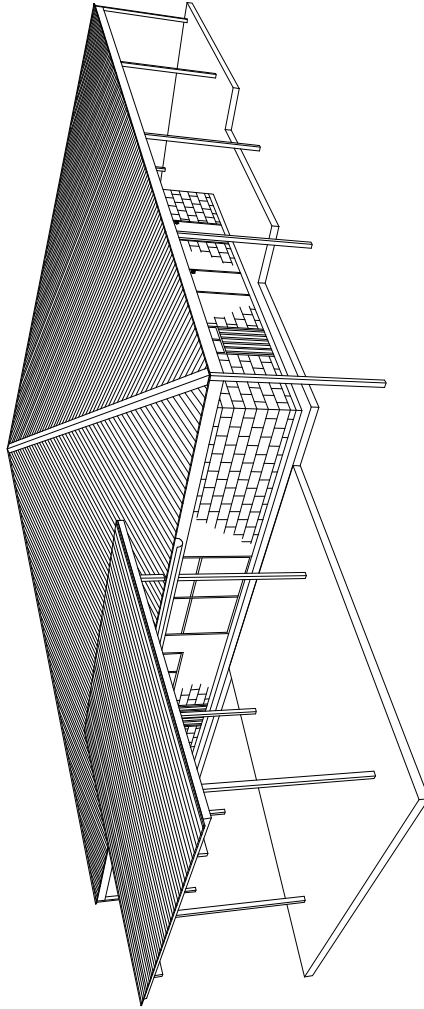
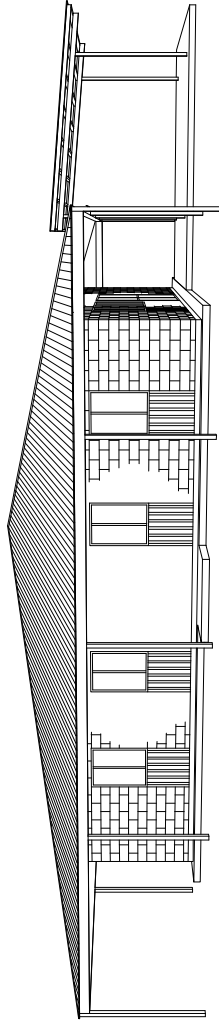
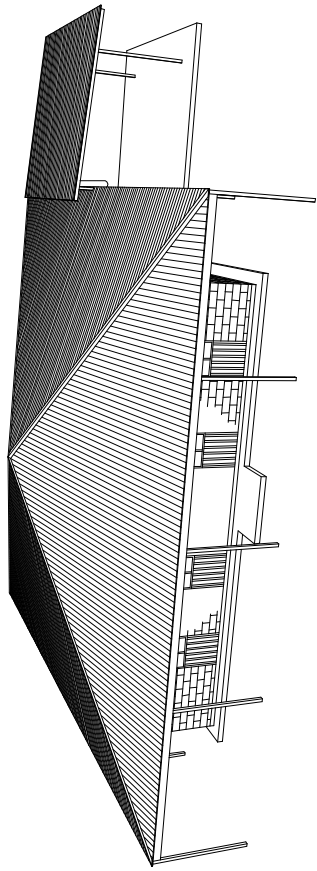
1. All structural steelwork shall comply with AS 4000 – SAA Steel Struct. Code & associated Australian Standards.
2. Ensure welding is performed by an experienced operator in accordance with AS 1554.
3. Use hot dipped galvanised commercial bolts (Grade 4.6/5) to AS1319 and AS 112, tightened to a snug tight. Use stainless stainless steel, where bolts are designated grade 8.8/5, use high strength bolts (Grade A2-70) to AS 1554. Use high strength steel bolts (grade 8.8/5) where bolts are designated 8.8/1F or grade 5.8/1F, use high strength steel bolts (grade 8.8/5) to AS 1554. Use, tensioped in accordance with AS 1554.

1. Structural timber shall be minimum stress grade FIT (U.N.O.) to comply with ASI20

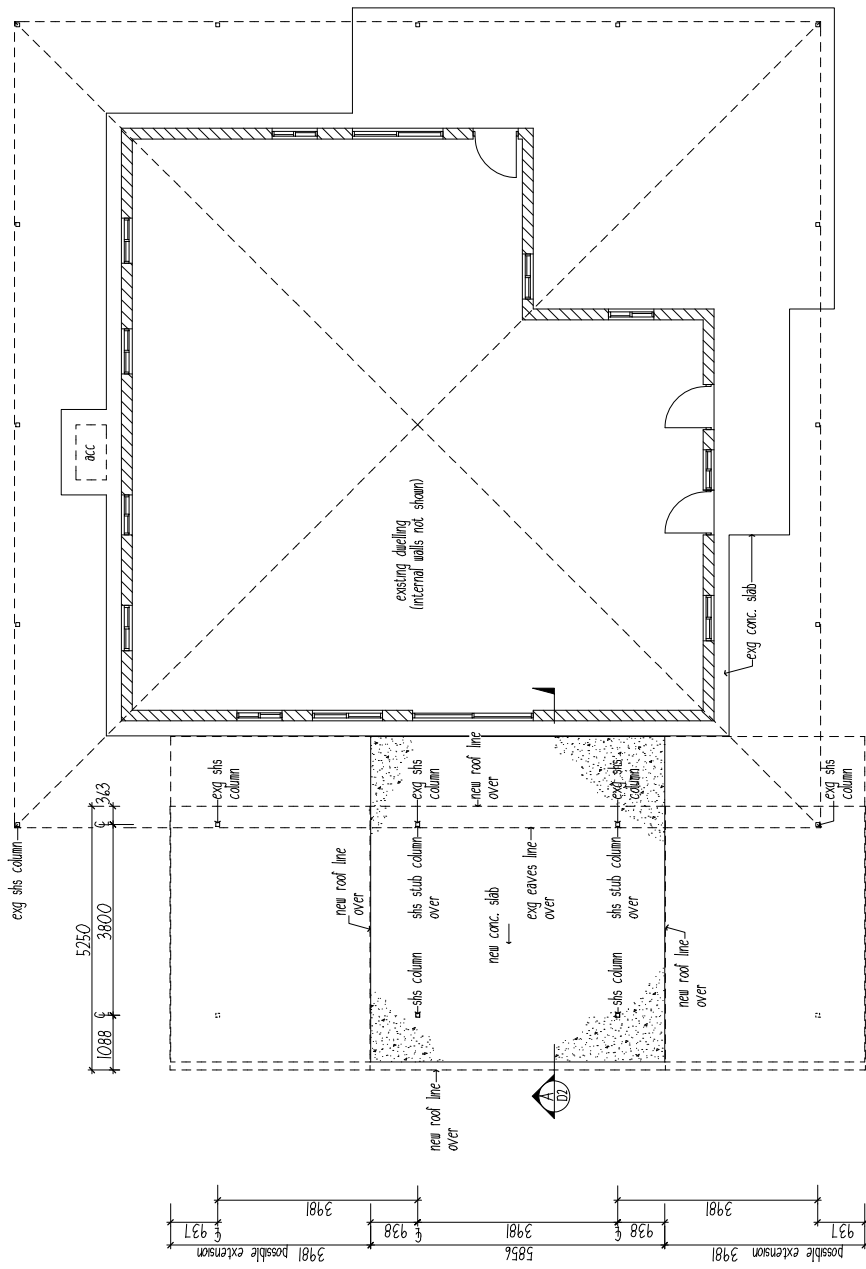
1. Ground adjacent to building shall be graded away to fall at least 50mm over 1 metre width to satisfy BCA clause 3.12.3 surface water drainage.

CERTIFIED AS STRUCTURALLY ADEQUATE	
 KFB Engineers Civil & Structural 136-42 Pease St. Calmars PO Box 927, Calmars Q 4870 I: 707 4032042 F: 707 4032062 E: email@kfbeng.com.au	Signed:  Date: <u>2/12/21</u>
Job No:	NT Reg: <u>33968ES</u>

Wilkins Drafting Service Ph: 0451889990	Project Title PROPOSED UNDERCOVER AREA RANGER HOUSE R3-B JABIRU HOUSING JABIRU, N.T.	Drawing Title STRUCTURAL NOTES	Client	Gundjini Aboriginal Corporation.
			Scale	as shown on A3
			Date	02/12/2021
			Job No.	J21403-R3B
			Dwg. No.	D5 of 5



Wilkins Drafting Service Ph. 0457889990		Project Title PROPOSED UNDERCOVER AREA RANGER HOUSE R3-C JABIRI HOUSING JABIRI, N.T.	Drawing Title PERSPECTIVE VIEWS	Client Gundjirimi Aboriginal Corporation.
				Scale as shown on A3
				Date 02/12/2021
				Job No. J21403-R3C
				Dwg. No. DO
				of 5



LAYOUT PLAN
1:100

GENERAL NOTES

- These drawings contain information required for obtaining building permit. They are not detailed sufficiently for a specification for a building contract with a builder. An additional specification should be written to include painting, electrical & plumbing fittings & secondary fixings.
- All work shall be in accordance with the Building Code of Australia & comply with the relevant current Standards Association of Australia codes and the local statutory authorities' regulations, except where varied by the contract documents.
- All dimensions are in millimetres unless stated otherwise. All levels are expressed in metres. Verify all dimensions relevant to setting out and off-site work before construction and fabrication is commenced. Do not scale the drawings unless noted otherwise.
- Read drawings in conjunction with all other consultants' drawings and specifications and with such other written instructions as may be issued during the course of the contract. Refer all discrepancies to the Superintendent for decision before proceeding with the work.
- During construction maintain the structure in a stable condition and ensure no part is overstressed under construction activities.
- Seek approval for all substitutions from the Superintendent before the work commences.
- Keep the site in a clean & tidy condition throughout construction & at the completion of work remove all litter & debris to the satisfaction of the superintendent.

**CERTIFIED AS
STRUCTURALLY ADEQUATE**

**KFB Engineers**
Civil & Structural
103-42 Peace St, Cairns | PO Box 927, Cairns Q 4870
P: 07 40320492 | F: 07 40320692 | E: email@kfbeng.com.au

Date: 2/12/21
Job No: K-9712

Signed: 
NT Reg. 33968ES

Wilkins Drafting Service Ph: 0457889990	Project Title PROPOSED UNDERCOVER AREA RANGER HOUSE R3-C JABIRU HOUSING JABIRU, N.T.	Drawing Title LAYOUT PLAN GENERAL NOTES		
		Client Gundjehimi Aboriginal Corporation.		
		Scale as shown on A3	Date 02/12/2021	
		Job No. J21403-R3C	Dwg. No. DI of 5	



LEGEND :

F2	400da. x 900deep conc. footing
F4	300wide x 200deep slab edge thickening
C1	15 x 4 SHS column
C2	15 x 4 SHS stub column
R1	125 x 15 x 4 RHS rafter
P1	100 x 50 x 2 RHS purlin

**CERTIFIED AS
STRUCTURALLY ADEQUATE**

KFB Engineers Civil & Structural
1/38-42 Pease St, Cairns | PO Box 927, Cairns Q 4870
P: 07 40320492 | F: 07 40320092 | E: email@kfbeng.com.au

Date: 2/12/21 Signed: 
Job No: K-9712 NT Reg. 33968ES

Client Gundjehmi Aboriginal Corporation.

Scale	as shown on A3	Date	02/12/2021
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Job No.	Dwg. No.
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J21403-R3C D2 of 5

Project Title	Drawing Title
PROPOSED UNDERCOVER AREA RANGER HOUSE R3-C	ELEVATIONS SECTION A

Wilkins Drafting	Project Title PROPOSED UNDERCOVER AREA RANGER HOUSE R3-C
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**Wilkins
Drafting
Service**
Ph. 0457889990

NOTES
GENERAL

- All work shall be in accordance with the Building Code of Australia & comply with the relevant current Standards Association of Australia codes and the local statutory authorities' regulations, except where varied by the contract documents.
- Verify all dimensions relevant to setting out and off-site work before construction and fabrication is commenced. Do not scale the drawings unless noted otherwise.
- All dimensions are in millimetres unless stated otherwise. All levels are expressed in metres.
- Read drawings in conjunction with all other consultants' drawings and specifications and with such other written instructions as may be issued during the course of the contract. Refer all discrepancies to the Superintendent for decision before proceeding with the work.
- During construction maintain the structure in a stable condition and ensure no part is overstressed under construction activities.
- Seek approval for all substitutions from the Superintendent before the work commences.
- Keep the site in a clean & tidy condition throughout construction & at the completion of work remove all litter & debris to the satisfaction of the superintendent.

DESIGN CRITERIA

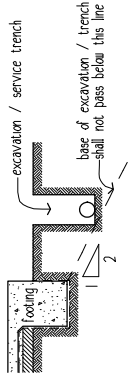
- Dead & live loads - in accordance with AS1170.1 - 2011
- The Design Wind Criteria is as follows :
Region V5000
Design Wind Speed 25
Terrain Category 2
Internal Pressure Coefficient ± 0.1 / -0.45
External Pressure Coefficient in accordance with AS1170 - 2011
Foundation design bearing capacity = 100kPa (allowable).
- Wind Classification C2 (AS4035)

Ultimate and Serviceability Limit State Design
Wind Pressures

Wind Classification	Design gust wind speed (m/s)		Design pressures for windons (kPa)			
	V _{10m}	V _h s	Greater than 1.2m from corners	Up to 1.2m from corners	ULS	SLS
C1	50	32	± 1.80	± 0.55	-2.10	-0.83
C2	44	39	± 2.48	± 0.88	-4.02	-1.23
C3	34	41	± 3.94	± 1.9	-5.91	-1.19

EARTHWORKS

- Earthworks construction shall comply with AS3798 & AS2810.
- Excavation & service trenches shall comply with the following guidelines unless otherwise approved by the engineer



TERMITES MANAGEMENT SYSTEM

- Termite Management System to be installed & certified & by an approved applicator in accordance with AS 3601.
- Provide Min. 300 wide x 50mm concrete mowing strip over perimeter reticulation system as to AS3601
- A durable certificate is to be fixed in the meter box on completion.

FOOTINGS

- Found all footings in original undisturbed ground having a safe bearing capacity of 150 kPa as noted on drawings. Before any concrete is placed, ensure the safe bearing capacity is verified.
- Backfill seepers, stormwater drains and other in-ground services adjacent to buildings, if laid before footings are constructed, with approved fill placed in 200mm Max. layers and compacted to 95% MDD.
- If laid after footings are constructed, avoid undermining of footings by either fully shoring trenches, or keeping excavation outside an influence line extended downwards at a slope of 1 in 2 from the bottom corner of all footings. Backfill trenches as noted above.
- Use selected fill (gravel, decomposed or broken rock) free from clay clumps and organic matter, conforming with the following grading requirements :

AS METRIC SIEVE	% PASSING BY WEIGHT	AS METRIC SIEVE	% PASSING BY WEIGHT
15.0 mm	100	2.36 mm	20 - 50
9.5 mm	90 - 100	0.075 mm	5 - 25

Strip the area of the works of all top soil and deleterious material prior to placement of fill or compaction. Compact fill up to 150 mm below slab level in 150 mm layers to 95% MDD.

- Compact fill in the 150 mm layer immediately below slab level to 95% MDD. Compact sand binding layer below concrete slab by vibration plate or tamping to 95% MDD.
- Backfill over excavation with lean mix concrete.
- Builder to confirm site classification 'S' to AS2810

DRAINAGE

- The contractor shall determine the exact location of existing services prior to any installation or commencement of work.

CONCRETE

- All slabs & footings shall be constructed to comply with the requirements of AS2810 - 2011
- Concrete slump shall be 80 ± 15mm. No admixtures to be used without approval from the engineer.
- Concrete cover to be maintained by the use of approved chairs at nominal 800c/c. Conduits & pipes shall not be placed within concrete cover.
- Mesh reinforcement laps shall be at least one full wire spacing plus 25mm. Reinforcement shall be in accordance with AS4711.
- Continuously cure slabs for a minimum of 7 days after casting by ponding, covering with a waterproof membrane or other approved means.

STEEL

- All structural steelwork shall comply with AS 400 - SAA Steel Struct. Code & associated Australian Standards.
- Ensure welding is performed by an experienced operator in accordance with AS 1554.
- Use hot dipped galvanised commercial bolts (Grade 4.6/S) to AS111 and AS 1112, tightened to a snug tight fit, unless otherwise shown. Where bolts are designated grade 8.8/S, use high strength bolts to AS 1252, tightened to a snug tight fit.
- Where bolts are designated 8.8/TF or grade 8.8/TFB use high strength steel bolts (grade 8.8/S) to AS 1252, fully tensioned in accordance with AS 1511.
- During construction provide and leave in place, until permanent bracing elements are constructed, such temporary bracing as is necessary to maintain the structure during erection, unless otherwise shown.
- Spall the ends of all tubular members with nominal thickness plates and continuous fillet welds unless otherwise shown.
- Except where otherwise shown fully weld connections with 6mm continuous fillet, general purpose (G.P.) welds for the full contact area. Special purpose welds are designated (S.P.).
- Unless otherwise specified, paint all external steelwork with one shop coat of Inorganic Zinc Silicate primer after blast cleaning to a class 2.5 finish. Touch up damaged areas with cold galv after painting. Members encased in concrete, fire sprayed or HSTF bolted connections must not be painted.
- Unless otherwise specified paint all internal steelwork with one shop coat of Red Oxide Zinc Phosphate primer, followed by two coats of Red Oxide Zinc Phosphate primer. Touch up areas as required after power cleaning. Alternatively, Epoxies may be used. Durable and touch up with Duxet Zedon or equal and paint for long term protection to manufacturers recommendations.
- Unless otherwise specified paint steelwork below finished surface level and not concrete encased with high build epoxy.
- Unless otherwise specified paint all steelwork one shop coat of Red Oxide Zinc Phosphate primer. Do not paint members encased in concrete, fire sprayed or friction grip bolted connections.
- Protective coatings to all external steelwork to comply with BCA-% Table 3.4.4.2.

TIMBER

- Structural timber shall be minimum stress grade F17 (UKO.) to comply with AS1720

SITE DRAINAGE

- Ground adjacent to building shall be graded away to fall at least 50mm over 1 metre width to satisfy BCA clause 3.12.3 surface water drainage.

**CERTIFIED AS
STRUCTURALLY ADEQUATE**

KFB Engineers
Civil & Structural
118-45 Pines St, Cairns, QLD 4870
P: 07 40329492 | F: 07 40329992 | E: info@kfbeng.com.au

Date: 2/12/21 Signed: 
Job No: K-9712 NT Reg. 33968ES

**Wilkins
Drafting
Service**
Ph: 0451889990

Project Title
**PROPOSED UNDERCOVER AREA
RANGER HOUSE R3-C
JABIRI HOUSING
JABIRI, N.T.**

Drawing Title
STRUCTURAL NOTES

Client
Gundjini Aboriginal Corporation.

