HATCH GOBA
Member of the Hatch Group

Report to

Netcare Limited

For

Structural Integrity of Existing Roofs at St Augustines Hospital Heart Care Centre, Cnr JB Mark and Clark Road, Durban

Netcare Limited
St Augustines Hospital

Report to Netcare Limited on the Structural Integrity of Existing Roofs at St Augustines Hospital Heart Care Centre, Cnr JB Mark and Clark Road, Durban

Prepared by: Noel Olivier — 22 April 2013 Date

Approvals

Hatch

Approved by: Mark Howard — 22 April 2013 Date

Netcare Limited

Approved by: _____ Date

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1. Introduction

Netcare St Augustine's Hospital is located on the corners of JB Mark Road and Clark Road in Durban. The hospital was founded in 1892, and as a result some of the buildings are listed building registered by AMAFA. These include the building currently occupied by the Heart Care Centre.

Following concerns raised with regard to the structural integrity of the timber roof trusses to the Heart Care Centre roof due to apparent wood borer infestation, Hatch Goba was commissioned to inspect the roof structure of the Heart Care Centre and comment on the structural integrity of the roofs.

2. Scope of Report

This report describes the investigation that was carried out on the roof structure of the Heart Care Centre building and documents the condition of the timber trusses. Recommendations are given with regards to remedial measures to the existing roof.

3. Structural Survey

The survey was carried out over a two day period, 10th and 11th April 2013. Access was gained to most parts of the roof through various entry points via the drop in ceiling to the first floor consulting rooms.

The method used to determine the condition of the timbers were:

- Visual
- Breaking away edges of timber members using a hammer or by hand.
- Knocking on timbers with a hammer. The audible sound would indicate whether the timber is solid or porous.

4. Survey Findings

4.1 Area C – North Facing

This section of the building faces Clark Road. According to the hospital's Technical Services Supervisor, remedial work was undertaken on this portion during 2012. This remedial work consisted of attempting to strengthen those existing trusses that had been severely affected by wood borer by fixing new timber members to the bottom chords and sloping members of existing trusses.

The inspection revealed extensive damage to the existing roof trusses due to wood borer infestation. There are numerous timbers in this area, including those where strengthening was carried out, that only comprise of the outer skin of timber, with the inside being virtually hollow. Due to the extent of the damage to existing timbers, it is questionable as to whether the strengthening carried out has had any meaningful benefits.

Due to the extent of damage, the structural integrity of this portion of the roof has been severely compromised. Ongoing wood borer activity is evidenced by the wood borer frass on the ceiling. Any further damage to the roof trusses raises the risk of collapse of this section of roof.






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4.2 Area B – West Facing

This section of the building faces J.B Mark Road. Sections of this roof have also been strengthened as per the roof area referred to in section 4.1. The condition of these trusses are also poor with abundant evidence of active wood borer. Many of the bottom chords of the trusses are infested with borer.

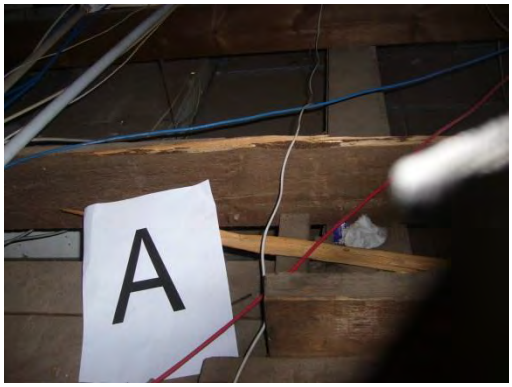





4.3 Area A – South Facing

This existing timbers in this area appear to have been treated in the past by injection method. The date of this treatment is unknown.

A visual inspection is misleading in so far as the outer surfaces of the truss appears to be unaffected by wood borer. However in a number of instances where the outer surface was hammered away exposing the underlying timber, the inside was found to be porous and riddled with wood borer tunnels. The network of tunnels inside the wood is not necessarily visible from the outside.



4.4 Area D – East Facing

The condition of these trusses are very similar to those on the South facing side i.e. infested with wood borer evidenced by frass deposited on the ceilings below.

5. Conclusion

According to Entomologists, Durban is considered as the region most affected by wood borer in South Africa. The timbers used in the roof truss covering the Heart Care Centre are of early origin and were unlikely to have been treated for wood borer as no legislation existed for that prescribed treatment at the time of erection of the roof.

The inspection of the Heart Care Centre roof revealed that the existing roof trusses in most areas of the building have been severely damaged by wood borer infestation. Ongoing wood borer activity is evidenced by the ceilings being covered with wood borer frass. Damage to the timber trusses will continue as a result of the ongoing wood borer activity.

With further damage, there is a risk of collapse of parts of the roof if no remedial measures are carried out. Unfortunately due to the extent of damage to the original timbers, it is unlikely that the strengthening measures carried out will be sufficient to ensure the long term structural integrity of the roof.

In order to prevent further wood borer damage, the existing roof could be treated via one of two available measures:

- Tented and fumigated.
- Timber injection, where various repellants are marketed offering a variety of benefits.

