

**Erf 8341, 10 Mulberry Avenue,
Jeffreys Bay, Eastern Cape**



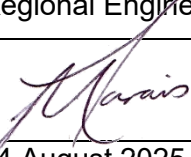
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1. INTRODUCTION

- 1.1. A request was received from the Conciliation Officer (Eastern Cape), Mr. Reuben Jonas, to conduct an assessment at the home following a complaint regarding the appearance of defects in the house. The Engineering and Technical Services (ETS) Team was tasked to conduct an assessment and provide a report.
- 1.2. This report provides the findings and the possible causes of the defects. The observations and comments made in this report are based on the following:
 - 1.2.1. External observations by the structural engineer
 - 1.2.2. No opening up works; tests or other investigations have been carried out on foundations or critical structural elements that were not visible.
 - 1.2.3. Photographs of the existing condition of the house that were taken during site visits are provided in the report.
 - 1.2.4. It shall be noted that the observations made in this report are representative of items noted during the investigation and should not be considered as a comprehensive snag list hence the document should not be used as the sole source of defects and snags requiring attention. This report is based on purely visual assessment.

2. LOCATION

The subject site is Erf 8342, 10 Mulberry avenue, Jeffreys Bay, Eastern Cape. Figure 1 below depicts the regional context of the subject site.

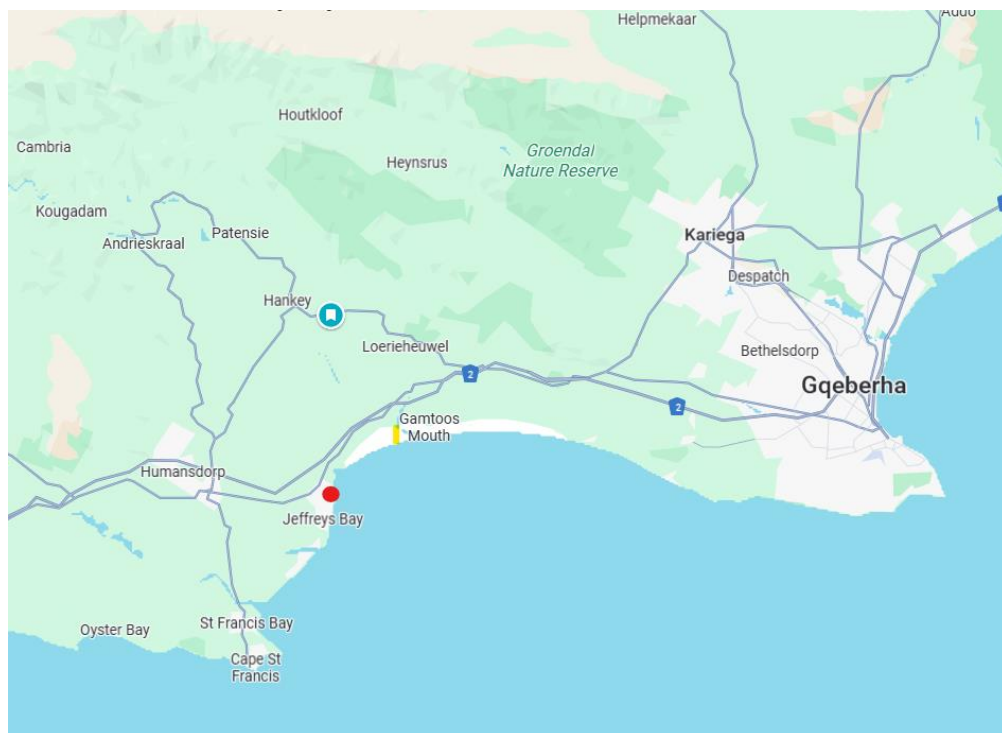


Figure 1: Locality Map

3. INVESTIGATION APPROACH

The assessment was performed using a walk-through survey and noting all defects.

3.1. Walk-Through Survey

- 3.1.1. As previously mentioned, this assessment was purely visual and there was no testing done.
- 3.1.2. The objective of the walk-through survey is to visually observe the property so as to obtain information on material systems and components for the purposes of providing a brief description, identifying physical deficiencies to the extent that they are easily visible and readily accessible.
- 3.1.3. The walk-through survey was conducted by a qualified structural engineer with a well-rounded knowledge and experience in evaluating pertinent building systems, and components, supported by the conciliation officer in order to provide increased detail in reporting and insight their respective systems' conditions,
- 3.1.4. The walk-through survey was intended to focus on the following areas:
 - 3.1.4.1. Roof covering as to ascertain the cause of the roof leaks.

4. ASSESSMENT FINDINGS

This section details the findings which were from visual assessment. The house is a single-story house.

