NRW MACALLAN (FIJI) LTD
CONSULTING ENGINEERS
CIVIL, STRUCTURAL & PROJECT MANAGEMENT

49 GLADSTONE RD, SUVA
P O BOX 1208
SUVA
FIJI

TELEPHONE: (679) 331 3388
FAX : (679) 330 2903
Email: info@nrwmacallan.com.fj

ENGINEER'S CYCLONE CERTIFICATE

NRW REFERENCE NO.
21807251

I, **NATHAN KIRK**, being a Professional Member of the **FIJI INSTITUTION OF ENGINEERS** hereby certify that I have reviewed the ~~design and construction of the~~ existing structure for cyclonic wind loads.

Building Owner: AMITESH LAL
Address: LOT 17 IKADROKA PLACE KANACE RD
Location: VALELEVU SUVA

Legal Description
Deposited Plan: --
Crown Title: --
Zone Type: Residential

I further certify that the works defined above have been assessed in accordance with sound and widely accepted Engineering principles; that they generally complies with the National Building Code of Fiji and the following specific Reference Codes.

1. **AS/NZS 1170.2 – 2002: Structural Design Wind Actions.**
2. .....N/A.....
3. .....N/A .....
4. .....N/A .....

I further state that I have generally ascertained to the best of my ability that the stresses and combinations of stresses in the various materials of construction under the above loads will not generally exceed the maxima to ensure the safety and stability of the structure.

(1) BRIEF DESCRIPTION OF STRUCTURE(S):

This certificate only serves the purpose of residential property at Lot 17 Ikadroka Pl Kanace Rd Valelevu Suva. The property comprises of concrete stumps which supports timber floor framing and flooring, timber wall framing and timber roof framing.

Enclosed floor dimension Length ≈ 16m, Width ≈ 13m, Eaves height ≈ 2.6m

(2) Additional detached structures excluded from this Certification:

Any other new structure that may be erected within the premise after the certificate issue date.

(3) WIND LOAD DESIGN CRITERIA: *(as per AS/NZS 1170.:2002)*

a) Minimum Regional Wind Speed, $V_{R\,(u)}$: 66.0 m/s *(ultimate limit state)*
b) Structure Importance Level : 2
c) Internal Pressure Coefficients, $(C_{p,i})$: +0.7
d) Design Wind Velocity, $V_{(des,\,\Theta)}$: 70 m/s *(ultimate limit state)*

(4) BUILDING ENVELOPE

I certify that the building envelope (all windows, doors and cladding) appears capable of resisting impact loading from windborne debris determined in accordance with **Clause 2.5.7** and as stipulated under **Clause 5.3.2** of AS/NZS 1170.2: 2011.

Note: This certificate format has been jointly reviewed and approved by the Fiji Institution of Engineers and the Insurance Council of Fiji on 27th November 2009.

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(5) EXPIRY DATE OF THIS CERTIFICATE: 25th January 2026
(Maximum 7 years subject to conditions stated below.)

The validity of this Cyclone Certificate is subject to the property being regularly maintained by the building owner. Regular maintenance shall include but be not limited to the following: roof gutters and its fasteners, roof cladding, capping and fasteners, any service unit such as water tanks, solar panels, etc, all exposed timber and steel including the fasteners forming the roof and other building structural components and shutters and fasteners for the externally glazed areas. Fasteners shall include but not be limited to the following: nails, screws, straps, bolts, welds, plates, brackets, etc.

(6) GENERAL

a) ENSURE THAT ALL EXTERNAL GLAZED AREAS ARE TO BE COVERED WITH CYCLONE SHUTTERS PRIOR TO A CYCLONE EVENT
b) ANY FURTHER ALTERATION TO THE STRUCTURE IS EXCLUDED FROM CERTIFICATION.
c) OWNER IS TO CARRY OUT REGULAR MAINTENANCE OF THE STRUCTURE.
d) TRIM OFF BRANCHES OF TREES TOO CLOSE TO STRUCTURE AS A PRECAUTIONARY MEASURE.

(7) WAIVERS

1) The report however recognizes that only representative inspection samples of the structural components have taken place, and that the inspection has not covered those components which are embedded, or otherwise out of view. In such cases the structural components which cannot be seen are deemed to be either similar to those within view or in the case of embedded items, of sufficient strength to resist the design loading.
2) As NRW Macallan (Fiji) Ltd did not design or supervise the structure, we limit our liability to FJD $5000.00 per cyclonic event.
3) Change of ownership of the building could legally constitute this certificate invalid. Please contact the insurer for clarification on this matter.
4) Communication dish or Satellite TV dish or Solar Panels fixing or any other equipment mounted on the roof is excluded from this Certificate.