However this type of treatment would only serve to prevent further damage to already severely damaged roof timbers. It will not assist in enhancing the structural integrity of the roof timbers and is thus of no real benefit in this instance.

6. Recommendations

Due to the nature and extent of wood borer damage noted during the investigation of the Heart Care Centre roof, the existing roof timbers are considered to be damaged beyond repair. It is thus recommended that all the timber trusses to the entire roof structure be replaced with new trusses.

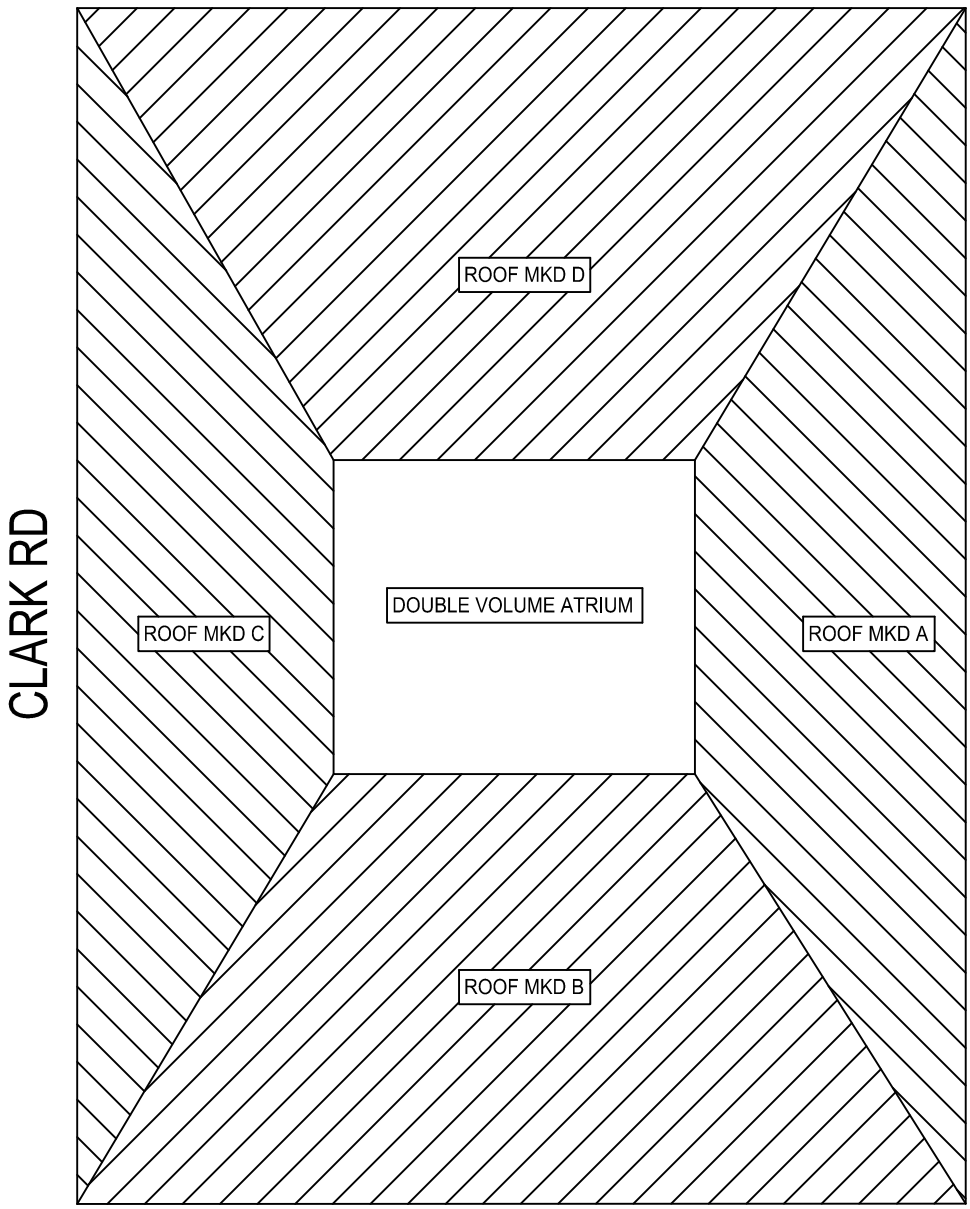
Installation of a new roof can be undertaken in phases in order to limit the disruption to the occupants of the building. It is recommended that the first phase should be the area facing Clark Road, as it is the most severely damaged area.

The existing roof tiles should be carefully removed and re-used. In this way the overall appearance of the roof need not be altered, which would assist in ensuring AMAFA approval for the work to be carried out.

It is further recommended that once erected, the new timber trusses should undergo regular inspections by a certified pest controller, as part of the ongoing maintenance schedule for the building. This would ensure that any infestation can be caught and treated at an early stage.

Appendix A :Roof Plan

NORTH



CLARK RD

J B MARK ROAD

ROOF PLAN

NETCARE ST. AUGUSTINE HOSPITAL
HEART CARE CENTRE CORNER CLARK AND J B MARK ROAD
ANNEXURE A