



Shri Singh & Associates Limited
Consulting Building, Civil & Structural Engineers

CYCLONE WINSTON PRELIMINARY ASSESSMENT SCHOOLS, HEALTH FACILITIES & PUBLIC BUILDINGS

FOR

**THE FIJI INSTITUTION OF ENGINEERS & DEPARTMENT OF
NATIONAL PLANNING (MINISTRY OF FINANCE)**



NAME OF FACILITY: Delana Methodist Primary School
TYPE: Primary School
LOCATION: Levuka, Ovalau
DATE OF ASSESSMENT: 19th March 2016
DATE OF REPORT: 01st April 2016

JOB NO: 9213.1
GOVERNMENT FACILITY NO: 166

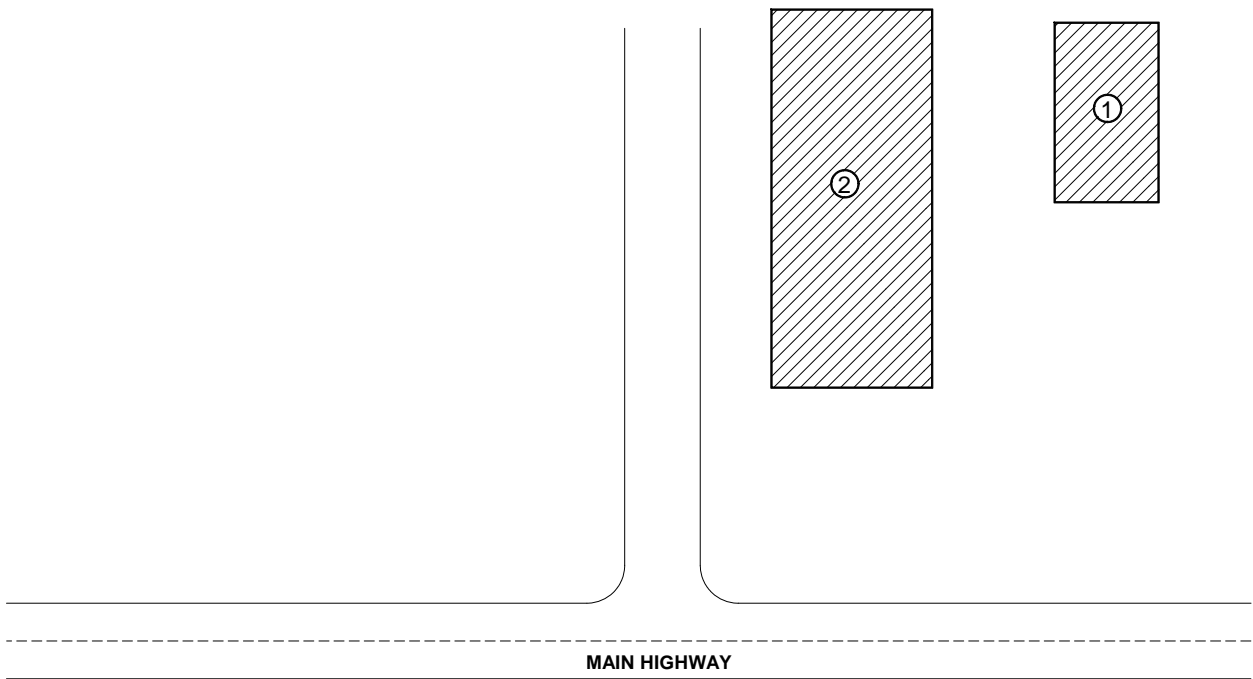
GENERAL DAMAGE
SCHOOLS, PUBLIC BUILDINGS & HEALTH FACILITIES

GENERAL INFORMATION

Building Name: Delana Methodist Primary School
 Location: Levuka, Ovalau
 No. of Buildings: 2
 Ariel Plan Available: NO
 Government facility no.: 166

| |
|---|
| 1 FENCING / GATES / DRIVEWAY / RETAINING WALLS ETC (INCLUDE TYPE / LENGTH ETC) |
| Nothing noted on site |
| 2 WATER TANKS/METERS/PLUMBING |
| No water tanks noted on site |
| 3 POWER LINES / METERS / WIRING |
| Power supply was normal on site |
| 4 OTHER ITEMS |
| Nothing noted on site |

| TOTAL COST ESTIMATE: | INTERMEDIATE | LONG TERM |
|---|-------------------------|--------------------------|
| <u>DESCRIPTION</u> | <u>FEE</u> | <u>FEE</u> |
| Building 1 | 30,000 | 150,000 |
| Building 2 | 20,000 | 20,000 |
| TOTAL: | <u>\$ 50,000</u> | <u>\$ 170,000</u> |
| TOTAL COST AFTER LOCATION MULTIPLIER (1.25): | <u><u>\$ 62,500</u></u> | <u><u>\$ 212,500</u></u> |