(8) PROFESSIONAL INDEMNITY INSURANCE

I/ We state that we hold a current Professional Indemnity Insurance Certificate **#NZCPIA00147** for the sum of **FJ$5,000,000.00**, which expires on the **06 August 2019.**

(9) INSPECTION CERTIFICATE

It is stated that an inspection of representative members of the structure of the above premises has been carried out. This Certificate is based on site inspection carried on **25th January 2019** and contractor's photographs received on **14th February 2019 & 19th June 2019.** Any changes to the structure from the dates given, invalidates this certification.

Signature: Nathan Kirk Date: 26 June 2019

FIE Corporate Membership No : **430**
Name : **NATHAN KIRK**
Professional Qualifications : **BE (CIVIL) MFIE MIPES MIPENZ**
For and on behalf of : **NRW MACALLAN (FIJI) LTD**
Address: Company Stamp:

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COMPONENT	CONSTRUCTION DESCRIPTION	STATE OF REPAIR / CONSTRUCTION	RECOMMENDATION	CLASSIFICATION OF RESISTANCE	
				AS INSPECTED	AFTER UPGRADE
ROOF CLADDING FASTENING	Roofing Iron – CGI Cladding Roofing Screws and nails at every crest	Fixings at high local Pressure points OK? Yes ☒ No ☐ Remainder OK? Yes ☒ No ☐		6	9
PURLINS TO TRUSS	75X50mm purlins at 800 crs strapped onto 100x50mm top chord with 3 nails per strap's leg.	Fair ☐ Good ☒		8	8
ROOF TRUSS FIXING	100x50mm top chords are bolted to 100x50 web members and also webs are bolted to 100x50mm bottom chord. 1-M12 bolt are currently fixed for roof truss. Top chords are also bolted to 180x25 ridge board, top chords were observed to be at every 900crs	Fair ☐ Good ☒	Clean gutters and clear leaves blocking outlet at regular basis.	8	8
TRUSS FIXING TO BUILDING FRAME	100x50mm truss are fixed to concrete block wall with rafter brackets and 1-M12 dyna bolt.	Fair ☐ Good ☒		8 8	8 8
BUILDING FRAME	External Walls – 150mm block wall Internal Walls – 100mm block wall	Fair ☐ Good ☒		8	8
DOORS & WINDOWS	Existing timber slatted shutters	Satisfactory ☒ Unsatisfactory ☐	Secure timber shutters provided when required.	8	8

Are there any trees on the property that can fall on the building? **NO**
If Yes, Comment

Building Details for 21807251 as of 25TH January 2019

BUILDING OWNER(S):

AMITESH LAL

STREET ADDRESS:
LOT 17 IKADROKA PLACE VALELEVU

LEGAL DESCRIPTION:

LOT: -- DP: -- CT: -

SCALE OF CLASSIFICATION:

POINTS AWARDED	WIND SPEED
1 TO 4 incl	below 40 M / S
5 TO 6 incl	40 - 49 M / S
7 TO 8 incl	50 - 60 M / S
9 TO 10 incl	above 60 M / S

The requirement of AS 1170 Part 2 is that all components and the structure as a whole MUST be capable of resisting a wind speed of 57 metres per second.

NRW MACALLAN (FIJI) LTD

SIGNATURE OF CERTIFYING ENGINEER

NRW MACALLAN (FIJI) LTD
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CYCLONE CERTIFICATE PHOTOGRAPHS

Project Title : **ENGINEERS CYCLONE RESIDENTIAL.**
Owner : **AMITESH LAL**
Address : **LOT 17 IKADROKA PLACE KANACE ROAD VALELEVU**
Location : **NASINU**

- Shows side elevation of inspected property

- Shows front elevation of inspected property

- Shows side elevation of inspected property.

- Shows rear elevation of inspected property

- Shows ply board shutter bracket

- Shows 150x75mm verandah beam bolted with 2-M12 to CHS post

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- 150x50mm rafters strapped from 75x50mm purlins with sufficient nails

- Shows 150x50mm rafter connection to ridge beam

- Shows rafters to 100x50mm webs connection

- Shows 100x50mm webs to 150x50 bottom plate connection

- Shows new roof cladding installed at the property

- Shows roofing screws currently used for roof fasteners