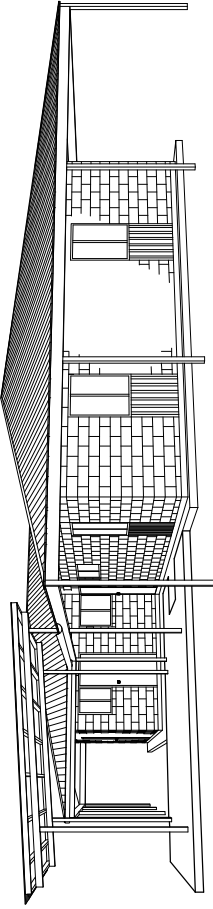
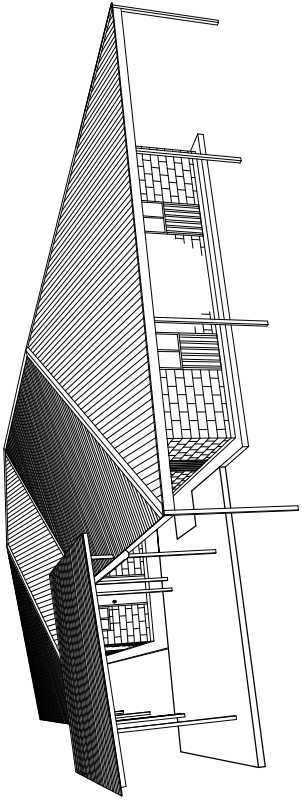
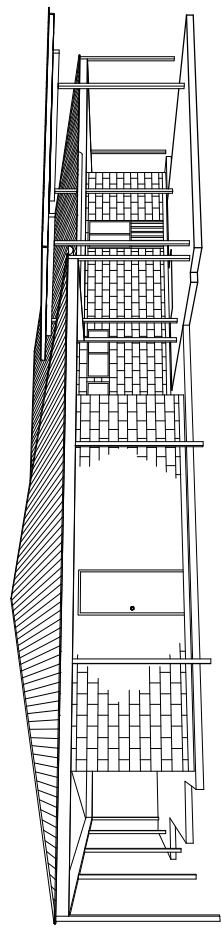
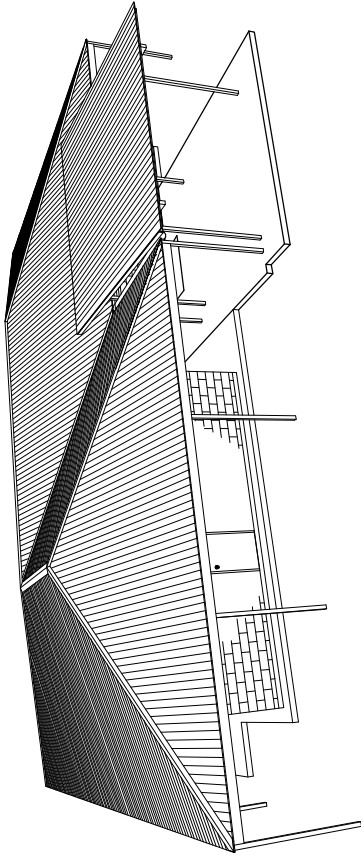
Scale
as shown on A3

Date
02/12/2021

Job No.
J21403-R4A

Dwg. No.
D5

of 5



Project Title Wilkins Drafting Service Ph: 0457889990		Drawing Title PERSPECTIVE VIEWS		Client Gundjehim Aboriginal Corporation.	
PROPOSED UNDERCOVER AREA RANGER HOUSE R3-D JABIRI HOUSING JABIRI, N.T.		Scale as shown on A3		Date 02/12/2021	
Ph: 0457889990		Job No. J21403-R3D		Dwg. No. DO	
				of 5	



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STRUCTURALLY ADEQUATE**

KFB Engineers Civil & Structural
 1/38-42 Peace St, Cairns | PO Box 327, Cairns Q 4870
 P: 07 40326892 | F: 07 40326892 | E: email@kfbeng.com.au

Date: 2/12/21

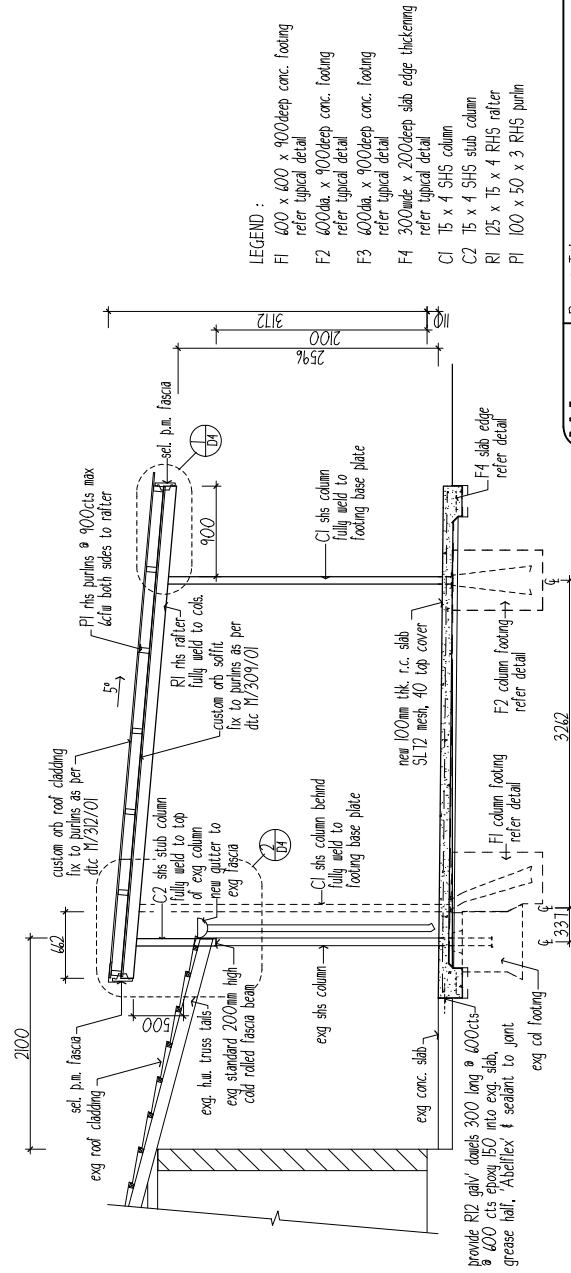
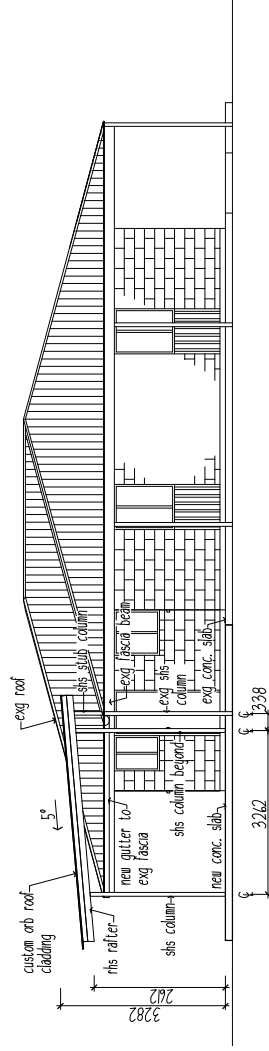
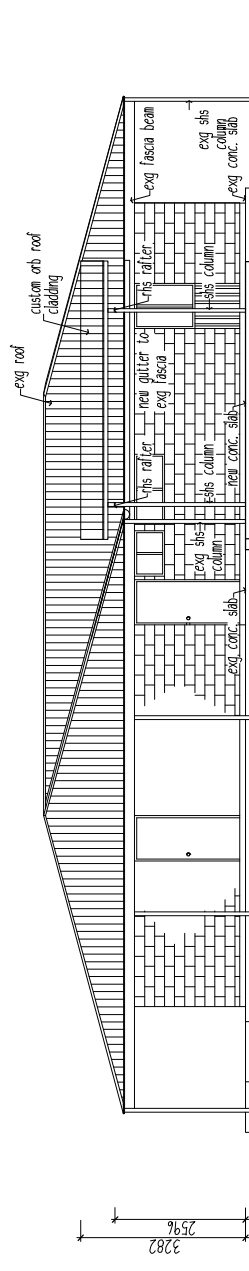
Job No: K-9712

Signed: 

NT Reg: 33986ES

- These drawings contain information required for obtaining building permit, they are not detailed sufficient for a specification for a building contract with a builder. An additional specification should be written to include painting, electrical & plumbing fittings & secondary fixings.
- All work shall be in accordance with the Building Code of Australia & comply with the relevant current Standards Association of Australia codes and the local statutory authorities' regulations, except where varied by the contract documents.
- All dimensions are in millimetres unless stated otherwise. All levels are expressed in metres. Verify all dimensions referred to setting out, and off-site work before construction and fabrication is commenced. Do not scale the drawings unless noted otherwise.
- Read drawings in conjunction with all other consultants' drawings and specifications and with such other written instructions as may be issued during the course of the contract. Refer all discrepancies to the Superintendent for decision before proceeding with the work.
- During construction maintain the structure in a stable condition and ensure no part is overstressed under construction activities.
- Seek approval for all substitutions from the Superintendent before the work commences.
- Keep the site in a clean & tidy condition throughout construction & at the completion of work remove all litter & debris to the satisfaction of the superintendent.

 Wilkins Drafting Service PH: 0451889990	Project Title PROPOSED UNDERCOVER AREA RANGER HOUSE R3-D JABIRU HOUSING JABIRU, N.T.	Drawing Title LAYOUT PLAN GENERAL NOTES	Client Gundjehmi Aboriginal Corporation. Scale as shown on A3 Date 02/12/2021 Job No. J21403-R3D Diag. No. DI of 5



**CERTIFIED AS
STRUCTURALLY ADEQUATE**

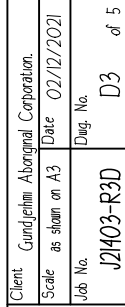
KFB Engineers Civil & Structural
 1/38-42 Pease St, Cairns | PO Box 927, Cairns Q 4870
 P: 07 40320492 | F: 07 40320092 | E: email@kfbeng.com.au

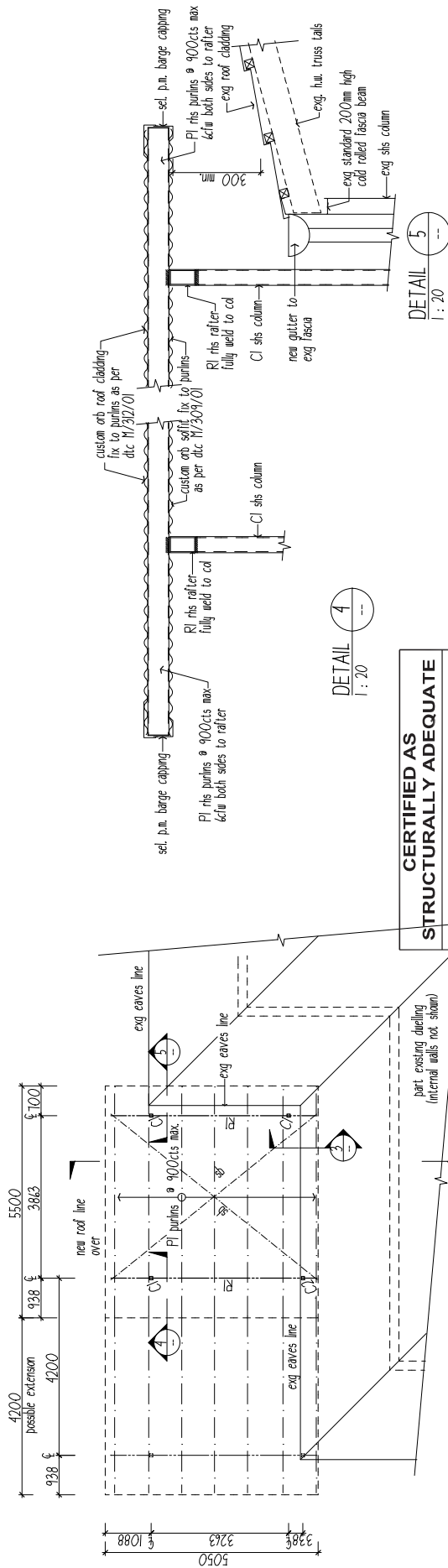
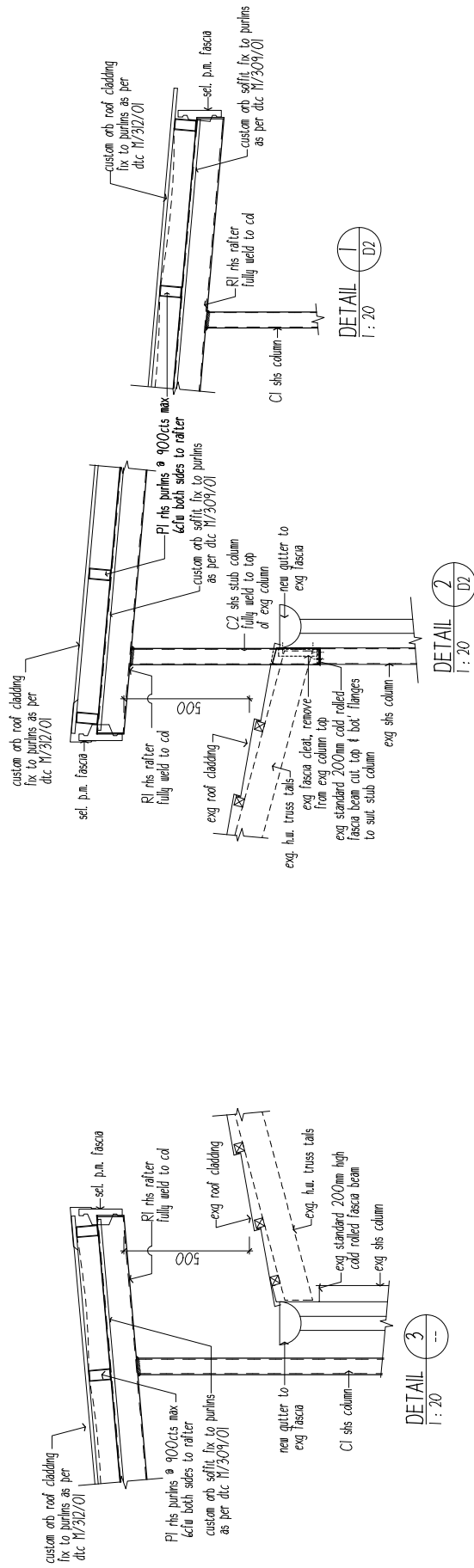
Date: 2/12/21
Job No: K-9712
Signed: 
NT Reg. 33968ES

Client	Gundelheim Abnormal Corporation.	
Scale	as shown on A3	Date 02/12/2021
Job No.	J21403-R3D	Diag. No. D2 of 5

Wilkins Drafting Service Ph: 0457889990	Project Title PROPOSED UNDERCOVER AREA RANGER HOUSE R3-D JABIRU HOUSING JABIRU, N.T.	Drawing Title ELEVATIONS SECTION A
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SECTION A
1 : 50





CERTIFIED AS STRUCTURALLY ADEQUATE

KFB Engineers
Civil & Structural
108-43 Passa St Collins, J. PO Box 927, Collins Q 4870
P: 07 40320462 | F: 07 40320092 | E: email@kfbeng.com.au

Date: 2/12/21
Job No: K-9712

Signed: [Signature]
NT Reg: 33968ES

ROOF FRAMING PLAN
1 : 100

LEGEND :

- C1 15 x 4 SHS column
- C2 15 x 4 SHS stub column
- RI 125 x 15 x 4 RHS rafter
- PI 100 x 50 x 3 RHS purlin

Wilkins Drafting Service Ph: 0457889990	Project Title PROPOSED UNDERCOVER AREA RANGER HOUSE R3-D JABIRU HOUSING JABIRU, N.T.		Drawing Title ROOF FRAMING PLAN DETAILS 1 - 5		Client	Gundjini Aboriginal Corporation.
	Date:	2/12/21	Scale:	as shown on A3	Date:	02/12/2021
	Job No:	K-9712	Job No:	J21403-R3D	Dwg. No:	D4 of 5

NOTES
GENERAL

- All work shall be in accordance with the Building Code of Australia & comply with the relevant current Standards Association of Australia codes and the local statutory authorities' regulations, except where varied by the contract documents.
- Verify all dimensions relevant to setting out and off-site work before construction and fabrication is commenced. Do not scale the drawings unless noted otherwise.
- All dimensions are in millimetres unless stated otherwise. All levels are expressed in metres.
- Read drawings in conjunction with all other consultants' drawings and specifications and with such other written instructions as may be issued during the course of the contract. Refer all discrepancies to the Superintendent for decision before proceeding with the work.
- During construction maintain the structure in a stable condition and ensure no part is overstressed under construction activities.
- Seek approval for all substitutions from the Superintendent before the work commences.
- Keep the site in a clean & tidy condition throughout construction & at the completion of work remove all litter & debris to the satisfaction of the superintendent.

DESIGN CRITERIA

- Dead & live loads - in accordance with AS1170.1 - 2011
- The Design Wind Criteria is as follows :
Region V5000
Design Wind Speed 25
Terrain Category 2
Internal Pressure Coefficient +0.1 / -0.45
External Pressure Coefficient in accordance with AS1170 - 2011
Foundation design bearing capacity = 100kPa (allowable).
- Wind Classification C2 (AS4035)

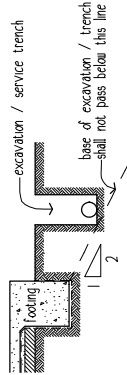
Ultimate and Serviceability Limit State Design

Wind Pressures

Wind Classification	Design gust wind speed (m/s)		Design pressures for windoms (kPa)			
	V _W	V _S	Greater than 1.2m from corners	Up to 1.2m from corners	ULS	SLS
C1	50	32	±1.80	±0.55	-2.10	-0.83
C2	44	39	±2.48	±0.88	-4.02	-1.23
C3	34	41	±3.94	±1.9	-5.91	-1.19

EARTHWORKS

- Earthworks construction shall comply with AS3798 & AS2810.
- Excavation & service trenches shall comply with the following guidelines unless otherwise approved by the engineer



TERMITE MANAGEMENT SYSTEM

- Termite Management System to be installed & certified & by an approved applicator in accordance with AS 3601.
- Provide Min. 300 wide x 50mm concrete mowing strip over perimeter reticulation system as to AS3601
- A durable certificate is to be fixed in the meter box on completion.

FOOTINGS

- Found all footings in original undisturbed ground having a safe bearing capacity of 150 kPa as noted on drawings. Before any concrete is placed, ensure the safe bearing capacity is verified.
- Backfill seepers, stormwater drains and other in-ground services adjacent to buildings, if laid before footings are constructed, with approved fill placed in 200mm Max. layers and compacted to 95% MDD.
- If laid after footings are constructed, avoid undermining of footings by either fully shoring trenches, or keeping excavation outside an influence line extended downwards at a slope of 1 in 2 from the bottom corner of all footings. Backfill trenches as noted above.
- Use selected fill (gravel, decomposed or broken rock) free from clay clumps and organic matter, conforming with the following grading requirements :

AS METRIC SIEVE	% PASSING BY WEIGHT	AS METRIC SIEVE	% PASSING BY WEIGHT
15.0 mm	100	2.36 mm	20 - 50
9.5 mm	90 - 100	0.075 mm	5 - 25

Strip the area of the works of all top soil and deleterious material prior to placement of fill or compaction. Compact fill up to 150 mm below slab level in 150 mm layers to 95% MDD.

- Compact fill in the 150 mm layer immediately below slab level to 95% MDD. Compact sand binding layer below concrete slab by vibration plate or tamping to 95% MDD.
- Backfill over excavation with lean mix concrete.
- Builder to confirm site classification 'S' to AS2810

DRAINAGE

- The contractor shall determine the exact location of existing services prior to any installation or commencement of work.

CONCRETE

- All slabs & footings shall be constructed to comply with the requirements of AS2810 - 2011
- Concrete slump shall be 80 ± 15mm. No admixtures to be used without approval from the engineer.
- Concrete cover to be maintained by the use of approved chairs at nominal 800c/c. Conduits & pipes shall not be placed within concrete cover.
- Mesh reinforcement laps shall be at least one full wire spacing plus 25mm. Reinforcement shall be in accordance with AS4711.
- Continuously cure slabs for a minimum of 7 days after casting by ponding, covering with a waterproof membrane or other approved means.

CERTIFIED AS
STRUCTURALLY ADEQUATE



Date: 2/12/21
Job No: K-9712
Signed: [Signature]
NT Reg. 3398ES

Wilkins
Drafting
Service
Ph: 0457889990

Project Title
PROPOSED UNDERCOVER AREA
RANGER HOUSE R3-D
JABIRI HOUSING
JABIRI, N.T.

Drawing Title
STRUCTURAL NOTES

Client
Gundjini Aboriginal Corporation.

Scale
as shown on A3

Date
02/12/2021

Job No.

J21403-R3D

Dwg. No.

D5

of 5

STEEL

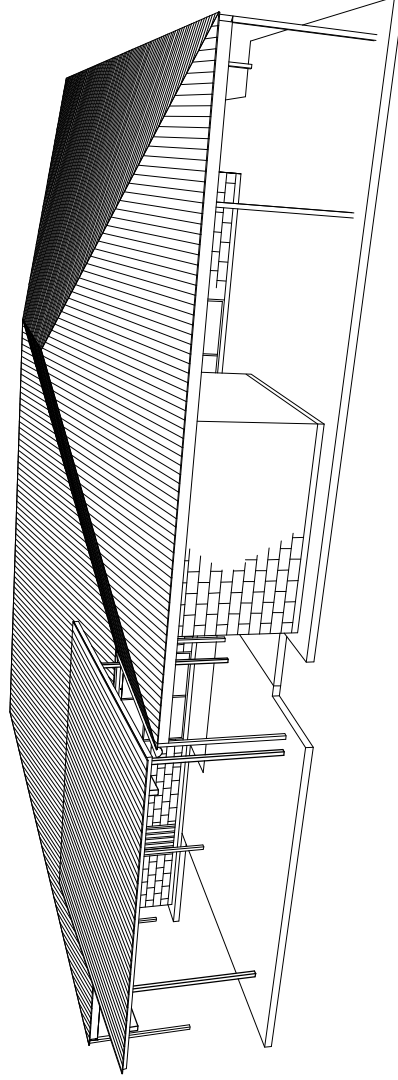
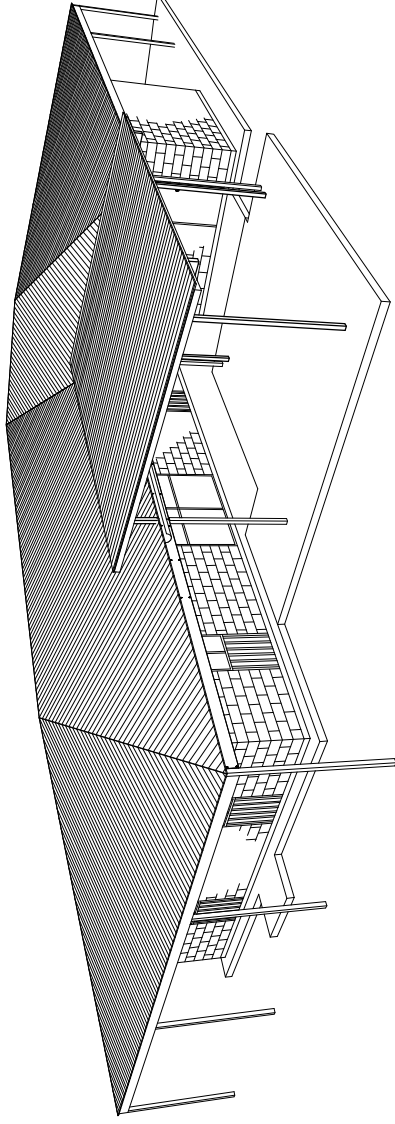
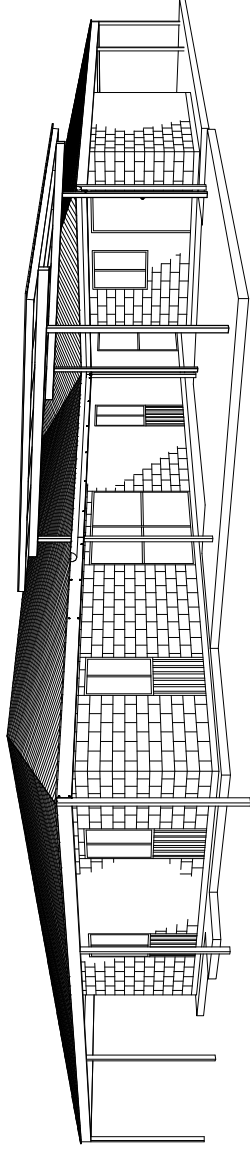
- All structural steelwork shall comply with AS 400 - SAA Steel Struct. Code & associated Australian Standards.
- Ensure welding is performed by an experienced operator in accordance with AS 1554.
- Use hot dipped galvanised commercial bolts (Grade 4.6/S) to ASIII and AS III.2, tightened to a snug tight fit, unless otherwise shown. Where bolts are designated grade 8.8/S, use high strength bolts to AS 1252, tightened to a snug tight fit.
- Where bolts are designated 8.8/TF or grade 8.8/TFB use high strength steel bolts (grade 8.8/S) to AS 1252, fully tensioned in accordance with AS 1511.
- During construction provide and leave in place, until permanent bracing elements are constructed, such temporary bracing as is necessary to stabilise the structure during erection.
- Spall the ends of all tubular members with normal thickness plates and continuous fillet welds unless otherwise shown.
- Except where otherwise shown fully weld connections with 6mm continuous fillet, general purpose (G.P.) welds for the full contact area. Special purpose welds are designated (S.P.).
- Unless otherwise specified, paint all external steelwork with one shop coat of Inorganic Zinc Silicate primer after blast cleaning to a class 2.5 finish. Touch up damaged areas with cold galv after painting. Members encased in concrete, fire sprayed or HSTF bolted connections must not be painted.
- Unless otherwise specified paint all internal steelwork with one shop coat of Red Oxide Zinc Phosphate primer, followed by two coats of Red Oxide Zinc Phosphate paint, as specified. Touch up areas as required after power cleaning. Alternatively, Epoxies (Duxco) and touch up with Duxco Zedon or equal and paint for long term protection to manufacturers recommendations.
- Unless otherwise specified paint steelwork below finished surface level and not concrete encased with high build epoxy.
- Unless otherwise specified paint all steelwork one shop coat of Red Oxide Zinc Phosphate primer. Do not paint members encased in concrete, fire sprayed or friction grip bolted connections.
- Protective coatings to all external steelwork to comply with BCA-% Table 3.4.4.2.