BUILDING NAME : DELANA METHODIST PRIMARY SCHOOL
 LOCATION : LEVUKA, OVALAU
 NO. OF BUILDING : 2

KEY :
 1 - STAFF QUARTERS
 2 - SCHOOL BLOCK

RAPID ASSESSMENT TEMPLATE: CYCLONE WINSTON DAMAGED BUILDINGS
SCHOOLS, PUBLIC BUILDINGS & HEALTH FACILITIES

GENERAL INFORMATION

Building Name: Delana Methodist Primary School
 Type: Staff Quarters
 Location: Levuka, Ovalau
 No. of Buildings: 2
 Ariel Plan Available: NO

REPORT

Page No. : 1
 Building No. : 1
 Building Approx Age: Approx. 25 years
 No. of Storeys: 1
 Dimension(m): 15l x 10w x 3.2h
 Usability: Not safe to occupy, demolish and rebuild recommended

Extent of Damage Rating Description

| | |
|---|--------------------------|
| 0 | No Damage |
| 1 | Minor/Cosmetic/Water |
| 2 | Some Damage |
| 3 | Extensive but Repairable |
| 4 | Irreparable |

Types of Buildings

- School Block
- Staff Quarters ✓
- Toilet Block
- Utility Building (FEA, Services, etc)
- Divisional Hospital
- Sub-Divisional Hospital
- Health Centre
- Nursing Station
- Public Building or Facility

EVALUATION

| Type of Construction | Description | Build Quality | Damage | Extent of | Photo No. |
|---------------------------------------|--|-------------------------------|---|-----------|-----------|
| Floor | Timber flooring | 1 Good 2 Average 3 Poor | 20% deterioration noted | 4 | N/A |
| Foundations | Concrete | 1 Good 2 Average 3 Poor | severe cracks noted | 4 | N/A |
| Walls | Timber Walls | 1 Good 2 Average 3 Poor | 35% deterioration noted | 4 | N/A |
| Rafters | Timber | 1 Good 2 Average 3 Poor | No visible damage | 0 | N/A |
| Purlins | Timber purlins | 1 Good 2 Average 3 Poor | No visible damage | 0 | N/A |
| Roof | CGI roof cladding nail fixed | 1 Good 2 Average 3 Poor | No visible damage | 0 | N/A |
| Electrical | Standard switches & fluorescent tube lights | 1 Good 2 Average 3 Poor | Detailed review required | N/A | N/A |
| Hydraulics | Typical piping system | 1 Good 2 Average 3 Poor | Detailed review required | N/A | N/A |
| Windows/Doors | Timber doors and louvered windows | 1 Good 2 Average 3 Poor | Damages in form of broken louvere blades noted 15% as noted. Deterioration on timber doors noted. | 4 | N/A |
| Shutters | N/A | 1 Good 2 Average 3 Poor | N/A | N/A | N/A |
| Ceilings | Masonite board ceiling 5% damage noted | 1 Good 2 Average 3 Poor | 10% damage noted | 4 | N/A |
| Terraces/Verandah | N/A | 1 Good 2 Average 3 Poor | N/A | N/A | N/A |
| Tiles/Floor Covering | N/A | 1 Good 2 Average 3 Poor | N/A | N/A | N/A |
| Gutters | Unknown | 1 Good 2 Average 3 Poor | Severe damage noted 100% blown out | 4 | N/A |
| Downpipes | Unknown | 1 Good 2 Average 3 Poor | Severe damage noted 100% blown out | 4 | N/A |
| Fascia Boards | Timber fascia boards | 1 Good 2 Average 3 Poor | Severe damage noted 30% blown out | 4 | N/A |
| Furniture/Desks etc. | N/A | 1 Good 2 Average 3 Poor | N/A | N/A | N/A |
| Possible Intermediate Solution | Severe damages noted. Demolish and rebuild of structure recommended. Estimated damage to repair back to pre cyclone condition: \$30,000 | | | | |
| Possible Long Term Solution | Severe damages noted. Demolish and rebuild of structure recommended for more tolerance towards category 4 cyclones. Estimated cost for long term solution would be around: \$150,000 | | | | |

Damage Assessment (\$) _____
 Basis of Calculation _____

FEES ESTIMATE:

Design/Documentation: _____
 Tender/Approval: _____
 Inspection/End Construction: _____

