DANCER Building System

This training package provides information on the **DANCER** Building System. It involves the direct anchorage of timber roofs, walls, floors and sub-floor framing for resistance to cyclonic wind, earthquakes and tsunamis. The system is applicable to village houses, schools, clinics and community buildings, common in South-east Asia and the South Pacific region. The first part of the training package concentrates on **DANCER** for elevated timber buildings, and information is also included for other **DANCER** systems.

Five Police Houses using the Partner Housing DANCER Building System at Baiyer River for the Government of Papua New Guinea.

Cyclonic Wind, Earthquakes and Tsunamis

The South Pacific is plagued by cyclonic wind, earthquakes and tsunamis, which wreak havoc on village communities destroying buildings and infrastructure.


Tonga - Cyclone


Solomon Islands - Tsunami


PNG Earthquake

Some DANCER Buildings

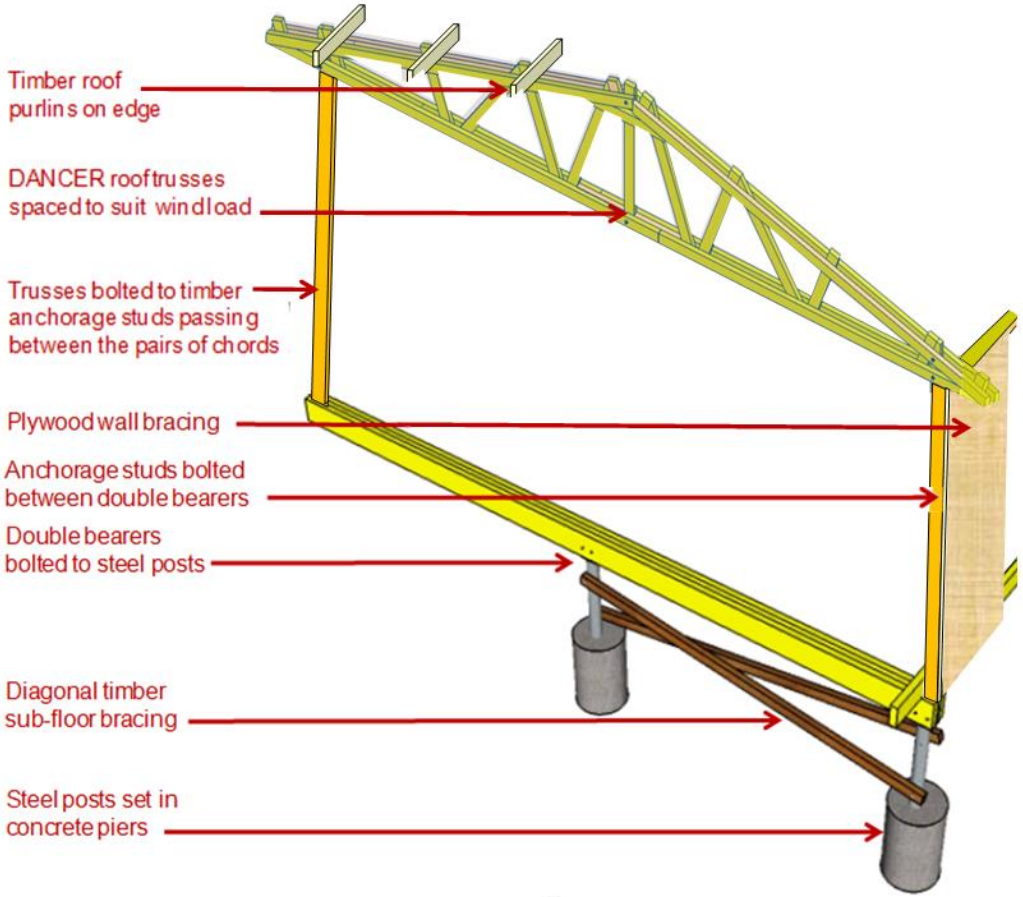
The **DANCER** Building System was developed in Papua New Guinea, but is suitable in all South Pacific village applications. Here are a couple of examples.

- Five Police Houses at Baiyer River PNG for the Government of Papua New Guinea.
- Umi Community Health Building for the Western Highlands Health Authority.
- Kalolo Clinic built for the International Committee of the Red Cross.
- Private house in Port Moresby.