TIMBER

- Structural timber shall be minimum stress grade F17 (L.N.O.) to comply with AS1720

SITE DRAINAGE

- Ground adjacent to building shall be graded away to fall at least 50mm over 1 metre width to satisfy BCA clause 3.12.3 surface water drainage.



Wilkins
Drafting
Service
Ph: 0457889990

Project Title
**PROPOSED UNDERCOVER AREA
RANGER HOUSE R4-A
JABIRI HOUSING
JABIRI, N.T.**

Drawing Title
PERSPECTIVE VIEWS

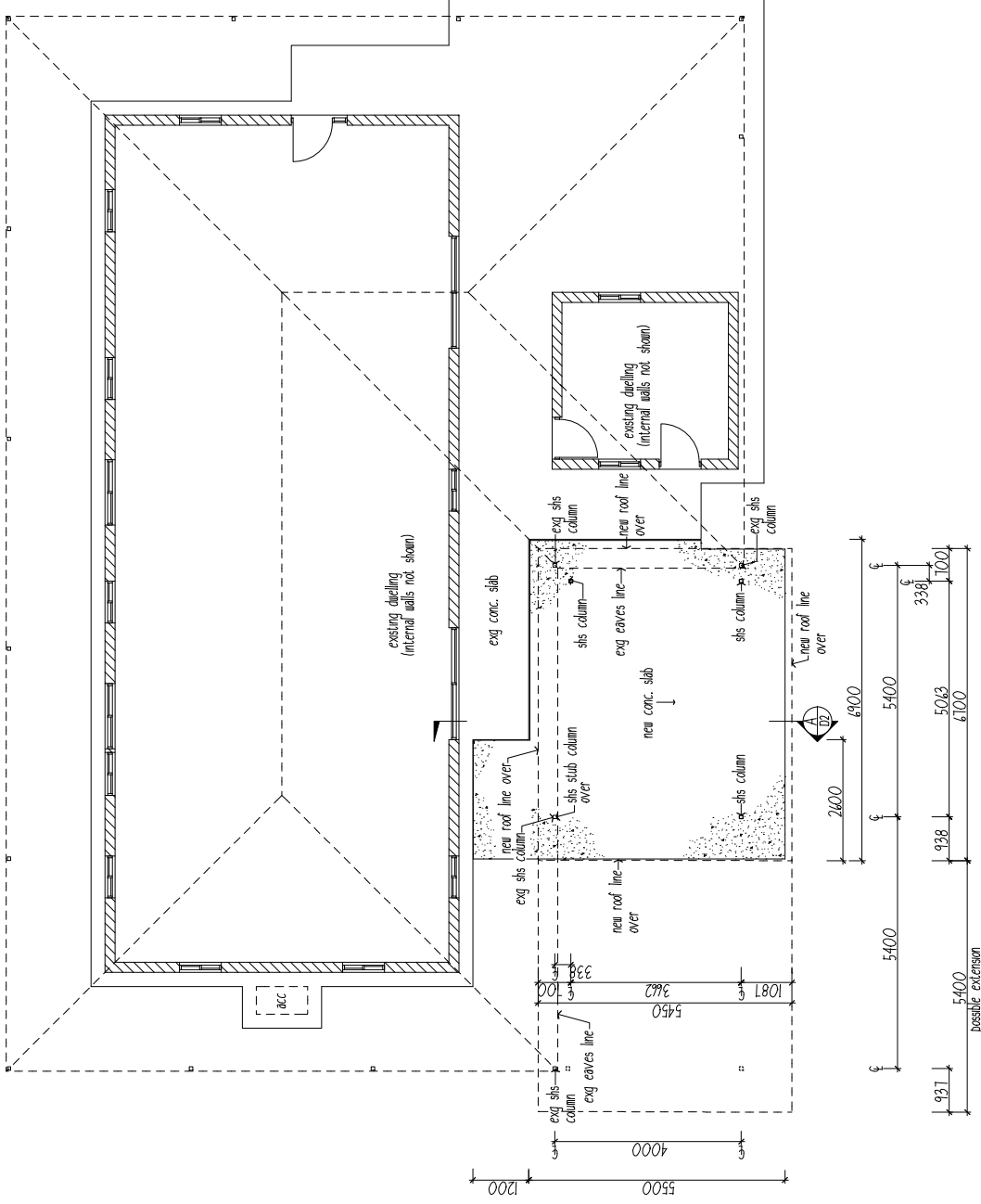
Client
Gundjehlin Aboriginal Corporation

Scale as shown on A3	Date 02/12/2021
Job No. J21403-R4A	Dwg. No. D0

of 5

GENERAL NOTES

1. These drawings contain information required for obtaining building permit, they are not intended for a specific use or application for a building contract and shall not be used for any other purpose without the written consent of the Engineer. The drawings shall be used for the purpose of obtaining building permit, electrical planning, kitchen & secondary fittings.
2. All work shall be in accordance with the Building Code of Australia & comply with the relevant current Standards & Association of Professional Engineers and the local statutory authorities' regulations, except where varied by the contract documents. Verify all dimensions are in millimetres unless stated otherwise. All levels are expressed in metres.
3. Fabrication is commenced. Do not scale the drawings unless noted otherwise.
4. Road drawings in conjunction with all other consultants' drawings and specifications and with such other written instructions as may be issued during the course of the contract. Refer all discrepancies to the Superintendent for decision before proceeding with the work.
5. During construction maintain the structure in a stable condition and ensure no part is overstressed under construction activities.
6. Seek approval for all substitutions from the Superintendent before the work commences.
7. Keep the site in a clean & tidy condition throughout construction & at the completion of work remove all litter & debris to the satisfaction of the Superintendent.



LAYOUT PLAN
1:100

CERTIFIED AS

STRUCTURALLY ADEQUATE

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Civil & Structural

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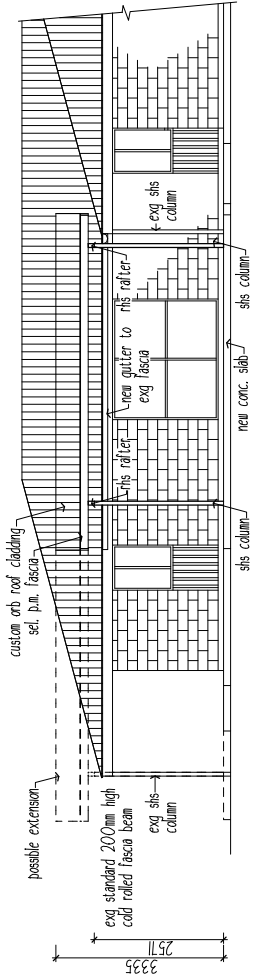
Date: 2/12/21

Job No: K-9712

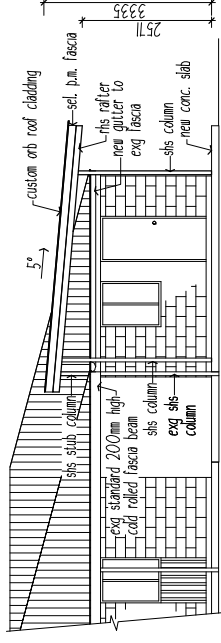
Signed: [Signature]

NT Reg. 33968ES

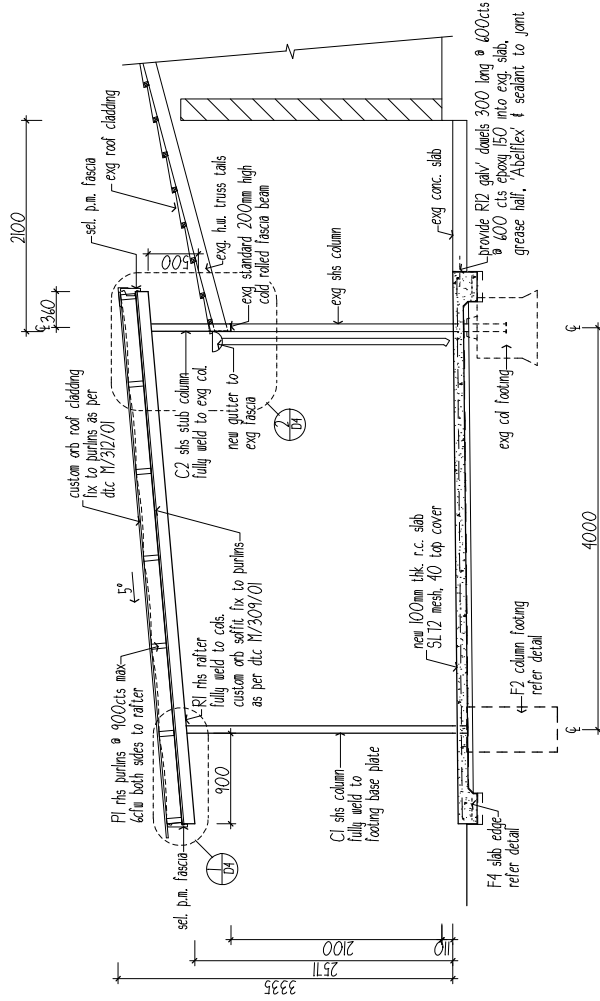
Wilkins Drafting Service Ph:0457889990	Project Title PROPOSED UNDERCOVER AREA RANGER HOUSE R4-A JABIRU HOUSING JABIRU, N.T.	Drawing Title LAYOUT PLAN GENERAL NOTES				Client Gundjimi Aboriginal Corporation
				Scale as shown on A3	Date 02/12/2021	
				Job No. J21403-R4A	Dwg. No. DI	
					of 5	



ELEVATION I
1 : 100



ELEVATION 2
1 : 100



SECTION A
1 : 50

- LEGEND :
- F2 400da. x 900deep conc. footing refer typical detail
 - F4 300wide x 200deep slab edge thickening refer typical detail
 - C1 15 x 4 SHS column
 - C2 15 x 4 SHS stub column
 - R1 125 x 15 x 4 RHS rafter
 - P1 150 x 50 x 3 RHS purlin

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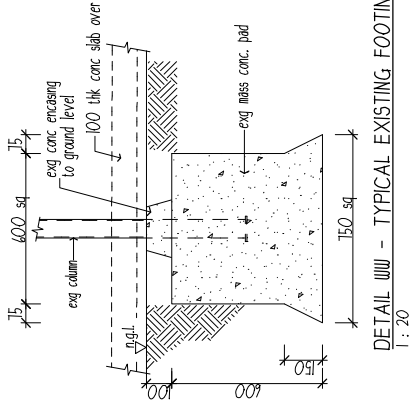
KFB Engineers
Civil & Structural
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P: 07 40320452 | F: 07 40320052 | E: email@kfbeng.com.au

Date: 2/12/21
Job No: K-9712
Signed: [Signature]
NT Reg. 33958ES

Wilkins Drafting Service
PROJECT TITLE
**PROPOSED UNDERCOVER AREA
RANGER HOUSE R4-A
JABIRU HOUSING
JABIRU, N.T.**
Ph: 0457889990

Drawing Title
**ELEVATIONS
SECTION A**

Client: Gundjilim Aboriginal Corporation.
Scale: as shown on A3
Date: 02/12/2021
Job No: J21403-R4A
Dwg. No: D2
of 5



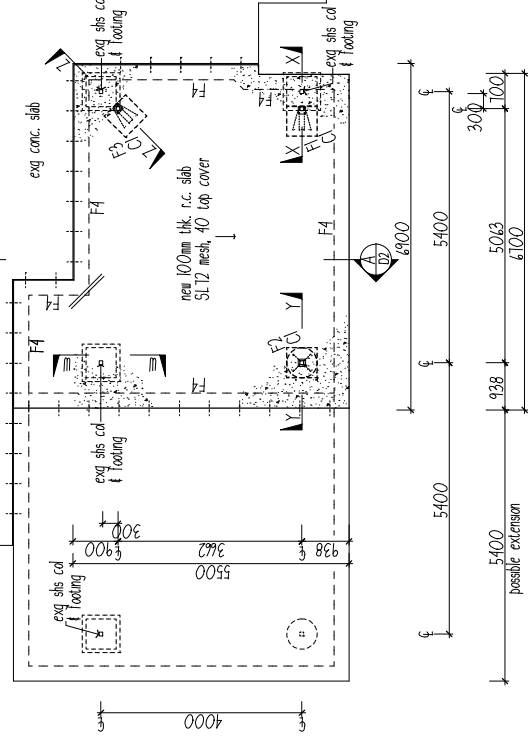
DETAIL WW - TYPICAL EXISTING FOOTING
1 : 20

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STRUCTURALLY ADEQUATE**

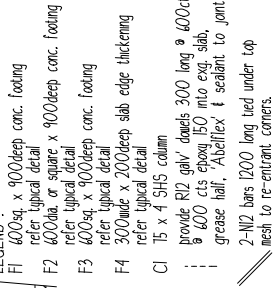
KFB Engineers Civil & Structural
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P: 07 40320492 | F: 07 40320092 | E: email@kfbeng.com.au

Date: 2/12/21 Signed: 

Job No: K-9712 NT Reg. 33968ES



DETAIL ZZ - F3 - TYPICAL DETAIL
1:20



F4 - TYPICAL DETAIL
1 : 20

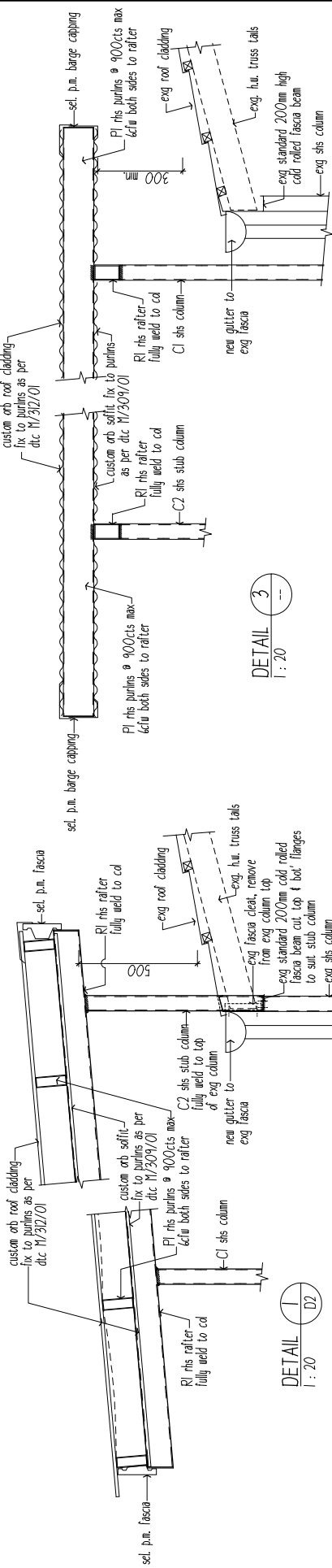
TYPICAL CORNER REINF' PLAN DETAIL
N.T.S.

SLAB/FOOTING PLAN
1 : 100

Wilkins Drafting Service Ph. 0457889990	Project Title PROPOSED UNDERCOVER AREA RANGER HOUSE R4-A OPTION 2 JABURU HOUSING JABURU, N.T.
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Drawing Title
SLAB/FOOTING PLAN
TYPICAL FOOTING DETAILS

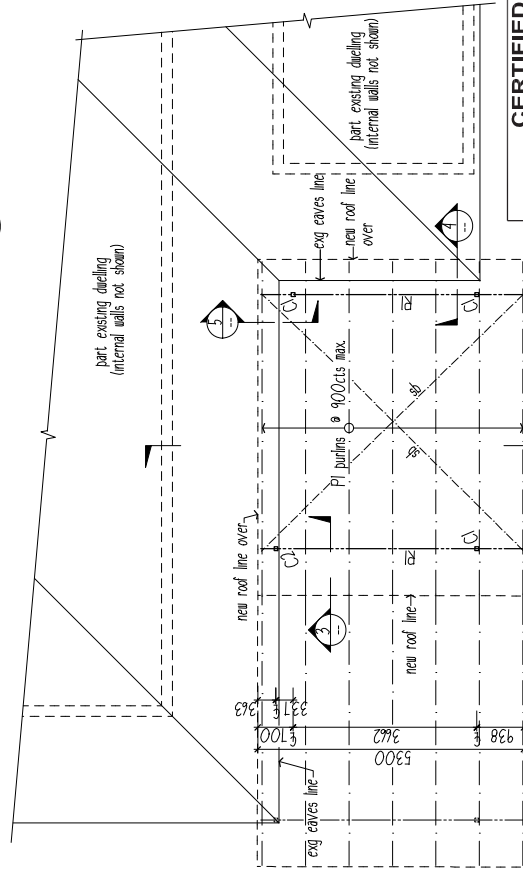
Client	Gurdjeihmi Aboriginal Corporation.		
Scale	as shown on A3	Date	02/12/2011
Job No.	J21403-R4A2	Dwg. No.	D3



DETAIL 1
1 : 20

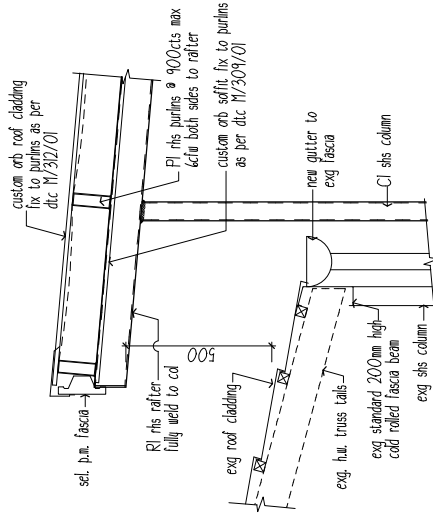
DETAIL 2
1 : 20

DETAIL 3
1 : 20



DETAIL 4
1 : 20

DETAIL 5
1 : 20



- LEGEND :
- C1 15 x 4 SHS column
 - C2 15 x 4 SHS stub column
 - R1 125 x 75 x 4 RHS rafter
 - PI 150 x 50 x 3 RHS purlin

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STRUCTURALLY ADEQUATE

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Civil & Structural
10342 Pease St, Cairns 1 PO Box 927, Cairns Q 4870
P: 07 40320492 | F: 07 40320492 | E: email@kfbeng.com.au

Date: 2/12/21
Job No: K-9712

Signed: [Signature]
NT Reg. 33968ES

Project Title PROPOSED UNDERCOVER AREA Drafting RANGER HOUSE R4-A Service JABIRI HOUSING Ph: 0457889990	Drawing Title ROOF FRAMING PLAN DETAILS 1 - 5	Client Gundjinh Aboriginal Corporation.
Scale as shown on A3	Date 02/12/2021	Scale as shown on A3
Job No. J21403-R4A	Job No. J21403-R4A	Job No. J21403-R4A
Dwg. No. D4	Dwg. No. D4	Dwg. No. D4

ROOF FRAMING PLAN
1 : 100

possible extension

NOTES
GENERAL

- All work shall be in accordance with the Building Code of Australia & comply with the relevant current Standards Association of Australia codes and the local statutory authorities' regulations, except where varied by the contract documents.
- Verify all dimensions relevant to setting out and off-site work before construction and fabrication is commenced. Do not scale the drawings unless noted otherwise.
- All dimensions are in millimetres unless stated otherwise. All levels are expressed in metres.
- Read drawings in conjunction with all other consultants' drawings and specifications and with such other written instructions as may be issued during the course of the contract. Refer all discrepancies to the Superintendent for decision before proceeding with the work.
- During construction maintain the structure in a stable condition and ensure no part is overstressed under construction activities.
- Seek approval for all substitutions from the Superintendent before the work commences.
- Keep the site in a clean & tidy condition throughout construction & at the completion of work remove all litter & debris to the satisfaction of the superintendent.