RAPID ASSESSMENT TEMPLATE: CYCLONE WINSTON DAMAGED BUILDINGS
SCHOOLS, PUBLIC BUILDINGS & HEALTH FACILITIES

GENERAL INFORMATION

Building Name: Delana Methodist Primary School
 Type: School Block
 Location: Levuka, Ovalau
 No. of Buildings: 2
 Ariel Plan Available: NO

REPORT

Page No. : 2
 Building No. : 2
 Building Approx Age: Approx. 15 years
 No. of Storeys: 1
 Dimension(m): 40L x 25W x 3.2H
 Usability: Safe to occupy subject to minor repair as per intermediate solution

Extent of Damage Rating Description

| | |
|---|--------------------------|
| 0 | No Damage |
| 1 | Minor/Cosmetic/Water |
| 2 | Some Damage |
| 3 | Extensive but Repairable |
| 4 | Irreparable |

Types of Buildings

- School Block ✓
- Staff Quarters
- Toilet Block
- Utility Building (FEA, Services, etc)
- Divisional Hospital
- Sub-Divisional Hospital
- Health Centre
- Nursing Station
- Public Building or Facility

EVALUATION

| Type of Construction | Description | Build Quality | Damage | Extent of | Photo No. |
|---------------------------------------|--|---|---|-----------|-----------|
| Floor | Timber flooring | 1 Good 2 Average 3 Poor | No visible damage | 0 | |
| Foundations | Concrete | 1 Good 2 Average 3 Poor | No visible damage | 0 | |
| Walls | Timber walls | 1 Good 2 Average 3 Poor | No visible damage | 0 | |
| Rafters | Timber | 1 Good 2 Average 3 Poor | No visible damage | 0 | |
| Purlins | Timber purlins | 1 Good 2 Average 3 Poor | No visible damage | 0 | |
| Roof | CGI roof cladding nail fixed | 1 Good 2 Average 3 Poor | No visible damage | 0 | |
| Electrical | Typically standard switches & fluorescent tube lights | 1 Good 2 Average 3 Poor | Detailed review required | N/A | |
| Hydraulics | Typical piping system | 1 Good 2 Average 3 Poor | Detailed review required | N/A | |
| Windows/Doors | Timber doors and louvered windows | 1 Good 2 Average 3 Poor | No visible damage | 0 | |
| Shutters | N/A | 1 Good 2 Average 3 Poor | N/A | N/A | |
| Ceilings | Ply board ceiling typically throughout | 1 Good 2 Average 3 Poor | No visible damage | 0 | |
| Terraces/Verandah | Timber flooring, CGI roof cladding on timber framing supported on 100 x 100 timber posts | 1 Good 2 Average 3 Poor | No visible damage | 0 | |
| Tiles/Floor Covering | N/A | 1 Good 2 Average 3 Poor | N/A | N/A | |
| Gutters | Typical PVC guttering | 1 Good 2 Average 3 Poor | All gutters & downpipes blown out 25% damage noted | 4 | |
| Downpipes | Typical PVC downpipes | 1 Good 2 Average 3 Poor | All gutters & downpipes blown out 25% damage noted | 4 | |
| Fascia Boards | Timber fascia boards | 1 Good 2 Average 3 Poor | No visible damage | 0 | |
| Furniture/Desks etc. | Standard desk and chairs | 1 Good 2 Average 3 Poor | No visible damage | N/A | |
| Possible Intermediate Solution | Detailed review of the existing roof framing is recommended. All damage roof framing member are to be replaced and fixed in accordance with the Fiji Building Code Standard. Roofing iron to be fixed with roofing screws throughout the entire roof on every 2nd crest. All electrical & hydraulics works to be reviewed in detail. New guttering & downpipes are to be installed. Estimated damage to repair back to pre cyclone condition: \$20,000 | | | | |
| Possible Long Term Solution | Detailed investigations recommended for the whole structure for more tolerance towards category 4 cyclones. Re-design of roof structure is recommended. Estimated cost for long term solution would be around \$20,000 | | | | |

Damage Assessment (\$) _____
 Basis of Calculation _____

FEES ESTIMATE:
 Design/Documentation: _____
 Tender/Approval: _____
 Inspection/End Construction: _____

Cyclone Winston Damage Assessment – Delana Methodist Primary School

School Blocks

Photos – Building 2



Photo 1: Front View



Photo 2: Side View

Cyclone Winston Damage Assessment – Delana Methodist Primary School

School Blocks

Photos – Building 1



Photo 3: Front View



Photo 4: Side View

Cyclone Winston Damage Assessment – Delana Methodist Primary School



Photo 5: View of Pier