DANCER - Direct Anchorage Non-strapped Cyclone & Earthquake Resistant

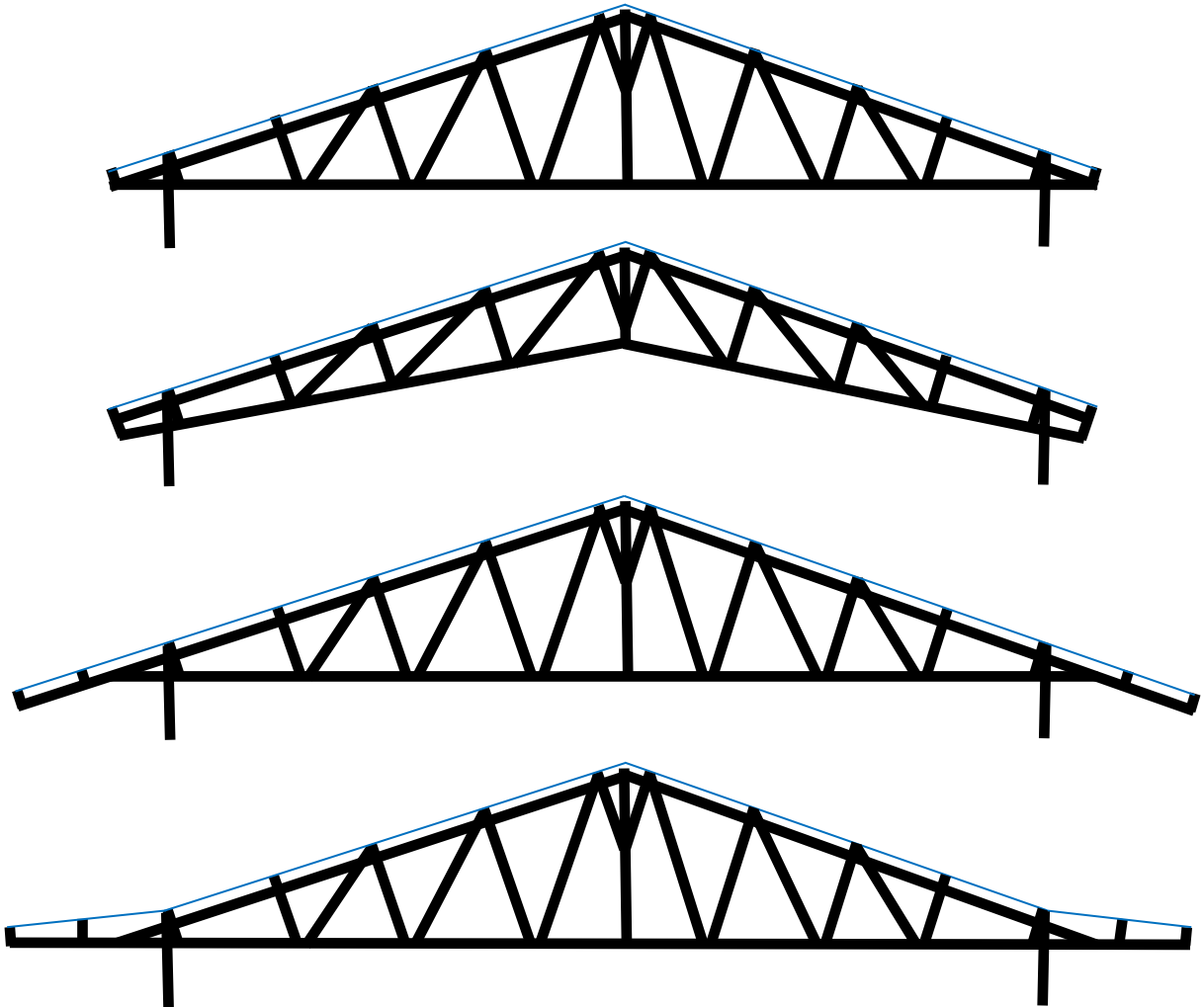
DANCER is an acronym for Direct Anchorage Non-strapped Cyclone & Earthquake Resistant, which describes the purpose and action of the system.

Strong timber roof systems are tied directly to the ground via wall studs, bearers and posts – using only readily available materials such as roofing steel, timber, nuts, bolts and screws, and steel posts set in concrete.



DANCER Truss Types

The **DANCER** principles may be applied to give various roof configurations. However, to assist standardisation and simplicity of manufacture, it is recommended that a roof slope of 1 in 4 is maintained. The eaves may be extended if required and the slope at the eaves may be varied.