DESIGN CRITERIA

- Dead & live loads - in accordance with AS1170.1 - 2011
- The Design Wind Criteria is as follows :
Region V5000
Design Wind Speed 25
Terrain Category 2
Internal Pressure Coefficient +0.1 / -0.45
External Pressure Coefficient in accordance with AS1170 - 2011
Foundation design bearing capacity = 100kPa (allowable).
- Wind Classification C2 (AS4035)

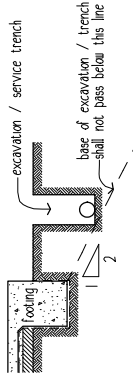
Ultimate and Serviceability Limit State Design

Wind Pressures

Wind Classification	Design gust wind speed (m/s)		Design pressures for windows (kPa)			
	V _W	V _S	Greater than 1.2m from corners	Up to 1.2m from corners	ULS	SLS
C1	50	32	+1.80	+0.55	-2.10	-0.83
C2	44	39	+2.48	+0.88	-4.02	-1.23
C3	34	41	+3.94	+1.9	-5.91	-1.19

EARTHWORKS

- Earthworks construction shall comply with AS3198 & AS2810.
- Excavation & service trenches shall comply with the following guidelines unless otherwise approved by the engineer



TERMITE MANAGEMENT SYSTEM

- Termite Management System to be installed & certified & by an approved applicator in accordance with AS 3601.
- Provide Min. 300 wide x 50mm concrete mowing strip over perimeter reticulation system as to AS3340.1
- A durable certificate is to be fixed in the meter box on completion.

FOOTINGS

- Found all footings in original undisturbed ground having a safe bearing capacity of 150 kPa as noted on drawings. Before any concrete is placed, ensure the safe bearing capacity is verified.
- Backfill seepers, stormwater drains and other in-ground services adjacent to buildings, if laid before footings are constructed, with approved fill placed in 200mm Max. layers and compacted to 95% MDD.
- If laid after footings are constructed, avoid undermining of footings by either fully shoring trenches, or keeping excavation outside an influence line extended downwards at a slope of 1 in 2 from the bottom corner of all footings. Backfill trenches as noted above.
- Use selected fill (gravel, decomposed or broken rock) free from clay clumps and organic matter, conforming with the following grading requirements :

AS METRIC SIEVE	% PASSING BY WEIGHT	AS METRIC SIEVE	% PASSING BY WEIGHT
15.0 mm	100	2.36 mm	20 - 50
9.5 mm	90 - 100	0.075 mm	5 - 25

Strip the area of the works of all top soil and deleterious material prior to placement of fill or compaction. Compact fill up to 150 mm below slab level in 150 mm layers to 95% MDD.

- Compact fill in the 150 mm layer immediately below slab level to 95% MDD. Compact sand binding layer below concrete slab by vibration plate or tamping to 95% MDD.
- Backfill over excavation with lean mix concrete.
- Builder to confirm site classification 'S' to AS2810

DRAINAGE

- The contractor shall determine the exact location of existing services prior to any installation or commencement of work.

CONCRETE

- All slabs & footings shall be constructed to comply with the requirements of AS2810 - 2011
- Concrete slump shall be 80 ± 15mm. No admixtures to be used without approval from the engineer.
- Concrete cover to be maintained by the use of approved chairs at nominal 800c/c. Conduits & pipes shall not be placed within concrete cover.
- Mesh reinforcement laps shall be at least one full wire spacing plus 25mm. Reinforcement shall be in accordance with AS4711.
- Continuously cure slabs for a minimum of 7 days after casting by ponding, covering with a waterproof membrane or other approved means.

CERTIFIED AS
STRUCTURALLY ADEQUATE

KFB Engineers
Civil & Structural
1158-42 Pesse St, Cairns | PO Box 927, Cairns Q 4870
P: 07 48320492 | F: 07 48320092 | E: email@kfbeng.com.au

Date: 2/12/21 Signed: K-9712 NT Reg. 33968ES

Project Title
**PROPOSED UNDERCOVER AREA
RANGER HOUSE R4-A
JABIRI HOUSING
JABIRI, N.T.**

Drawing Title
STRUCTURAL NOTES

Client
Gundjini Aboriginal Corporation.

Scale
as shown on A3

Date
02/12/2021

Job No.

J21403-R4A

Draw. No.

D5

of 5

STEEL

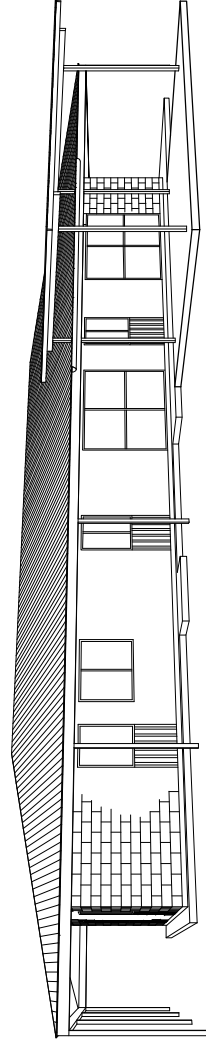
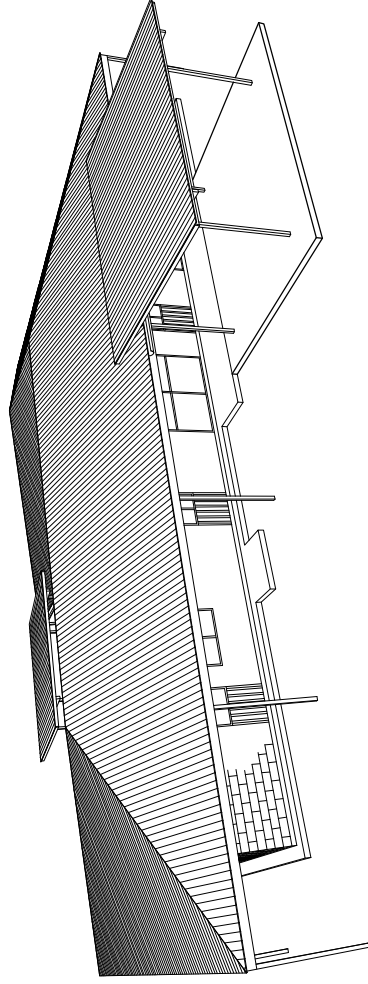
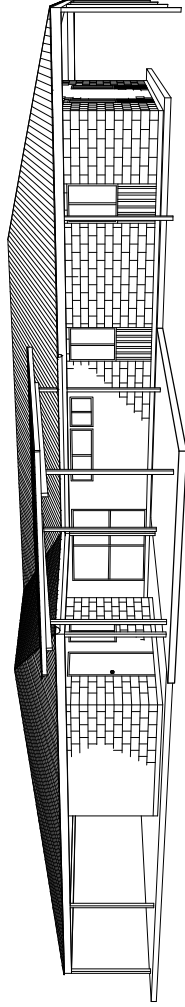
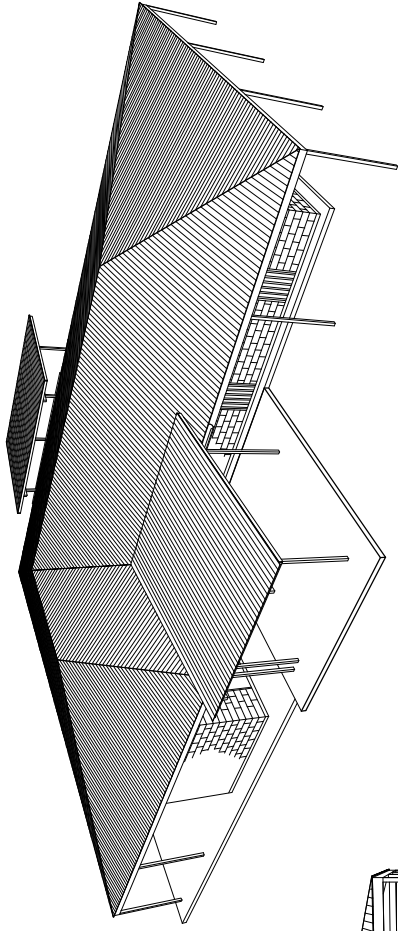
- All structural steelwork shall comply with AS 400 - SAA Steel Struct. Code & associated Australian Standards.
- Ensure welding is performed by an experienced operator in accordance with AS 1554.
- Use hot dipped galvanised commercial bolts (Grade 4.6/S) to AS111 and AS 1112, tightened to a snug tight fit, unless otherwise shown. Where bolts are designated grade 8.8/S, use high strength bolts to AS 1252, tightened to a snug tight fit.
- Where bolts are designated 8.8/TF or grade 8.8/TFB use high strength steel bolts (grade 8.8/S) to AS 1252, fully tensioned in accordance with AS 1511.
- During construction provide and leave in place, until permanent bracing elements are constructed, such temporary bracing as is necessary to stabilise the structure during erection.
- Spall the ends of all tubular members with normal thickness plates and continuous fillet welds unless otherwise shown.
- Except where otherwise shown fully weld connections with 6mm continuous fillet, general purpose (G.P.) welds for the full contact area. Special purpose welds are designated (S.P.).
- Unless otherwise specified, paint all external steelwork with one shop coat of Inorganic Zinc Silicate primer after blast cleaning to a class 2.5 finish. Touch up damaged areas with cold galv after painting. Members encased in concrete, fire sprayed or HSTF bolted connections must not be painted.
- Unless otherwise specified paint all internal steelwork with one shop coat of Red Oxide Zinc Phosphate primer, followed by two coats of Red Oxide Zinc Phosphate paint, as required after power cleaning. Alternatively, Epoxies (Duxco) and touch up with Duxco Zedon or equal and paint for long term protection to manufacturers recommendations.
- Unless otherwise specified paint steelwork below finished surface level and not concrete encased with high build epoxy.
- Unless otherwise specified paint all steelwork one shop coat of Red Oxide Zinc Phosphate primer. Do not paint members encased in concrete, fire sprayed or friction grip bolted connections.
- Protective coatings to all external steelwork to comply with BCA-% Table 3.4.4.2.

TIMBER

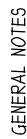
- Structural timber shall be minimum stress grade F17 (UKO.) to comply with AS1720

SITE DRAINAGE

- Ground adjacent to building shall be graded away to fall at least 50mm over 1 metre width to satisfy BCA clause 3.12.3 surface water drainage.



Wilkins Drafting Service Ph: 0457889990	Project Title PROPOSED UNDERCOVER AREA RANGER HOUSE R4-B JABIRI HOUSING JABIRI, N.T.		Drawing Title PERSPECTIVE VIEWS		Client Gundjirihm Aboriginal Corporation.
			Scale as shown on A3	Date 02/12/2021	
			Job No. J21403-R4B	Dwg. No. D0	of 1



These drawings contain information required for obtaining building permit, they are not intended sufficiently for a specification for a building contract with a builder. An authorized specification would be written to include building electrical & plumbing fixings & secondary things.

1. All work shall be in accordance with the Building Code of Australia (comply with the relevant current, Standards Association of Australia codes and the local building authorities regulations, except where varied by the contract documents.
2. All dimensions are in millimetres unless stated otherwise. All levels are expressed in metres.
3. Verify all dimensions relevant to setting out, and all size work before construction and fabrication is commenced. Do not scale the drawings unless stated otherwise.
4. Read drawings in conjunction with all other consultants' drawings and specifications and with all other written instructions as may be issued during the course of the contract.
5. Refer all discrepancies to the Superintendent for decision before proceeding with the work.
6. During construction maintain the structure in a stable condition and ensure no part is overstressed under construction activities.
7. Seek approval for all substitutions from the Superintendent before the work commences.
8. Keep the site in a clean & tidy condition throughout construction & at the completion of work remove all litter & debris to the satisfaction of the superintendent.

**CERTIFIED AS
STRUCTURALLY ADEQUATE**



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P: 07 40320492 | F: 07 40320092 | E: email@kfbeng.com.au

Date: 2/12/21
Job No: K-9712



ELEVATION
refer Dag. No. D2

LAYOUT PLAN
1 : 100

**Wilkins
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Service**
Ph. 0457889990

Project Title
PROPOSED UNDERCOVER AREA
RANGER HOUSE R4-B
JABIRU HOUSING
JABIRU, N.T.

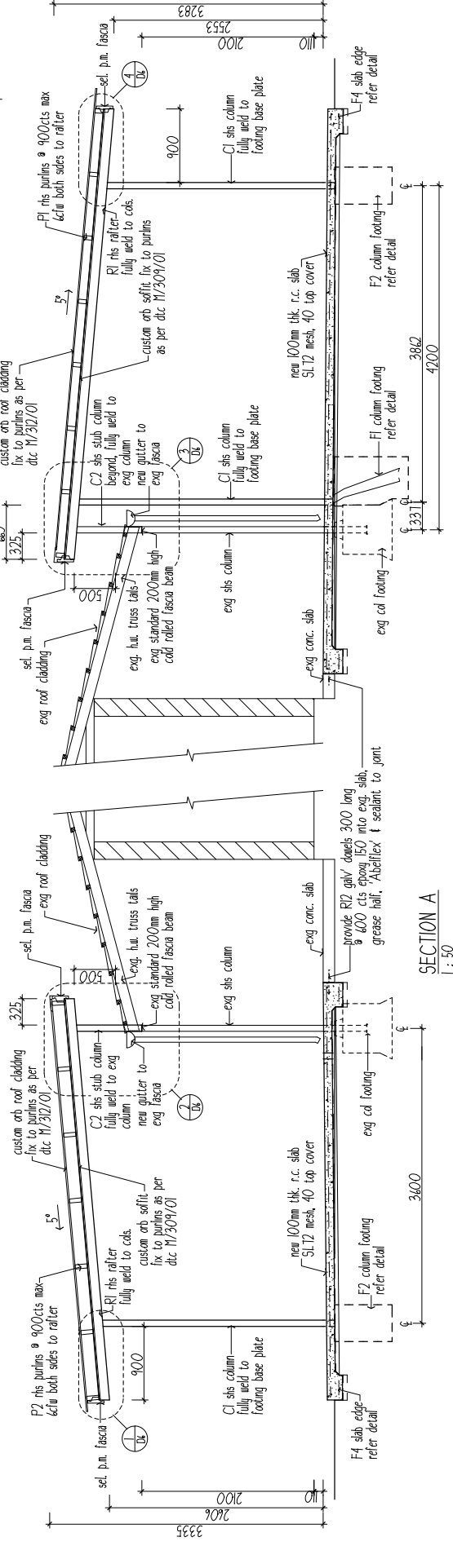
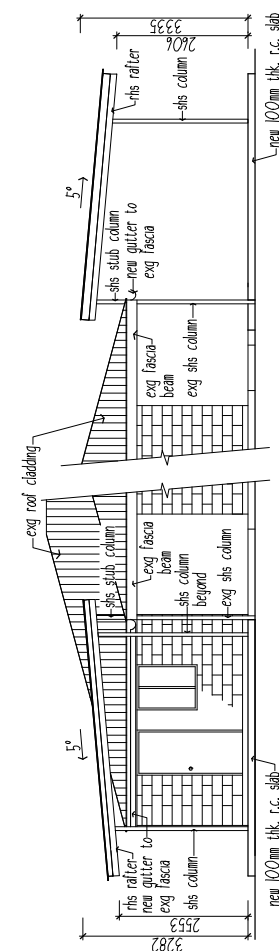
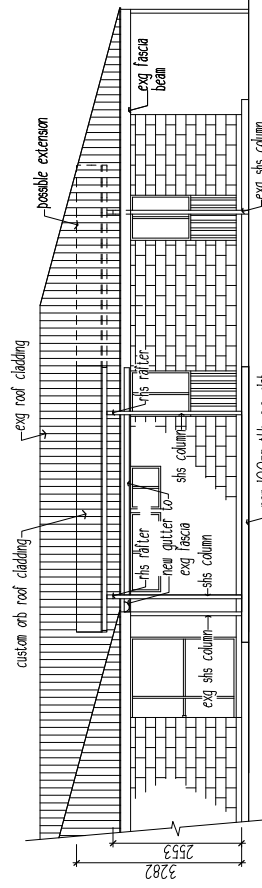
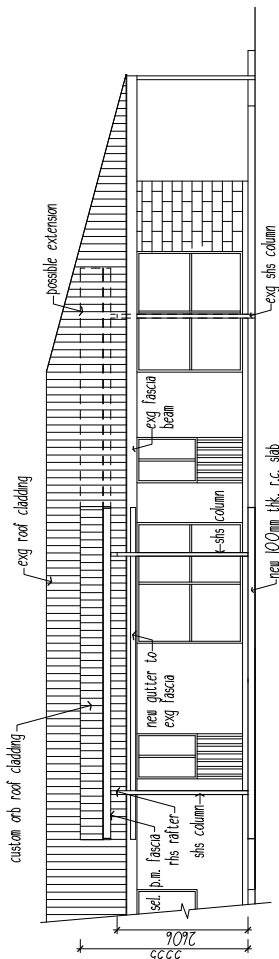
Drawing Title
LAYOUT PLAN
GENERAL NOTES

Client Gundjehmi Aboriginal Corporation.

Scale	Date
as shown on A3	02/12/2021

Job No.	Dwg. No.
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J21403-R4B	DI of 7
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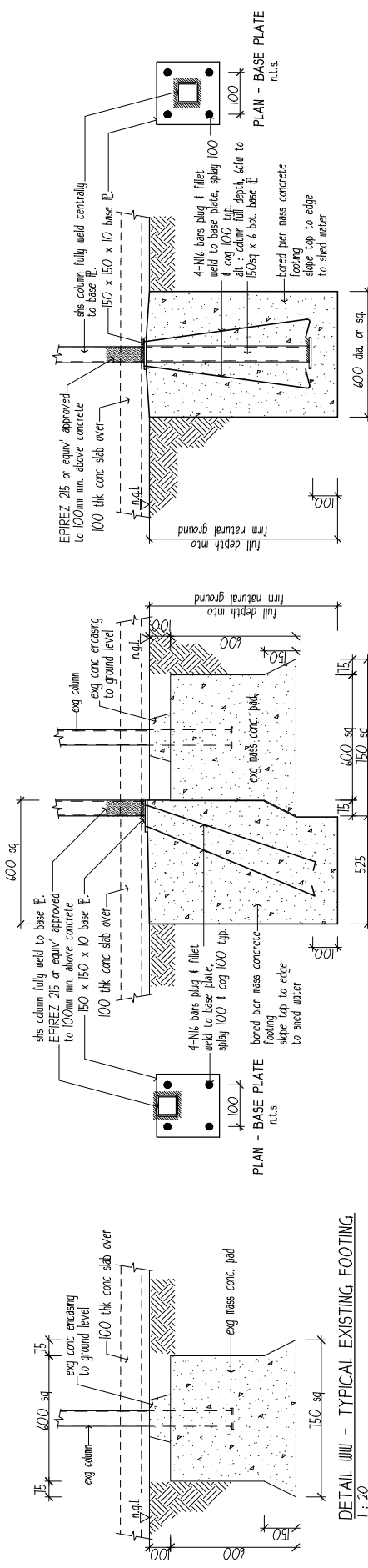
 **KFB Engineers** Civil & Structural
 118-42 Pease St. Cairns | PO Box 927, Cairns Q 4870
 P: 07 40204692 | F: 07 4020092 | E: email@kfb.com.au

Date: 2/12/21 Signed: 
 Job No: K-9712 NT Reg: 33968ES

LEGEND :

F1	400 x 400 x 900 deep conc. footing
F2	400 dia. or square x 900 deep conc. footing
F3	400 dia. or square x 900 deep conc. footing
F4	300 wide x 200 deep slab edge thickening
G1	15 x 4 SHS column
G2	15 x 4 SHS stub column
P1	25 x 15 x 4 RHS purlin
P2	150 x 50 x 2 RHS purlin
P3	150 x 50 x 2 RHS purlin

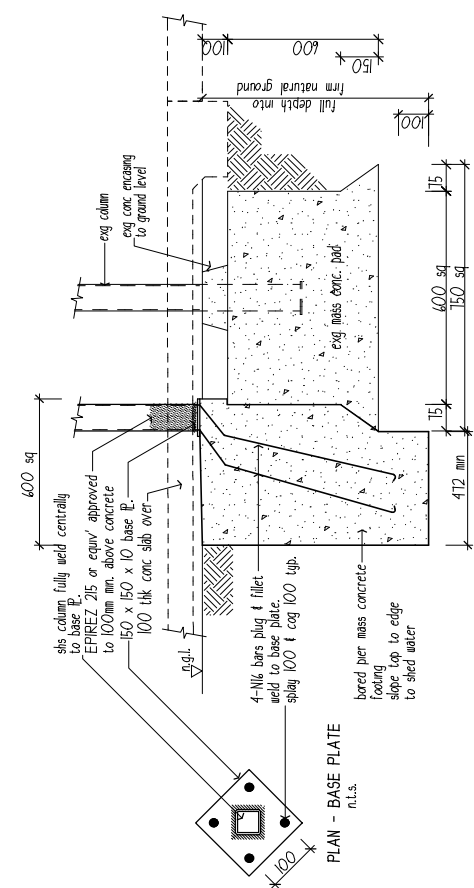
Wilkins Drafting Service Ph:0457889990	Project Title	Drawing Title	Client
	PROPOSED UNDERCOVER AREA	ELEVATIONS	Gundjehmi Aboriginal Corporation.
	RANGER HOUSE R4-B	SECTION A	Scale as shown on A3
	JABIRU HOUSING		Date 02/12/2021
	JABIRU, N.T.		Job No. 121403-R4B
			Dwg. No. D2 of 1



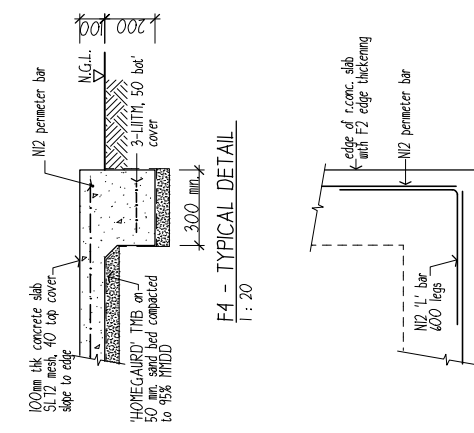
DETAIL UUW - TYPICAL EXISTING FOOTING
1 : 20

DETAIL XX - FI - TYPICAL DETAIL
1 : 20

DETAIL YY - F2 - TYPICAL DETAIL
1 : 20



DETAIL ZZ - F3 - TYPICAL DETAIL
1 : 20



F4 - TYPICAL DETAIL
1 : 20

TYPICAL CORNER REINF' PLAN DETAIL
N.T.S.