4.1. Roof Covering

- 4.2. Inspection inside the roof confirmed that batten spacings are generally acceptable in areas that were accessible.
 - 4.2.1. Undertile membrane appears well installed and in good condition.
 - 4.2.2. No tiles appear to be nailed down and can be moved up or down. Homeowner confirmed that various tiles had to be pushed back to prevent it from falling off the roof.
 - 4.2.3. Tiles lifting in some areas.
 - 4.2.4. Ridge capping damaged and just temporarily replaced by owner in certain areas.

5. PHOTOGRAPHS OF FINDINGS



Figure 2: Roof tiles loose and slide out of position over valley gutter.



Figure 3: Tile installation not neat some tiles lifting.

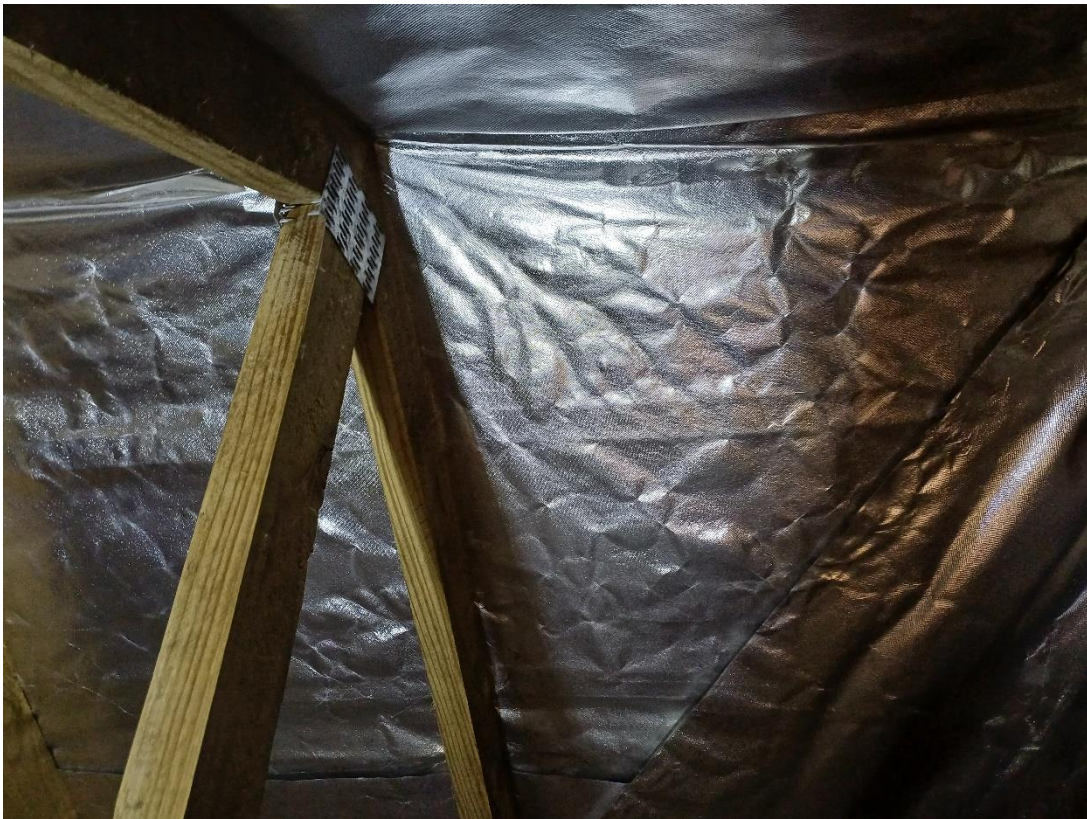


Figure 4: Undertile membrane flat and in good condition.



Figure 5: Loose tile pushed back exposing the batten.

6. CONCLUSION

- 6.1. The roof tiles are all loosely laid on the purlins and no nailed down roof tile was identified.
- 6.2. The roof pitch is between 40 and 45 degrees, and the house is in a coastal area and as such is category C roof in terms of the roof tile installation detail. This requires each tile to be nailed or clipped.
- 6.3. Most of the identified irregularities could be caused by the tiles not being nailed down.
- 6.4. The movement of tiles under wind uplift will cause areas where water would enter the roof and cause the identified roof leaks.

7. REMEDIAL WORKS

- 7.1. Remove tiles in the starting area and inspect quality and installation of underlay. If all is undamaged install the tiles in sequence as Coverland installation recommendation.
- 7.2. Proceed to remove all tiles and reinstall and nail down each tile and fix every alternative tile with a storm clip.
- 7.3. Remove all ridge capping to access tile and fix as above. Reinstall ridge capping.
- 7.4. Where any battens are damaged, replace the damaged battens completely.
- 7.5. Where the under underlay is damaged remove affected battens and replace the damaged underlay and battens.
- 7.6. Replace any broken tiles.