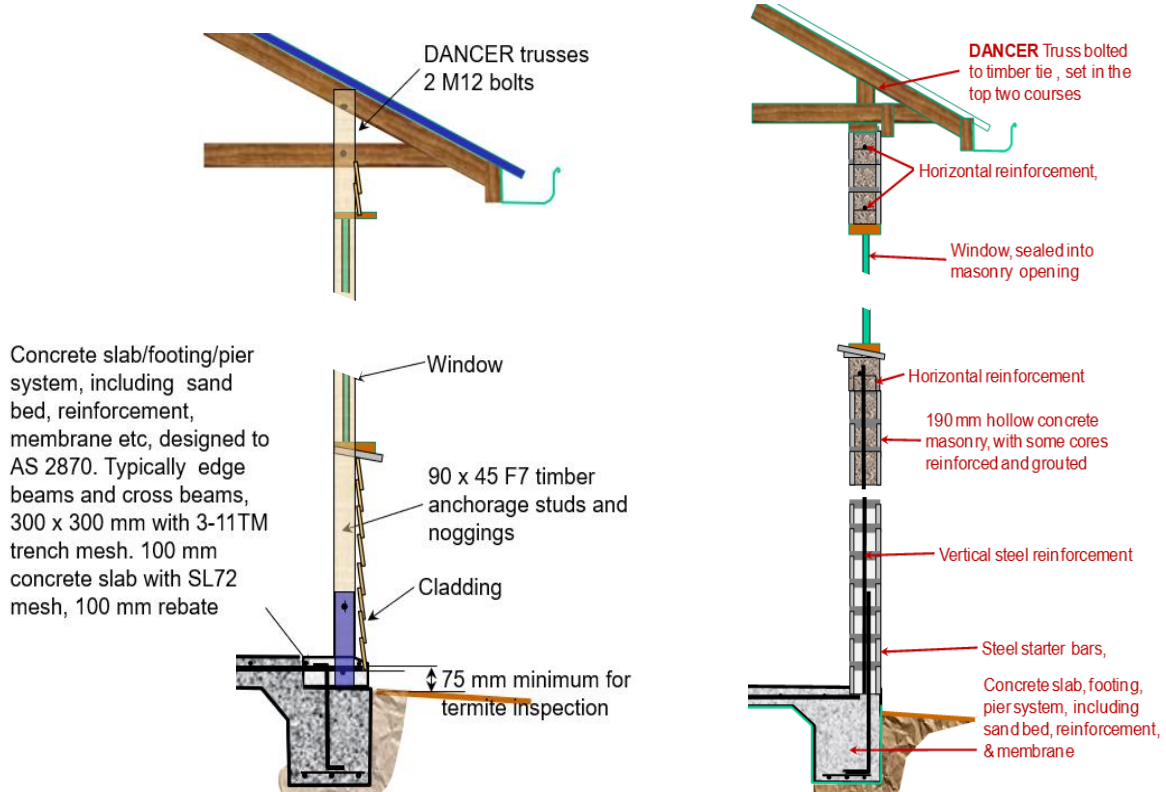


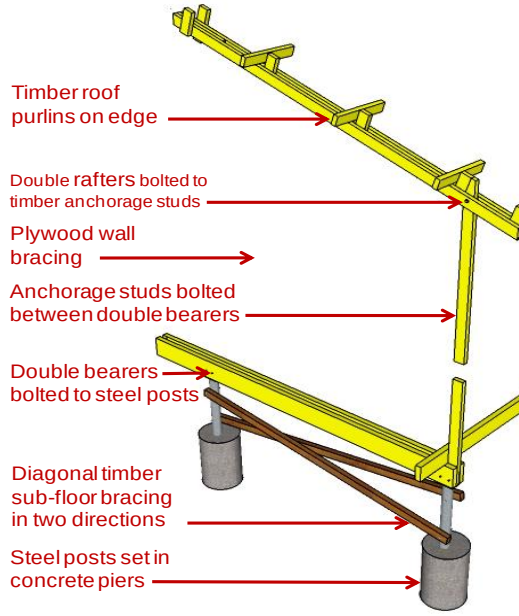
Other DANCER Building Systems

This training package has concentrated on **DANCER** for elevated timber buildings. However, other **DANCER** options are available, and are described in other training packages.

1. **DANCER** for elevated timber buildings.
2. **DANCER** for timber framed buildings on concrete slab-on-ground.
3. **DANCER** for reinforced concrete masonry buildings on concrete slab-on-ground.

For buildings of reduced width (under 4 metres), the **DANCER** principles may be applied to a rafter system.





DANCER Rafter System

Disclaimer & Copyright

Disclaimer

This training package covers broad engineering principles and building practices, with particular emphasis on affordable housing and associated village infrastructure in the Asia-Pacific region. These broad principles and practices must be translated into specific requirements for particular projects by professional architects, engineers or builders with the requisite qualifications and experience. Associated sample specifications and drawings are available in electronic format, with the express intention that architects, engineers and builders will edit them to suit the particular requirements of specific projects. The design, construction and costing of structures must be carried out by qualified and experienced architects, engineers and builders, who must make themselves aware of any changes to the applicable standards, building regulations and other relevant regulations. The authors, publishers and distributors of these documents, specifications and associated drawings do not accept any responsibility for incorrect, inappropriate or incomplete use of this information.

Copyright