- LEGEND :
- F1 600 x 600 x 900 deep conc. footing refer typical detail
 - F2 600 dia. or square x 900 deep conc. footing refer typical detail
 - F3 600 dia. x 900 deep conc. footing refer typical detail
 - F4 300 mm x 200 deep slab edge thickening refer typical detail

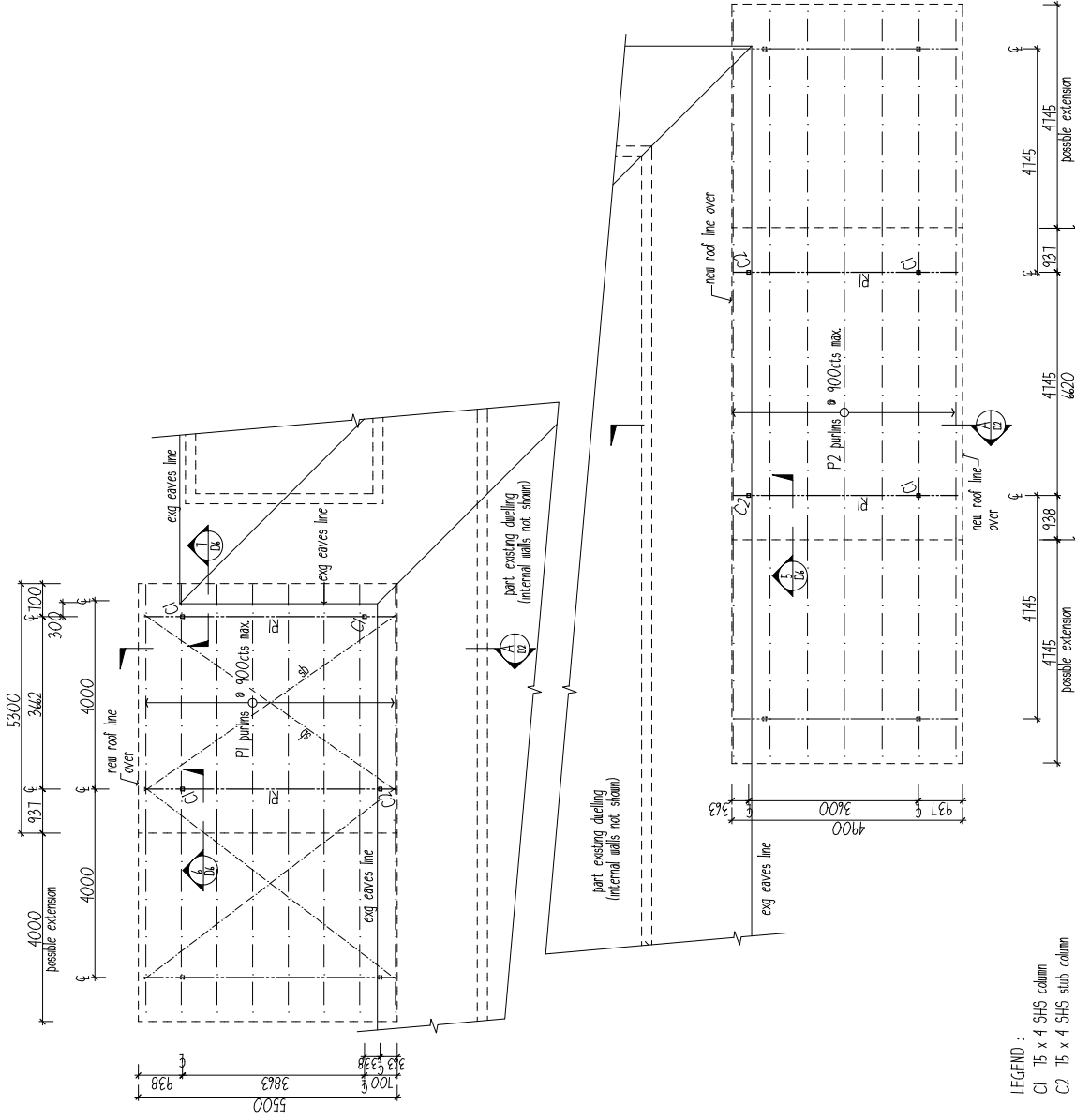
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Civil & Structural
118-42 Pease St. Cairns | PO Box 927, Cairns Q 4870
P: 07 40320492 | F: 07 40320932 | E: email@kfbeng.com.au

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STRUCTURALLY ADEQUATE

Date: 2/12/21
Job No: K-9712

Signed: [Signature]
NT Reg. 33968ES

Wilkins Drafting Service Ph: 0457889990 Project Title PROPOSED UNDERCOVER AREA RANGER HOUSE R4-B JABIRI HOUSING JABIRI, N.T.	Client Gundjilimu Aboriginal Corporation.
	Scale as shown on A3
	Date 02/12/2021
Job No. J21403-R4B	Dwg. No. D4
	of 1



- LEGEND :
- C1 15 x 4 SHS column
 - C2 15 x 4 SHS stub column
 - R1 125 x 15 x 4 RHS rafter
 - P1 100 x 50 x 2 RHS purlin
 - P2 150 x 50 x 2 RHS purlin

ROOF FRAMING PLAN
1:100

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STRUCTURALLY ADEQUATE

KFB Engineers

Civil & Structural

118-0 Passio St, Cairns, J. PO Box 937, Cairns, Q. 4870

P: 07 40328492 | F: 07 40320092 | E: email@kfbeng.com.au

Date: 2/12/21

Signed:

Job No: K-9712

NT Reg. 33968ES

Wilkins Drafting Service Ph:0457889990	Project Title PROPOSED UNDERCOVER AREA RANGER HOUSE R4-B JABIRI HOUSING JABIRU, N.T.	Drawing Title ROOF FRAMING PLAN	Client	Gundjitchim Aboriginal Corporation.		
			Scale	as shown on A3	Date	02/12/2021
			Job No.	J21403-R4B	Dwg. No.	D5
					of 1	

LEGEND :

- CI 15 x 4 SHS column
- C2 15 x 4 SHS stub column
- RI 25 x 15 x 4 RH5 rafter
- PI 100 x 50 x 2 RH5 purlin
- P2 50 x 50 x 2 RH5 purlin

**CERTIFIED AS
STRUCTURALLY ADEQUATE**

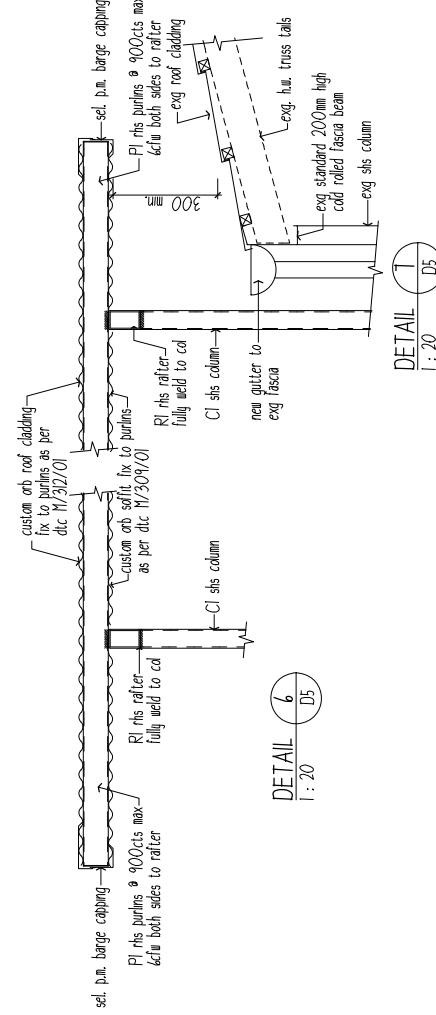
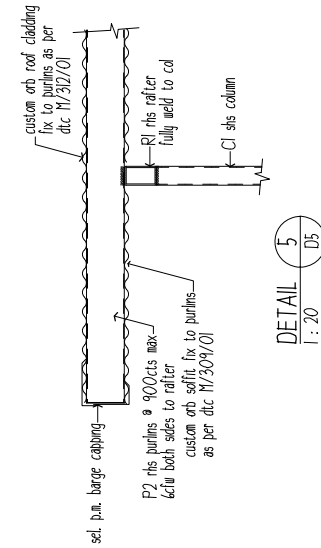
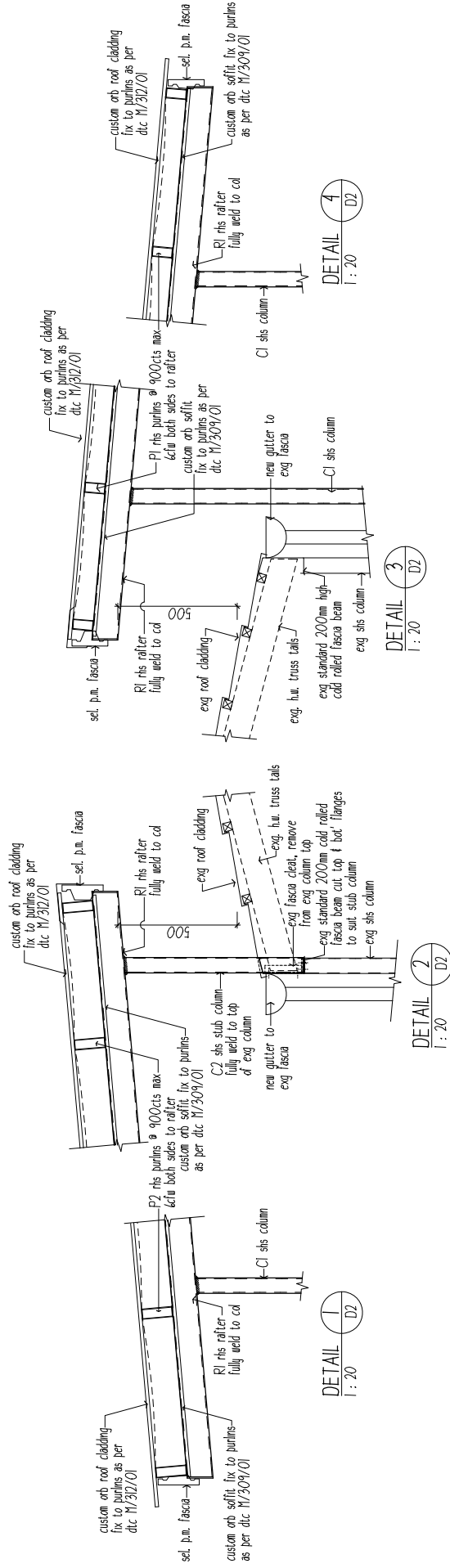
KFB Engineers
Civil & Structural
1/38-42 Pass St, Cairns | PO Box 927, Cairns Q 4870
P: 07 40320692 | F: 07 40320692 | E: email@kfbeng.com.au

Date: 2/12/21
Job No: K-9712
Signed: NT Reg. 33968ES

Wilkins Drafting Service
PROPOSED UNDERCOVER AREA
RANGER HOUSE R4-B
JABIRI HOUSING
JABIRI, N.T.
Ph: 0457889990

Client: Gundjinhmi Aboriginal Corporation.
Scale: as shown on A3
Date: 02/12/2021
Job No: J21403-R4B
Dwg. No: D6
of 1

Drawing Title
DETAILS 1 - 7



1. All work shall be in accordance with the Building Code of Australia [†] comply with the relevant current Standards Association of Australia codes and the local statutory authorities' regulations, except where varied by the contract documents.
2. Verify all dimensions relevant to setting out and off-site work before construction and fabrication is commenced. Do not scale the drawings unless noted otherwise.

3. All dimensions are in millimetres unless stated otherwise. All levels are expressed in metres.
4. Read drawings in conjunction with all other consultants' drawings and specifications and with such other written instructions as may be issued during the course of the contract.
5. Refer all discrepancies to the Superintendent for decision before proceeding with the work.
6. During construction maintain the structure in a stable condition and ensure no part is overstressed under construction activities.
7. Seek approval for all substitutions from the Superintendent before the work commences.
8. Keep the site in a clean & tidy condition throughout construction & at the completion of the work remove all litter & debris to the satisfaction of the Superintendent.

Dead & live loads - in accordance with AS1701 - 2011

- The Design Wind Criteria is as follows :

Region	C	V_5000	V_r
Design Wind Speed	2.5	500	67 m/s
Terrain Category	2.5		
Internal Pressure Coefficient	+0.1		-0.45
External Pressure Coefficient			

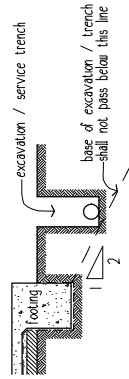
 in accordance with AS1170 - 2011
- Foundation design bearing capacity = 100kPa (allowable).

Ultimate and Serviceability Limit State Design

Wind Classification	Design gust. wind speed (m/s)		Design pressures for windows (kPa)			
	V _W	V _W s	Greater than 1.2m from corners		Up to 1.2m from corners	
C1	W.S	SLS	W.S	SLS	W.S	SLS
	50	32	+1.80	+0.55	-2.10	-0.83
	C2	39	+2.48	+0.88	-4.02	-1.23
	C3	47	+3.94	+1.19	-5.91	-1.79

1. Earthworks construction shall comply with AS3798 & AS2870.

2. Excavation & service trenches shall comply with the following guidelines unless otherwise approved by the engineer.



 KFB Engineers Civil & Structural
1/38-4/2 Pease St, Cairns | PO Box 927, Cairns Q 4870
P: 07 40320492 | F: 07 40320092 | E: email@kfbeng.com.au

Date: 2/12/21 Signed:  NT Reg. 33968ES

Project Title
PROPOSED UNDERCOVER AREA
RANGER HOUSE R4-B
JABIRU HOUSING
JABIRU, N.T.

Scale	Date
as shown on A3	02/12/2021

J21403-R4B D7 d 1

Drawing Title

1. Termit Management System to be installed & certified by an approved applicator in accordance with AS 3660.1.
2. Provide Min. 300 wide x 50mm concrete mousing strip over perimeter reticulation system as to AS3660.1
3. A durable certificate is to be fixed in the meter box on completion.

1. Found all footings in original undisturbed ground having a safe bearing capacity of 150 kPa as noted on drawings. Before any concrete is placed, ensure the safe bearing capacity is verified.
2. Backfill seewater siltwater drains and other in-ground services adjacent to buildings, if had before footings are constructed with approved fill placed in 200-mm thick layers and compacted in 150-mm lifts.

A5 METRIC SIEVE	% PASSING BY WEIGHT	A5 METRIC SIEVE	% PASSING BY WEIGHT
15.0 mm	100	2.36 mm	20 - 50
9.5 mm	30 - 100	0.075 mm	5 - 25

Strip the area of the works of all top soil and deleterious material prior to placement of fill or compaction. Compact fill up to 150 mm below sub level in 150 mm layers to 95% MMD.

4. Compact fill in the 150 mm layer immediately below slab level to 95% MDD. Compact sand blinding layer below concrete slab by vibration plate or flooding to 95% MDD.
5. Backfill over excavation with lean mix concrete.
6. Builder to confirm site classification "S" to AS2870.

l. The contractor shall determine the exact location of existing services prior to any installation or commencement of work.

- ### CONCRETE
1. All slabs & footings shall be constructed to comply with the requirements of AS2880 - 2011
 2. Concrete slump shall be 60 ± 15 mm. No admixtures to be used without approval from the engineer.
 3. Concrete cover to be maintained by the use of approved chairs at nominal 800c/c's. Conduits & pipes shall not be placed within concrete cover.

L. All slabs & footings shall be constructed to comply with the requirements of AS2870 - 2011

- Concrete slump shall be 80 $\pm$ 15mm. No admixtures to be used without approval from the engineer.
- Concrete reinforcement shall be approved by the engineer.
- Concrete slump shall be 80 $\pm$ 15mm. No admixtures to be used without approval from the engineer.
- Mesh reinforcement laps shall be at least one full use spacing plus 25mm. Reinforcement shall be in accordance with AS461.
- Continuously cure slabs for a minimum of 7 days after casting by ponding, covering with a waterproofed membrane or other approved means.

1. All structural steelwork shall comply with AS 400 – SAA Steel Struct. Code & associated Australian Standards.
2. Ensure welding is performed by an experienced operator in accordance with AS 1554.
3. Use hot dipped galvanised commercial bolts (Grade 4.6/5) to A308 and AS 1329, tightened to a snug tight, in process otherwise shown. Where bolts are designated grade B8.8, use high strength bolts where bolts are designated 8.8/TF and high strength steel bolts (grade 8.8) where bolts are designated 8.8/TF and AS 1329 use high strength steel bolts (grade 8.8) where bolts are designated 8.8/TF and AS 1329 fully tensoned in accordance with AS 1511

4. During construction provide and leave in place, until permanent bracing elements are constructed, such temporary bracing as is necessary to stabilise the structure during erection.
5. Seal the ends of all tubular members with normal thickness plates and continuous fillet welds unless otherwise shown.
6. Except where otherwise shown fully field connections with *lean continuous fillet* general purpose (G.P.) welds for the full contact area. Special purpose welds are designated (S.P.).
7. Unless otherwise specified, paint all external steelwork with one shop coat of Inorganic Zinc Silicate primer after blast cleaning to a class 2.5 finish. Touch up damaged areas with cold galv after painting, members encased in concrete, the sprayed or HSTF bolted connections must not be painted.
8. Unless otherwise specified paint all internal steelwork with one shop coat of Red Oxide Zinc Phosphate primer after blast cleaning to a class 2 finish. Touch up damaged areas as required after painting, members encased in concrete, the sprayed or HSTF bolted connections must not be painted and paint for long term protection to manufacturers recommendations.
9. Unless otherwise specified paint steelwork below finished surface level and not concrete encased with high build epoxy.
10. Unless otherwise specified paint all steelwork one shop coat of Red Oxide Zinc Phosphate primer. Do not paint members encased in concrete, fire sprayed or friction grip bolted connections.
11. Protective coatings to all external steelwork to comply with BCA-% Table 3.4.4.2.

1. Structural timber shall be minimum stress grade FIT (U.N.O.) to comply with AS1720

1. Ground adjacent to building shall be graded away to fall at least 50mm over 1 metre width to satisfy BCA clause 3.12.3 surface water drainage.

STRUCTURAL NOTES

DESIGN CRITERIA

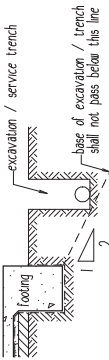
- Dead & live loads - in accordance with AS1010.1 - 2011
- The Design Wind Criteria is as follows :
 $C_{w500} = 1.5$
 $V_r = 64m/s$
 $C_{w25} = 1.25$
Terrain Category
Internal Pressure Coefficient
External Pressure Coefficient in accordance with AS1010 - 2011
Foundation design bearing capacity = 100kPa (allowable).
Wind Classification C2 (AS4055)
- Foundation design bearing capacity = 100kPa (allowable).
Wind Classification C2 (AS4055)

Ultimate and Serviceability Limit State Design
Wind Pressures

Wind Classification	Design gust and speed (m/s)		Design pressures for windows (kPa)	
	V ₁₀	V ₁₅	W ₁₀	W ₁₅
C1	50	32	±1.80	±0.55
	50	32	±1.80	±0.55
C2	40	25	±1.40	±0.42
	40	25	±1.40	±0.42
C3	30	20	±1.00	±0.30
	30	20	±1.00	±0.30

EARTHWORKS

- Earthworks construction shall comply with AS3798 & AS2810.
- Excavation & service trenches shall comply with the following guidelines unless otherwise approved by the engineer



- The contractor shall determine the exact location of existing services prior to any installation or commencement of work.

TERMITE MANAGEMENT SYSTEM

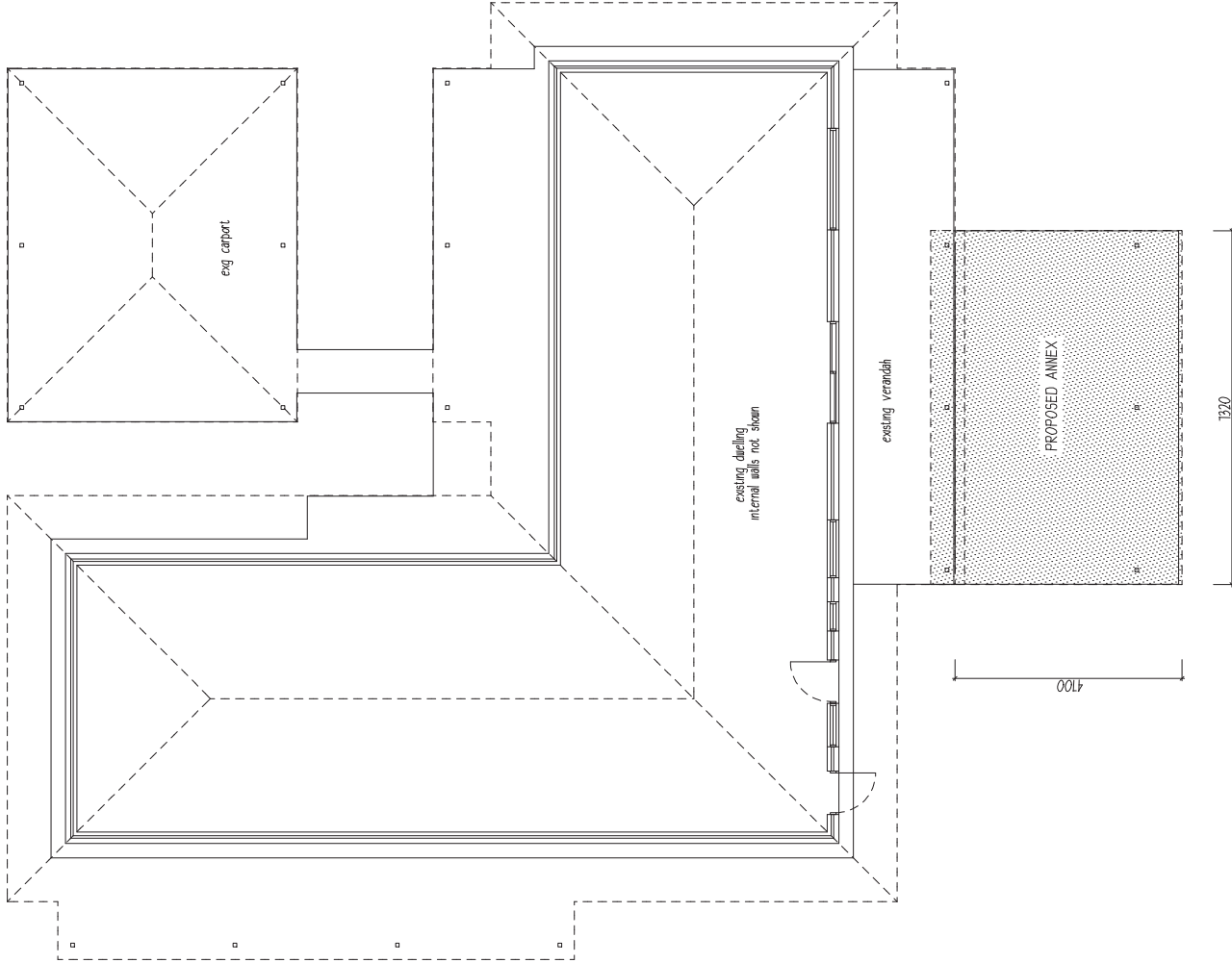
- Termite Management System to be installed & certified by an approved applicator in accordance with AS 3660.1.
- Provide 1m, 300 wide x 50mm concrete bearing strip over perimeter reticulation system as to AS3660.1
- A durable certificate is to be fixed in the meter box on completion.

FOOTINGS

- Found all footings in original undisturbed ground having a safe bearing capacity of 150 kPa as noted on drawings. Before any concrete is placed, ensure the safe bearing capacity is verified.
- Backfill seepers, stormwater drains and other in-ground services adjacent to buildings, if laid before footings are constructed, with approved fill placed in 200mm max. layers and compacted to 95% MFD.
- If laid after footings are constructed, avoid undermining of footings by either fully shoring trenches, or keeping excavation outside an influence line extended downwards at a slope of 1 in 2 from the bottom corner of all footings. Backfill trenches as noted above.
- Use selected fill (gravel, decomposed or broken rock) free from clay clumps and organic matter, conforming with the following grading requirements :

AS METRIC SIEVE	% PASSING BY WEIGHT	AS METRIC SIEVE	% PASSING BY WEIGHT
15.0 mm	100	2.36 mm	20 - 50
4.75 mm	30 - 100	0.075 mm	5 - 25

- Strip the area of the works of all top soil and deleterious material prior to placement of fill or compaction. Compact fill up to 150 mm below sub level in 150 mm layers to 95% MFD.
- Compact fill in the 150 mm layer immediately below sub level to 95% MFD. Compact sand binding layer below concrete slab by vibration plate or flooding to 95% MFD.
- Backfill over excavation with lean max concrete.
- Builder to confirm size classification 'S' to AS2810



'L' SHAPE - LAYOUT PLAN
1:100

CONCRETE

- All slabs & footings shall be constructed to comply with the requirements of AS2810 - 2011
- Concrete slump shall be 80 ± 15mm. No admixtures to be used without approval from the engineer.
- Concrete cover to be maintained by the use of approved chairs at nominal 800c/c. Conduits & pipes shall not be placed within concrete cover.
- Reinforcement laps shall be at least one full wire spacing plus 25mm. Reinforcement shall be in accordance with AS4711.
- Continuously cast slabs for a minimum of 7 days after casting by jacking, covering with a waterproof membrane or other approved means.

STEEL

- All structural steelwork shall comply with AS 400 - SAA Steel Struct. Code & associated Australian Standards.
- Ensure welding is performed by an experienced operator in accordance with AS 1554.
- Use hot dipped galvanized commercial bolts (Grade 4U/S) to AS11 and AS 102 tightened to a snug tight fit, unless otherwise shown. Where bolts are designated grade 8.8/S, use high strength bolts to AS 1252, tightened to a snug tight fit. Where bolts are designated 8.8/TF or grade 8.8/TF use high strength steel bolts (grade 8.8/S) to AS 1252, fully tensioned in accordance with AS 1511.
- During construction provide and leave in place, until permanent bracing elements are constructed, such temporary bracing as is necessary to stabilise the structure during erection.
- Seal the ends of all tubular members with nominal thickness plates and continuous fillet welds unless otherwise shown.
- Except where otherwise shown fully weld connections with 4mm continuous fillet (general purpose (G.P.) welds for the full contact area. Special purposes welds are designated (S.P.).
- Unless otherwise specified, paint all external steelwork with one shop coat of Inorganic Zinc Silicate primer after blast cleaning to a class 2.5 finish. Touch up damaged areas with cold galv after power cleaning. Members encased in concrete, fire sprayed or HSTF bolted connections must not be painted.
- Unless otherwise specified paint all internal steelwork with one shop coat of Red Oxide Zinc Phosphate primer after blast cleaning to a class 2 finish. Touch up damaged areas as required after power cleaning. Alternatively for RHS, use Duralgal and touch up with Duralgal. Zelen or equal and paint for long term protection to manufacturers recommendations.
- Unless otherwise specified paint steelwork below finished surface level and not concrete encased with high build epoxy.
- Unless otherwise specified paint all steelwork one shop coat of Red Oxide Zinc Phosphate primer. Do not paint members encased in concrete, fire sprayed or friction grip bolted connections.
- Protective coatings to all external steelwork to comply with BCA-9% Table 3.4.4.2.

TIMBER

- Structural timber shall be minimum stress grade F11 (MUNO.) to comply with AS1720

INSULATION

- Aircell 65 or equivalent sarking planket to be installed to manufacturers instructions

CERTIFIED AS
STRUCTURALLY ADEQUATE

**KFB Engineers**
Civil & Structural
1194-42 Peace St, Cairns 1 PO Box 927, Cairns 9 4870
P: 07 40324462 | F: 07 40320092 | E: email@kfbeng.com.au

Date: 13/06/23
Job No: K-10582
Signed: [Signature]
NT Reg. 33968ES

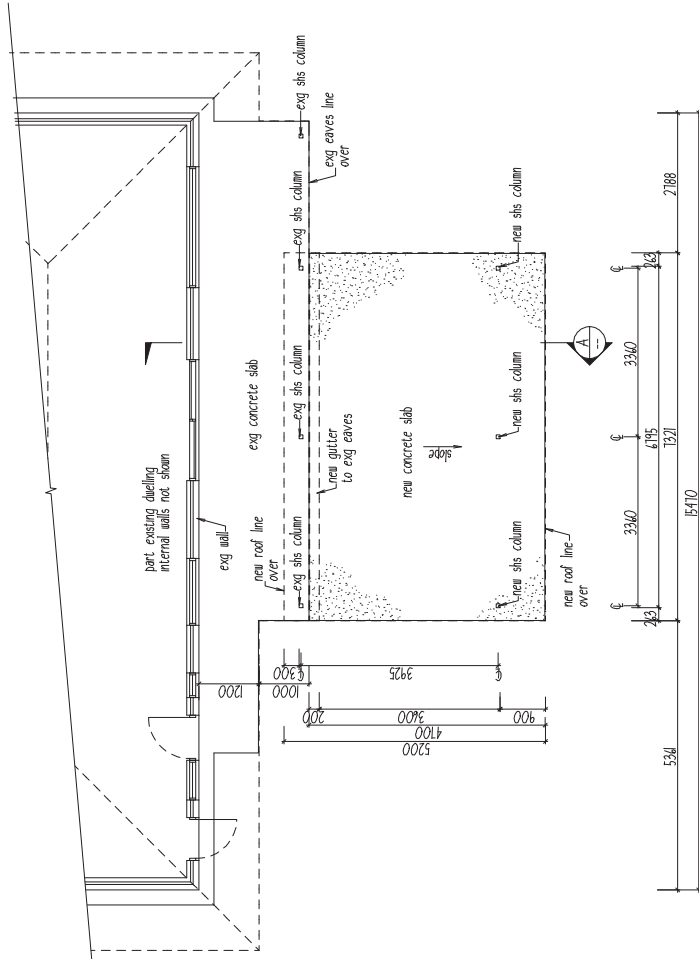
amend a change dtd title 1 layouts, add dtds 04/04/23

Client	Jabiru Kabokmakken LTD.
Scale	as shown on A3
Date	08/09/2022
Job No.	J22418
Dwg. No.	Dla of 8

Drawing Title
'L' SHAPE - LAYOUT PLAN
STRUCTURAL NOTES

Wilkins
Drafting
Service
Ph:0451889990

Project Title
PROPOSED UNDERCOVER AREA
TO EXISTING 'L' SHAPE HOUSE
JABIRU HOUSING
JABIRU, N.T.



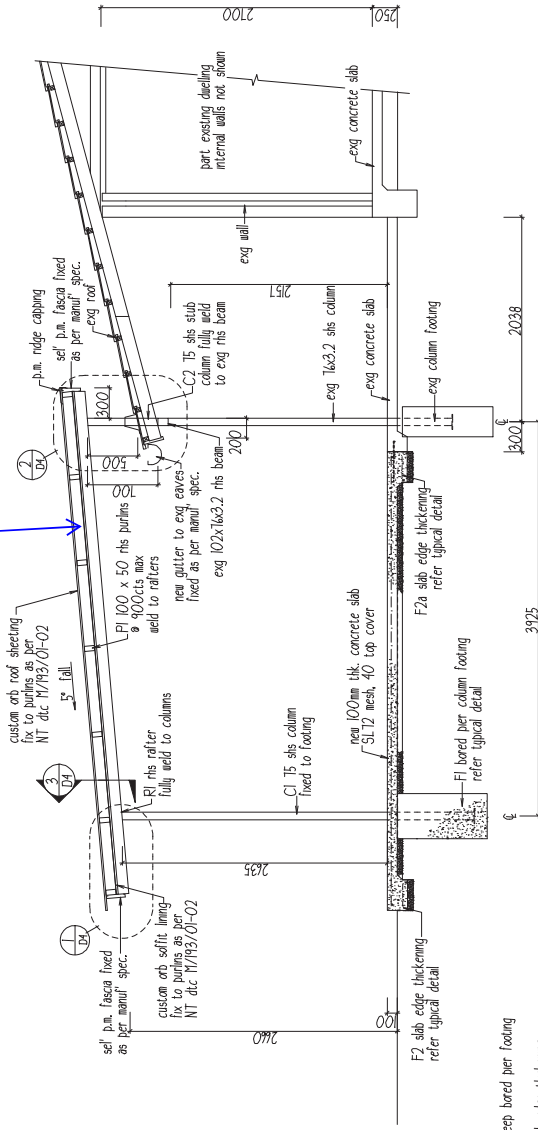
FLOOR PLAN
1:100

GENERAL NOTES

- These drawings contain information required for obtaining building permit, they are not detailed sufficiently for a specification for a building contract with a builder. An additional specification should be written to include painting, electrical & plumbing fittings & secondary things (furniture, robes, cupboards, etc.)
- All work & materials shall comply with the current Building Code of Australia & comply with the relevant current Standards Association of Australia codes and the local statutory authorities regulations (N.T. deemed to comply standards)
- All dimensions are in millimetres unless stated otherwise. All levels are expressed in metres. Verify all dimensions relevant to setting out and off-site work before construction and fabrication is commenced as no responsibility will be taken after construction commences.
- Read drawings in conjunction with all other consultants' drawings and specifications and with such other written instructions as may be issued during the course of the contract. Refer all discrepancies to the Superintendent for decision before proceeding with the work.
- During construction maintain the structure in a stable condition and ensure no part is overstressed under construction activities. Seek approval for all substitutions from the Superintendent before the work commences.
- Keep the site in a clean & tidy condition throughout construction & at the completion of work remove all litter & debris to the satisfaction of the superintendent.

- LEGEND:
- FI 450dia x 900 deep bored pier footing refer typical detail
 - F2 300dia x 100dia slab edge thickening refer typical detail
 - F2a 300dia x 100dia slab edge thickening with R2 dowels to exg slab edge refer typical detail
 - C1 15 x 4 sbs column fixed to footing
 - C2 15 x 4 sbs slab column fully welded to exg this beam
 - RI 125 x 15 x 4 rls rafter fully welded to columns
 - PI 9 400cts max weld to rafters

Install sarking blanket
Aircell 65

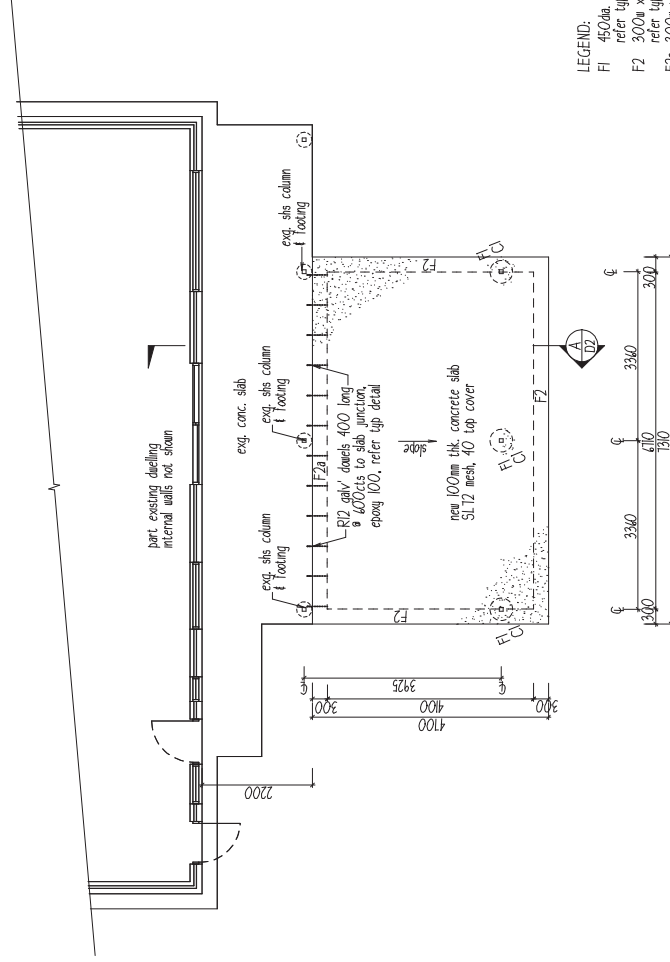


SECTION A
1:50

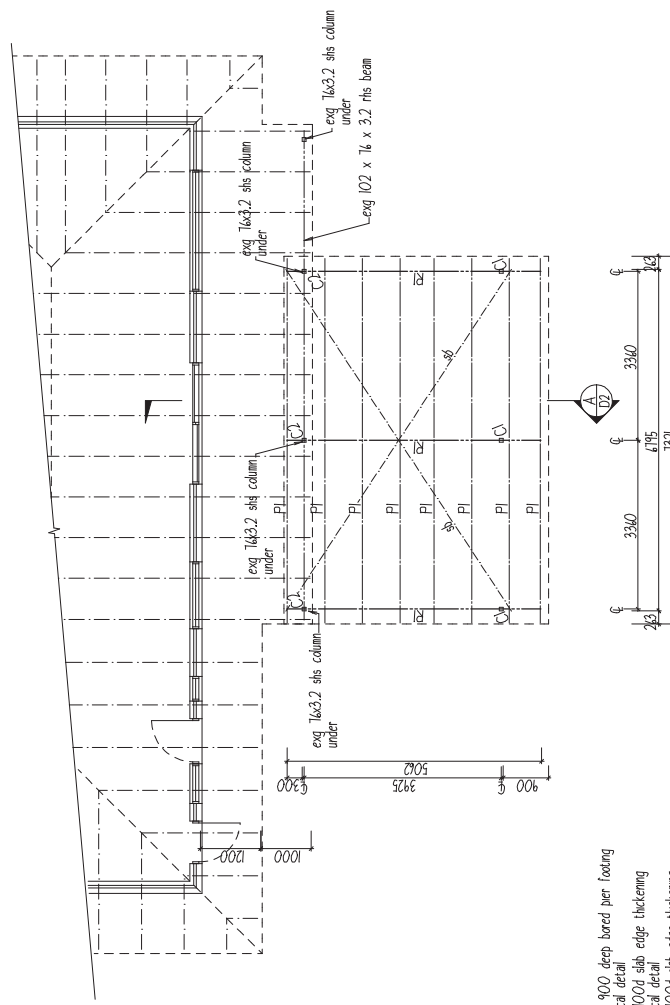
CERTIFIED AS STRUCTURALLY ADEQUATE	
	KFB Engineers Civil & Structural 1184-42 Peace St, Cairns 1 PO Box 927, Cairns 9 4870 P: 07 40324462 F: 07 40320992 E: email@kfbeng.com.au
Date: 13/06/23	Signature: 
Job No: K-10582	NT Reg. 33968ES

amend: a change dgt title & layouts, add dgt 04/04/23

 Ph: 0451889990	Project Title PROPOSED UNDERCOVER AREA TO EXISTING 'L' SHAPE HOUSE JABIRU HOUSING JABIRU, N.T.	
	Drawing Title FLOOR PLAN SECTION A GENERAL NOTES	Client Jabiru Kabokmakken LTD.
	Date 08/09/2022	Scale as shown on A3
	Job No. J22418	Dwg. No. D2a of 8



SLAB/FOOTING PLAN A
1:100



ROOF FRAMING PLAN A
1:100

LEGEND:

- F1 450dia. x 900 deep bored pier footing refer typical detail
- F2 300dia x 1000 slab edge thickening refer typical detail
- F2a 300dia x 1000 slab edge thickening with RD dowels to eng slab edge refer typical detail
- C1 15 x 4 sls column fixed to footing
- C2 15 x 4 sls stub column fully weld to eng rls beam
- R1 125 x 15 x 4 rls rafter fully weld to columns
- P1 100 x 50 x 2 rls purlins @ 900c/cs max weld to rafters
- sb 30 x 1mm galv' strap bearing pulled tight & fixed with 3/16" half" anchor head lugs each end @ 1 tek to each purlin crossing

**CERTIFIED AS
STRUCTURALLY ADEQUATE**

**KFB Engineers**
Civil & Structural
108-42 Peace St, Cairns | PO Box 927, Cairns Q 4870
P: 07 40324462 | F: 07 40320092 | E: email@kfbeng.com.au

Date: 13/06/23
Job No: K-10582

Signed: 
NT Reg. 33968ES

amend: a change dwg title & layout, add dings 04/04/23		Client Jabiru Kabokmakken LTD.	
Project Title	PROPOSED UNDERCOVER AREA TO EXISTING 'L' SHAPE HOUSE JABIRU HOUSING JABIRU, N.T.	Drawing Title	SLAB/FOOTING PLAN A ROOF FRAMING PLAN A
Wilkins Drafting Service Ph:0451889990		Scale	as shown on A3
		Job No.	J22418
		Dwg. No.	D3a of 8

STRUCTURAL NOTES

DESIGN CRITERIA

- Dead & live loads - in accordance with AS1070.1 - 2011
- The Design Wind Criteria is as follows :

Design Wind Speed
Terrain Category
Internal Pressure Coefficient
External Pressure Coefficient

V_{5000}
25
 $+0.1 / -0.5$

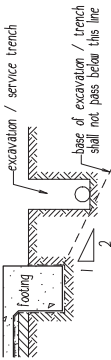
$V_r = 6m/s$
- Foundation design bearing capacity = 100kPa (allowable).
Wind Classification C2 (AS4055)

Ultimate and Serviceability Limit State Design
Wind Pressures

Wind Classification	Design gust and speed (m/s)		Design pressures for windows (kPa)	
	V ₁₀	V ₁₅	Greater than 12m up to 12m from corners	elsewhere
C1	ULS	SLS	ULS	SLS
	50	32	+1.80 -2.10	+0.55 -0.83
C2	4	39	+2.48 -4.02	-1.23
C3	14	47	+3.94 -5.91	-1.19

EARTHWORKS

- Earthworks construction shall comply with AS3798 & AS2810.
- Excavation & service trenches shall comply with the following guidelines unless otherwise approved by the engineer



- The contractor shall determine the exact location of existing services prior to any installation or commencement of work.

TERMITE MANAGEMENT SYSTEM

- Termite Management System to be installed & certified by an approved applicator in accordance with AS 3660.1.
- Provide 150mm x 300mm x 50mm concrete housing strip over perimeter reticulation system as to AS3660.1
- A durable certificate is to be issued in the meter box on completion.

FOOTINGS

- Found all footings in original undisturbed ground having a safe bearing capacity of 150 kPa as noted on drawings. Before any concrete is placed, ensure the safe bearing capacity is verified.
- Backfill seers, surmount drains and other in-ground services adjacent to buildings. If laid before footings are constructed, with approved fill placed in 200mm thick layers and compacted to 95% MFD.
- If laid after footings are constructed, avoid undermining of footings by either fully shoring trenches, or keeping excavation outside an influence line extended downwards at a slope of 1 in 2 from the bottom corner of all footings. Backfill trenches as noted above.
- Use selected fill (gravel, decomposed or broken rock) free from clay clumps and organic matter, conforming with the following grading requirements :

AS METRIC SIEVE	% PASSING BY WEIGHT	AS METRIC SIEVE	% PASSING BY WEIGHT
15.0 mm	100	2.36 mm	20 - 50
4.75 mm	30 - 100	0.075 mm	5 - 25

- Strip the area of all top soil and deleterious material prior to placement of fill or compaction. Compact fill up to 150 mm below slab level in 150 mm layers to 95% MFD.
- Compact fill in the 150 mm layer immediately below slab level to 95% MFD. Compact sand blinding layer below concrete slab by vibration plate or flooding to 95% MFD.
 - Backfill over excavation with lean max concrete.
 - Builder to confirm size classification 'S' to AS2810

CONCRETE

- All slabs & footings shall be constructed to comply with the requirements of AS2810 - 2011
- Concrete slump shall be 80 +/- 5mm. No admixtures to be used without approval from the engineer.
- Concrete cover to be maintained by the use of approved chairs at nominal 600c/c. Conduits & pipes shall not be placed within concrete cover.
- Mesh reinforcement laps shall be at least one full wire spacing plus 25mm. Reinforcement shall be in accordance with AS4711.
- Continuously cast slabs for a minimum of 7 days after casting by jacking, covering with a waterproof membrane or other approved means.

STEEL

- All structural steelwork shall comply with AS 400 - SAA Steel Struct. Code & associated Australian Standards.
- Ensure welding is performed by an experienced operator in accordance with AS 1554.
- Use hot dipped galvanized commercial bolts (Grade 4U/S) to AS11 and AS 102 tightened to a snug tight, unless otherwise shown. Where bolts are designated grade 8.8/S, use high strength bolts to AS 1252, tightened to a snug tight fit.
- Where bolts are designated 8.8/TF or grade 8.8/TF use high strength steel bolts (grade 8.8/S) to AS 1252, fully tensioned in accordance with AS 1511.
- During construction provide and leave in place, until permanent bracing elements are constructed, such temporary bracing as is necessary to stabilise the structure during erection.
- Seal the ends of all tubular members with nominal thickness plates and continuous filler welds unless otherwise shown.
- Except where otherwise shown fully weld connections with 4mm continuous fillet (general purpose (G.P.) welds for the full contact area. Special purposes welds are designated (S.P.)
- Unless otherwise specified, paint all external steelwork with one shop coat of Inorganic Zinc Silicate primer after blast cleaning to a class 2.5 finish. Touch up damaged areas with cold galv after power cleaning. Members encased in concrete, fire sprayed or HSTF bolted connections must not be painted
- Unless otherwise specified paint all internal steelwork with one shop coat of Red Oxide Zinc Phosphate primer after blast cleaning to a class 2 finish. Touch up damaged areas as required after power cleaning. Alternatively for RHS, use Duralgal and touch up with Duralgal. Zelen or equal and paint for long term protection to manufacturers recommendations.
- Unless otherwise specified paint steelwork below finished surface level and not concrete encased with high build epoxy.
- Unless otherwise specified paint all steelwork one shop coat of Red Oxide Zinc Phosphate primer. Do not paint members encased in concrete, fire sprayed or friction grip bolted connections.
- Protective coatings to all external steelwork to comply with BCA-% Table 3.4.4.2.

TIMBER

- Structural timber shall be minimum stress grade F11 (UNO.) to comply with AS1720

INSULATION

- Airceil 65 or equivalent sarking plank to be installed to manufacturers instructions

CERTIFIED AS
STRUCTURALLY ADEQUATE



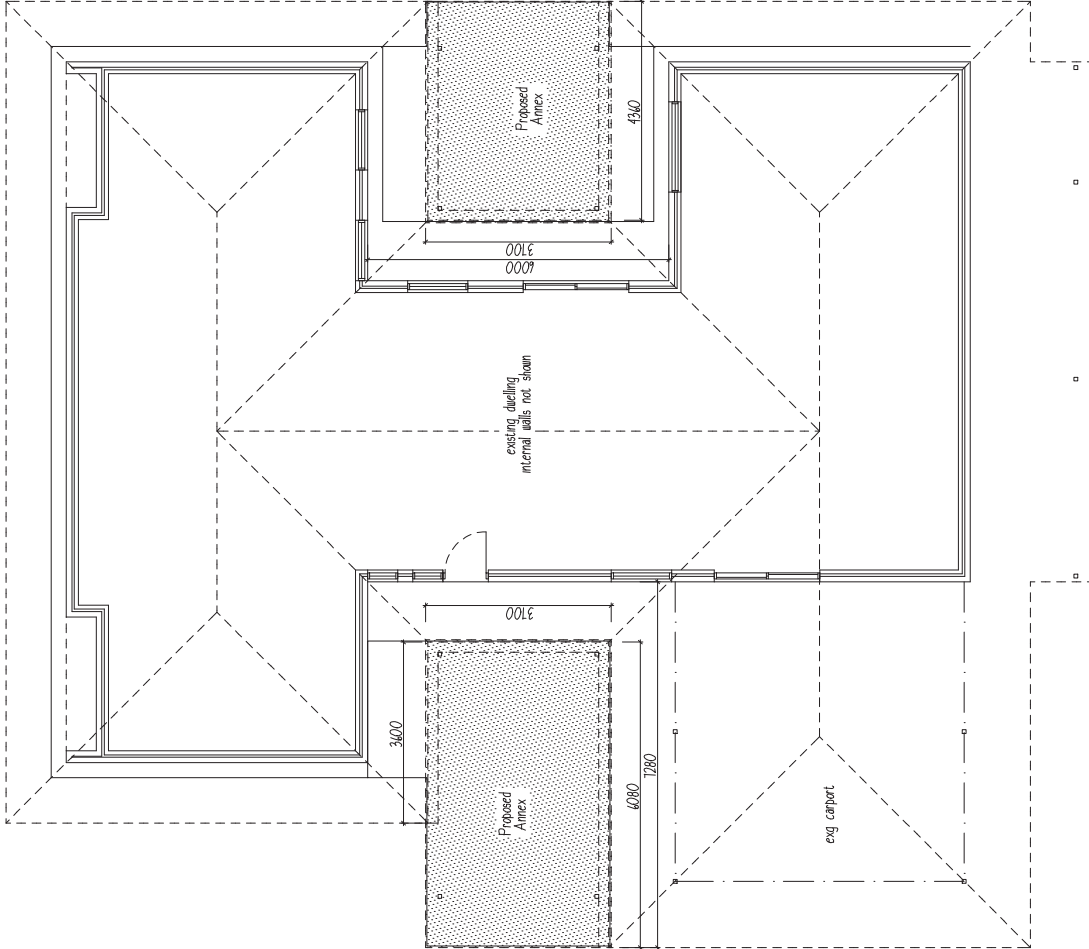
KFB Engineers

Civil & Structural
1194-42 Pines St, Cairns 1 PO Box 927, Cairns 9 4870
P: 07 40324462 | F: 07 40320092 | E: email@kfbeng.com.au

Date: 13/6/23
Job No: K-10582

Signed: 
NT Reg. 33968ES

'H' SHAPE - LAYOUT PLAN
1 : 200



Wilkins
Drafting
Service

Ph: 0451889990

Project Title
PROPOSED UNDERCOVER AREAS
TO EXISTING 'H' SHAPE HOUSE

J22418

D5a of 8

Scale as shown on A3

Client
Jabiru Kabokmaken LTD.

Date 08/09/2022

Drawing Title
'H' SHAPE - LAYOUT PLAN
STRUCTURAL NOTES

Job No.
J22418

amend a change dwg title & layout, add dings 04/04/23

Client
Jabiru Kabokmaken LTD.

Date 08/09/2022

Drawing Title
'H' SHAPE - LAYOUT PLAN
STRUCTURAL NOTES

Job No.
J22418

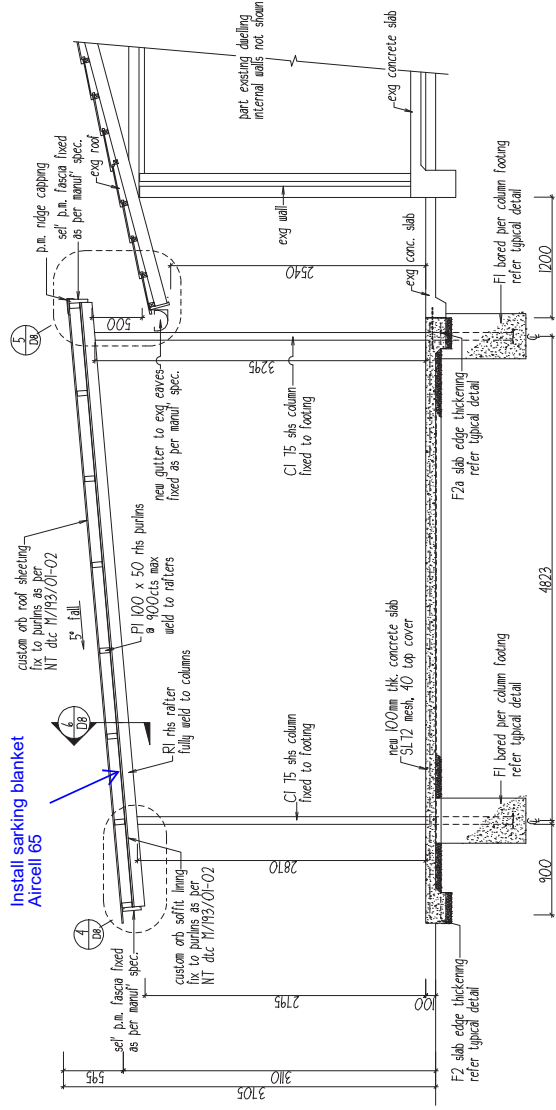
1. These drawings contain information required for obtaining building permit, they are not additional specification or a specification for a building contract with a builder.
An actual specification should be written to include painting, electrical & plumbing fittings & secondary things (kitchen, robes, cupboards, etc.).
2. All work & materials shall comply with the current Building Code of Australia & comply with the relevant current Standards Association of Australia codes and the local statutory authorities regulations (N.T. deemed to comply standards).
3. All dimensions are in millimetres unless stated otherwise. All levels are expressed in metres. Verify all dimensions relevant to setting out and off-site work before construction and fabrication is commenced as no responsibility will be taken after construction commences.
4. Read drawings in conjunction with all other consultants' drawings and specifications and with such other written instructions as may be issued during the course of the contract. Refer all discrepancies to the Superintendent for decision before proceeding with the work.
5. During construction maintain the structure in a stable condition and ensure no part is over-stressed under construction activities.
6. Seek approval for all substitutions from the Superintendent before the work commences.
7. Keep the site in a clean & tidy condition throughout construction & at the completion of work remove all litter debris to the satisfaction of the superintendent.

FI	450da x 900 deep bored pier footing refer typical detail
F2	300w x 100d slab edge thickening refer typical detail
F2a	300w x 100d slab edge thickening with R12 dowels to exg slab edge refer typical detail
CI	15 x 4 sis column fixed to footing
RI	125 x 15 x 4 ris rafter fully welded to columns
PI	100C x 50 x 2 ris burins @ 900C/s, exg weld to rafters

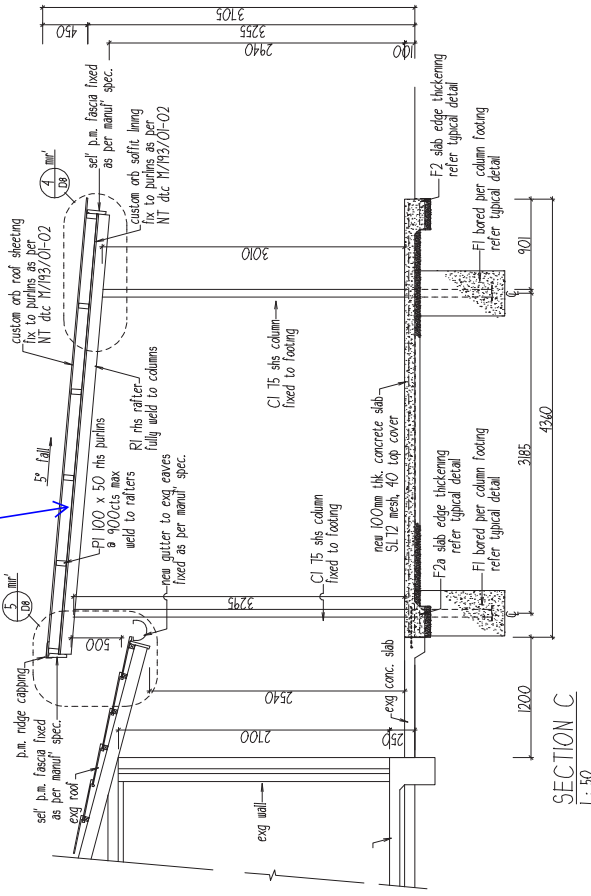
KFB Engineers Civil & Structural
1/38-42 Pease St, Cairns | PO Box 927, Cairns Q 4870
P: 07 40320492 | F: 07 40320092 | E: email@kfbeng.com.au

Date: 13/6/23 Signed:  NT Reg. 33968ES

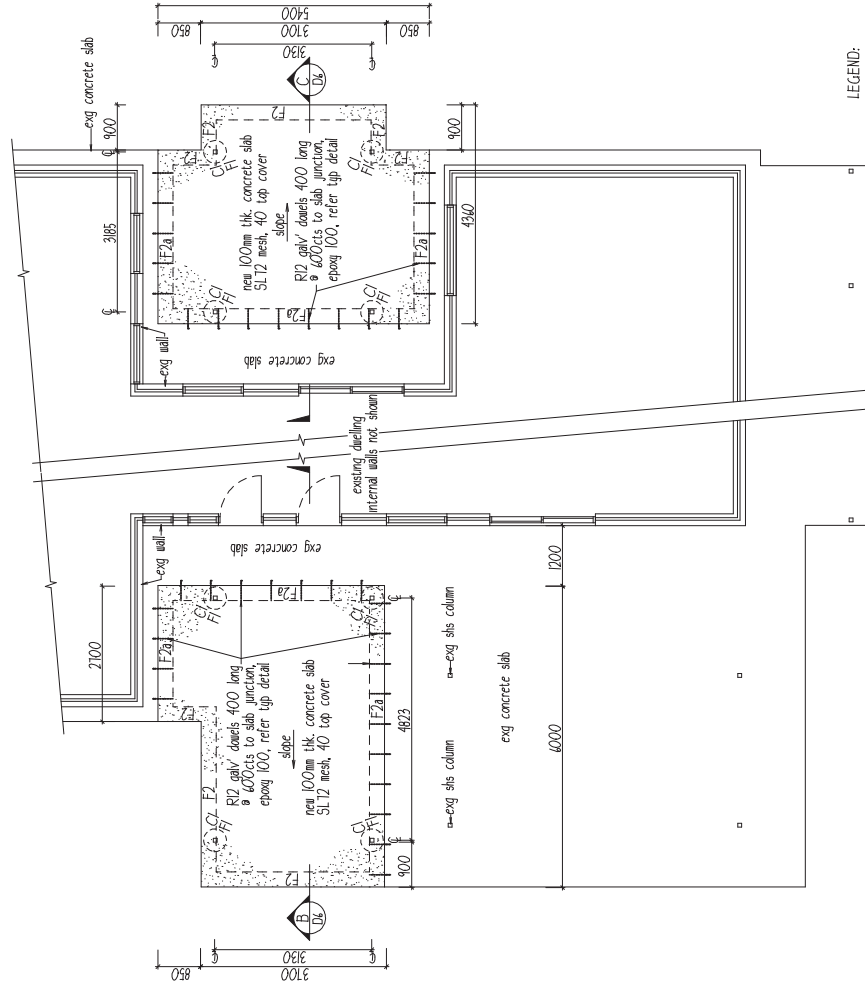
Job No: K-10582



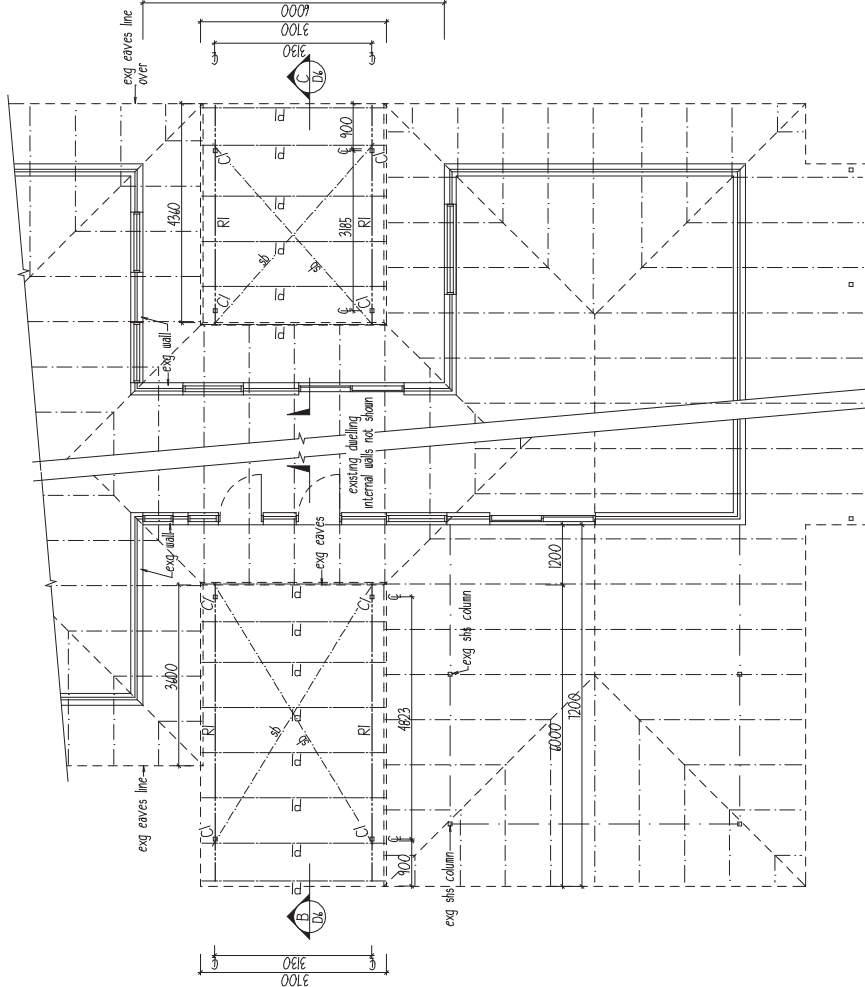
Install sarking blanket



SECTION C
1:50



SLAB/FOOTING PLAN
1 : 100



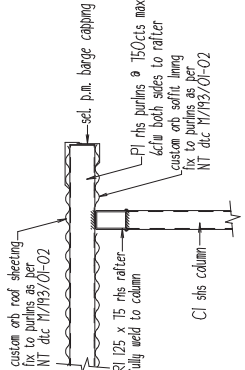
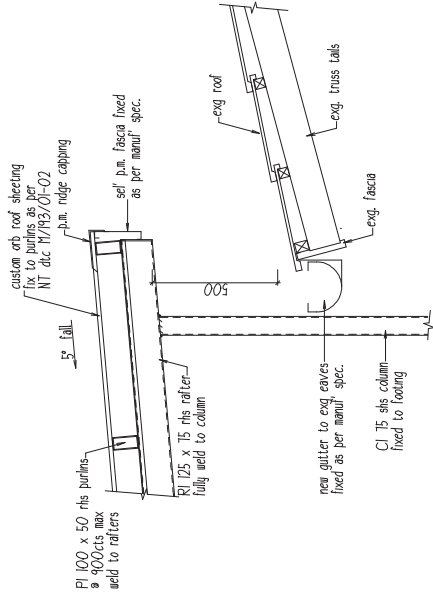
ROOF FRAMING PLAN
1 : 100

LEGEND:

- F1 450dia. x 900 deep bored pier footing
refer typical detail
- F2 300dia. x 1000 slab edge thickening
refer typical detail
- F2a 300dia. x 1000 slab edge thickening
with R12 dowels to exg slab edge
refer typical detail
- C1 75 x 4 sls column
fixed to footing
- R1 25 x 15 x 4 rls rafter
fully welded to columns
- PI 100 x 50 x 2 rls purlins
900cts max weld to rafters
- sb 30 x 1mm galv/ strip bracing pulled
tight & fixed with 3/16-16x5 washer
head lts each end @ 1 ltk to
each purlin crossing.

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Date: 13/06/23	Signed: 
Job No: K-10582	NT Reg. 33968ES

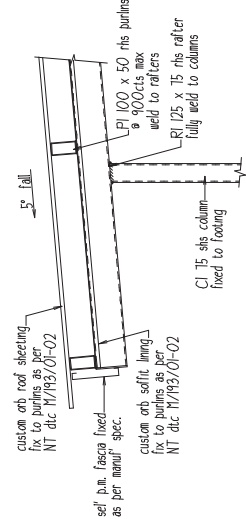
amend: a change dng title & layouts, add dngs 04/04/23		Client Jabiru Kabokmakken LTD.	
Project Title	PROPOSED UNDERCOVER AREAS TO EXISTING 'H' SHAPE HOUSE	Drawing Title	SLAB/FOOTING PLAN
Wilkins Drafting Service	JABIRU HOUSING	Scale	as shown on A3
Ph: 0451889990	JABIRU, N.T.	Job No.	J22418
		Dwg. No.	D7a of 8



DETAIL 6
I : 20 D4

DETAIL 5
I : 20 D4

DETAIL 4
I : 20 D4



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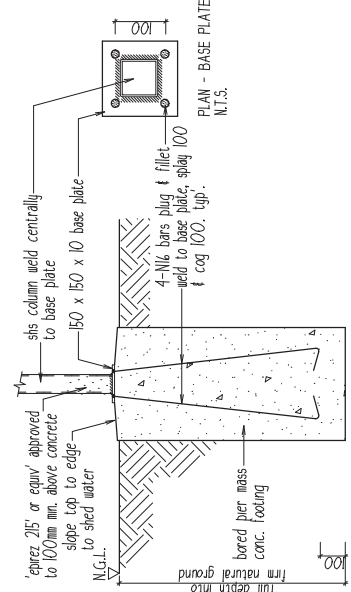
P 07 46334642 | F 07 46334641 | E info@kfbeng.com.au

Date: 13/6/23

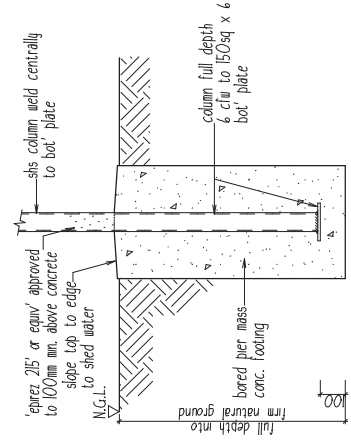
Job No: K-10582

Signed: [Signature]

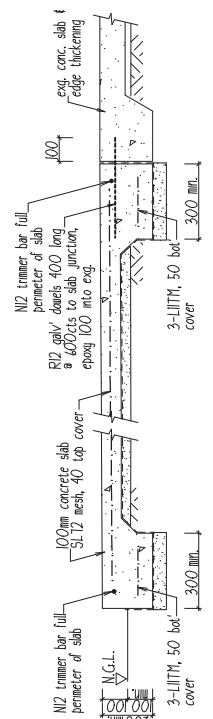
NT Reg. 33968ES



FI - TYPICAL DETAIL
I : 20



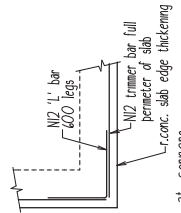
FI - ALT' DETAIL
I : 20



F2 - TYPICAL DETAIL
I : 20

F2a - TYPICAL DETAIL
I : 20

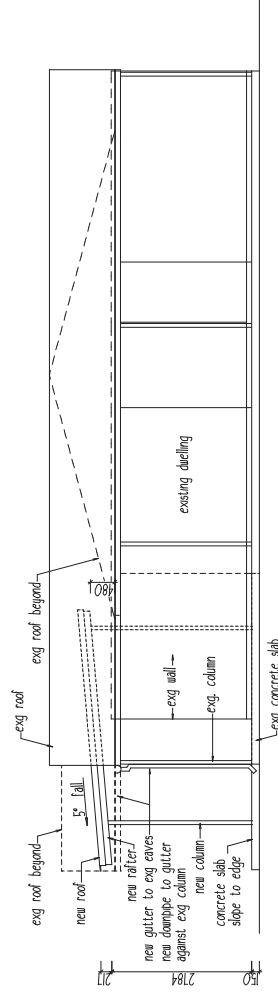
- LEGEND:
- F1 450dia x 900 deep bored pier footing
refer typical detail
 - F2 300dia x 1000 slab edge thickening
refer typical detail
 - F2a 300dia x 1000 slab edge thickening
with RI2 dowels to exg slab edge
refer typical detail
 - CI 15 x 4 shs column
fixed to footing
 - RI 15 rns rafter
fully weld to columns
 - PI 100 x 50 rns purlins
9 400cts max
weld to rafters



TYPICAL SLAB REINF' PLAN DETAIL
N.T.S.

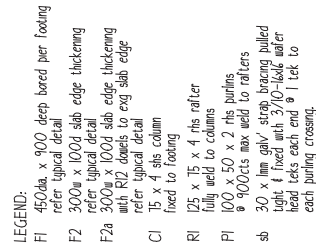
amend: a change dng title & layout, add dngs 04/04/23	Client	Jabiru Kabokmaken LTD.
Project Title	Drawing Title	TYPICAL FOOTING DETAILS
PROPOSED UNDERCOVER AREAS	Scale	as shown on A3
TO EXISTING 'H' SHAPE HOUSE	Date	08/09/2022
JABIRU HOUSING	Job No.	J22418
JABIRU, N.T.	Dwg. No.	D8a of 8

1. These drawings contain information required for obtaining building permit, they are not detailed sufficiently for a specification for a building contract with a builder.
An additional specification should be written to include pending electrical plumbing fittings, secondary drains (kitchen, robes, apartments, etc.)
2. All work if materials shall comply with the current Building Code of Australia I comply with the relevant current Standards (Association of Australia codes and the local statutory authorities regulations (N.S. deemed to comply standards)
3. All dimensions are in millimetres unless stated otherwise. All levels are expressed in metres.
4. Vertical dimensions relevant to setting out and site-work before construction and fabrication is commenced as no responsibility will be taken after construction commences.
5. Read drawings in conjunction with all other consultants' drawings and specifications and with such other written instructions as may be issued during the course of the contract.
6. Refer all discrepancies to the Superintendent for decision before proceeding with the work.
7. During construction maintain the structure in a stable condition and ensure no part is overstressed under construction activities.
8. Seek approval for all substitutions from the Superintendent before the work commences.
9. Keep the site in a clean & tidy condition throughout construction & at the completion of work remove all litter & debris to the satisfaction of the superintendent.

[illegible]
$$\frac{\text{LAYOUT PLAN}}{1:100}$$

Wilkins Drafting Service Ph. 0457889990	Project Title PROPOSED PERGOLA TO EXISTING JABIRU HOUSING MISC. 3 BEDROOM DWELLING JABIRU. N.T. 0886	Drawing Title LAYOUT PLAN ELEVATIONS GENERAL NOTES
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Drawing Title LAYOUT PLAN ELEVATIONS GENERAL NOTES	Client Jaliru Kabokmakimen		Date 24/10/2022
	Scale	As shown on A3	Draw. No.
	Job No.	J22425	
	Dia of 4		



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Date: 13/6/23 Signed: 
Job No: K-10582 NT Reg. 33968ES

amend^u: Δ : rev' project title: 06/06/23

Client	Jabiru Kabolkmakmen
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Scale as shown on A3	Date 24/10/2022
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Job No.	Dwg. No.
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J22425	D2a of
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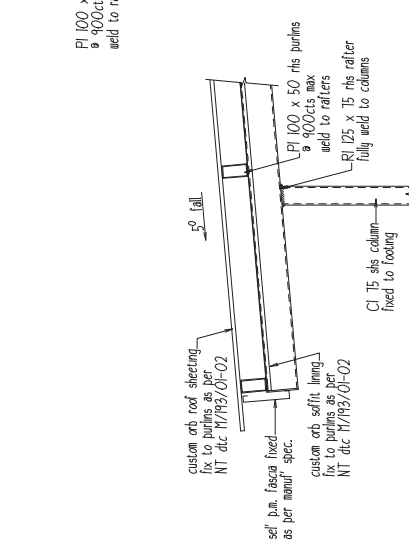
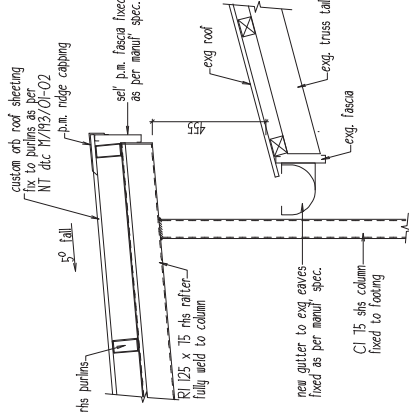
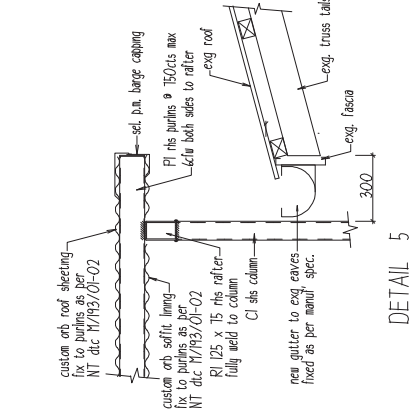
Project Title	Drawing Title
PROPOSED PERGOLA TO EXISTING JABRU HOUSING	SLAB/FOOTING PLAN
MISC 3 BEDROOM DWELLING JABRU. N.T. 0886	ROOF FRAMING PLAN

**Wilkins
Drafting
Service**
Ph. 0457889990

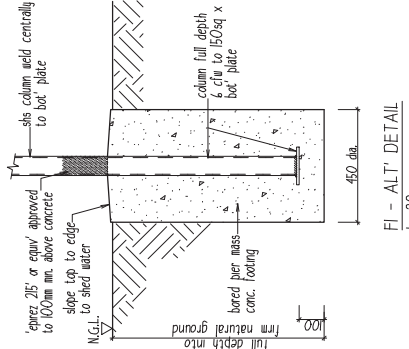
LEGEND:

- F1 450dia. x 900 deep bored pier footing refer typical detail
- F2 300dia x 1000 slab edge thickening refer typical detail
- F2a 300dia x 1000 slab edge thickening with R12 dowels to exg slab edge refer typical detail
- CI 75 x 4 sls column fixed to footing
- RI 125 x 75 x 4 rls rafter fully welded to columns
- PI 100 x 50 x 2 rls purlins 9 900cts max weld to rafters

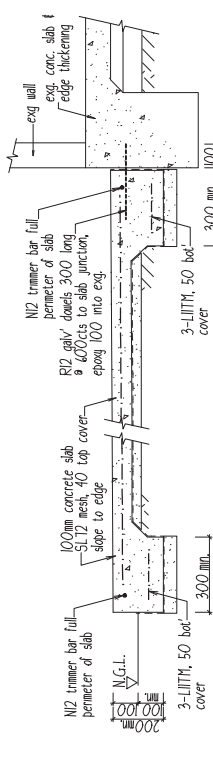
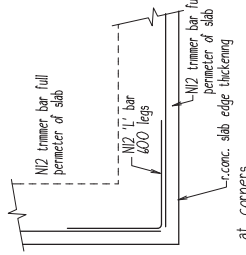
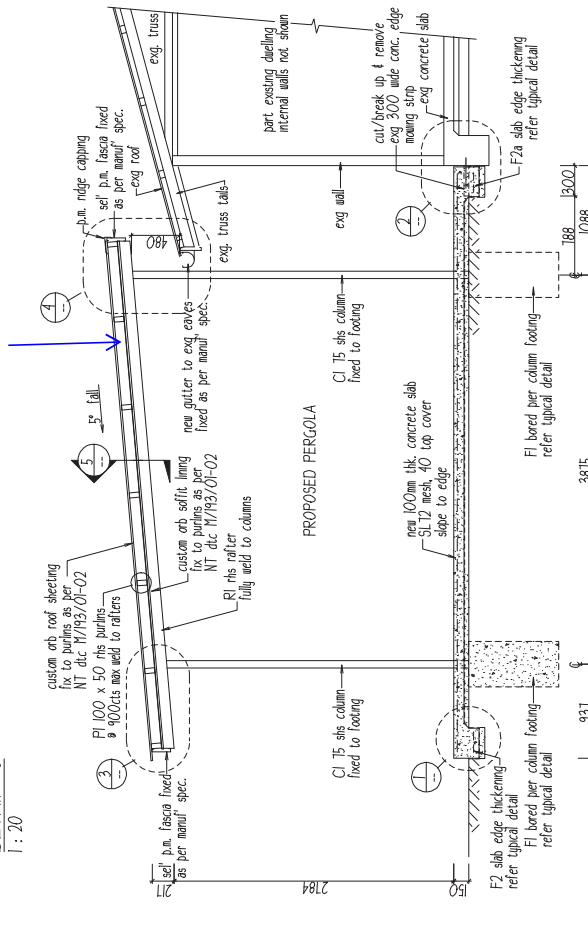
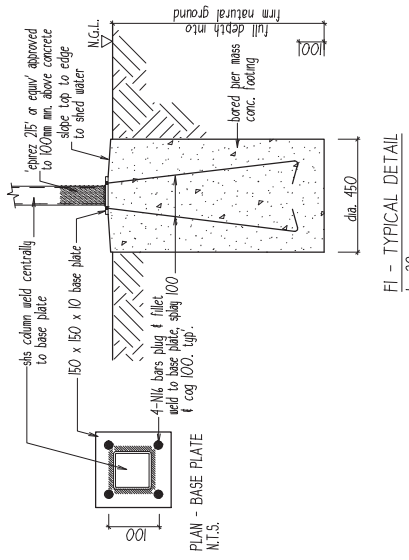
Install sarking blanket Aircell 65



DETAIL 4 1 : 20



DETAIL 3 1 : 20



DETAIL 1 F2 - TYPICAL DETAIL 1 : 20

DETAIL 2 F2a - TYPICAL DETAIL 1 : 20

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Date: 13/06/23
Job No: K-10582
Signed: [Signature]
NT Reg. 33968ES

Project Title PROPOSED PERGOLA TO EXISTING SECTION A	Drawing Title SECTION A DETAILS
Client JABIRU HOUSING	Date 24/10/2022
Scale as shown on A3	Job No. J22425
Project No. Ph0451889990	Dwg. No. D3a of 4

STRUCTURAL NOTES

DESIGN CRITERIA

- Dead & live loads - in accordance with AS1101.1 - 2011
 - The Design Wind Criteria is as follows :

Region C

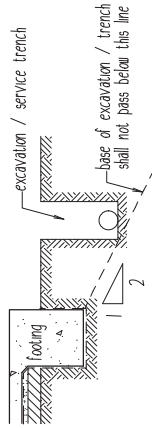
Design Wind Speed
Terrain Category
Internal Pressure Coefficient
External Pressure Coefficient

$V_{500} = 49m/s$
2.5
+0.1 / -0.65
in accordance with AS1101 - 2011
 - Foundation design bearing capacity = 100kPa (allowable).
- Wind Classification C2 (AS4035)
- Ultimate and Serviceability Limit State Design
- Wind Pressures

Wind Classification	Design gust wind speed (m/s)		Design pressures for windows (kPa)	
	V_{WU}	V_{HS}	Greater than 1.2m from corners	Up to 1.2m from corners
C1	ULS	SLS	ULS	ULS
	50	32	± 1.80	± 0.55
C2	ULS	SLS	ULS	ULS
	48	30	± 2.48	± 0.88
C3	ULS	SLS	ULS	ULS
	47	29	± 3.94	± 1.19

EARTHWORKS

- Earthworks construction shall comply with AS3798 & AS2870.
- Excavation & service trenches shall comply with the following guidelines unless otherwise approved by the engineer



- The contractor shall determine the exact location of existing services prior to any installation or commencement of work.

TERMITE MANAGEMENT SYSTEM

- Termite Management System to be installed & certified by an approved applicator in accordance with AS 3660.1.
- Provide Min. 300 wide x 50mm concrete mousing strip over perimeter reticulation system as to AS3660.1
- A durable certificate is to be fixed in the meter box on completion.

FOOTINGS

- Found all footings in original undisturbed ground having a safe bearing capacity of 150 kPa as noted on drawings. Before any concrete is placed, ensure the safe bearing capacity is verified.
- Backfill sealer, stormwater drains and other in-ground services adjacent to buildings, if laid before footings are constructed, with approved fill placed in 200mm Max. layers and compacted to 95% MDD.
- If laid after footings are constructed, avoid undermining of footings by either fully storming trenches, or keeping excavation outside an influence line extended downwards at a slope of 1 in 2 from the bottom corner of all footings. Backfill trenches as noted above.
- Use selected fill (gravel, decomposed or broken rock) free from clay clumps and organic matter, conforming with the following grading requirements :

AS METRIC SIEVE	% PASSING BY WEIGHT	AS METRIC SIEVE	% PASSING BY WEIGHT
75.0 mm	100	234 mm	20 - 50
4.5 mm	30 - 100	0.075 mm	5 - 25

- Strip the area of the works of all top soil and deleterious material prior to placement of fill or compaction. Compact fill up to 150 mm below slab level in 150 mm layers to 95% MDD.
- Compact fill in the 150 mm layer immediately below slab level to 95% MDD. Compact sand binding layer below concrete slab by vibration plate or flooding to 95% MDD.
 - Backfill over excavation with lean mix concrete.
 - Builder to confirm site classification "S" to AS2870

CONCRETE

- All slabs & footings shall be constructed to comply with the requirements of AS2870 - 2011
- Concrete slump shall be 80 ± 15mm. No admixtures to be used without approval from the engineer.
- Concrete cover to be maintained by the use of approved chairs at nominal 800c/c's. Conduits & pipes shall not be placed within concrete cover.
- Mesh reinforcement laps shall be at least one full wire spacing plus 25mm. Reinforcement shall be in accordance with AS4711.
- Continuously cure slabs for a minimum of 7 days after casting by ponding, covering with a waterproof membrane or other approved means.

INSULATION

- Aircell 65 or equivalent sarking planket to be installed to manufacturers instructions

STEEL

- All structural steelwork shall comply with AS 4100 - SAA Steel Struct. Code & associated Australian Standards.
- Ensure welding is performed by an experienced operator in accordance with AS 1554.
- Use hot dipped galvanised commercial bolts (Grade 4.6/5) to AS1111 and AS 1112, tightened to a snug tight fit, unless otherwise shown. Where bolts are designated grade 8.8/5, use high strength bolts to AS 1252, tightened to a snug tight fit.
- Where bolts are designated 8.8/1F or grade 8.8/1B use high strength steel bolts (grade 8.8/5) to AS 1252, fully tensioned in accordance with AS 1511.
- During construction provide and leave in place, until permanent bracing elements are constructed, such temporary bracing as is necessary to stabilise the structure during erection.
- Seal the ends of all tubular members with nominal thickness plates and continuous fillet welds unless otherwise shown.
- Except where otherwise shown fully weld connections with 6mm continuous fillet, general purpose (G.P.) welds for the full contact area. Special purposes welds are designated (S.P.)
- Unless otherwise specified, paint all external steelwork with one shop coat of Inorganic Zinc Silicate primer after blast cleaning to a class 2.5 finish. Touch up damaged areas with cold galv after power cleaning. Members encased in concrete, fire sprayed or HSIF bolted connections must not be painted
- Unless otherwise specified paint all internal steelwork with one shop coat of Red Oxide Zinc Phosphate primer after blast cleaning to a class 2 finish. Touch up damaged areas as required after power cleaning. Alternatively for RHS, use Duragal and touch up with Dmict. Zeden or equal and paint for long term protection to manufacturers recommendations.
- Unless otherwise specified paint steelwork below finished surface level and not concrete encased with high build epoxy.
- Unless otherwise specified paint all steelwork one shop coat of Red Oxide Zinc Phosphate primer. Do not paint members encased in concrete, fire sprayed or friction grip bolted connections.
- Protective coatings to all external steelwork to comply with BCA-% Table 3.4.4.2.

TIMBER

- Structural timber shall be minimum stress grade F11 (UK.O.) to comply with AS1720

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Date: 13/6/23	Signed:
Job No: K-10582	NT Reg. 33968ES

amend: rev' project title: 04/04/23

Project Title		Drawing Title	
Wilkins Drafting Service Ph:0451889990		PROPOSED PERGOLA TO EXISTING JABIRU HOUSING MISC 3 BEDROOM DWELLING JABIRU, N.T. 0886	
Client Jabiru Kakodjakenen		Scale as shown on A3	
Job No. J22425		Date 24/10/2022	
Dug. No. D4a of 4		Job No. J22425	