

3D Case Study 1

Building Issue – Leaking Roof with Difficult Accessibility Roofing

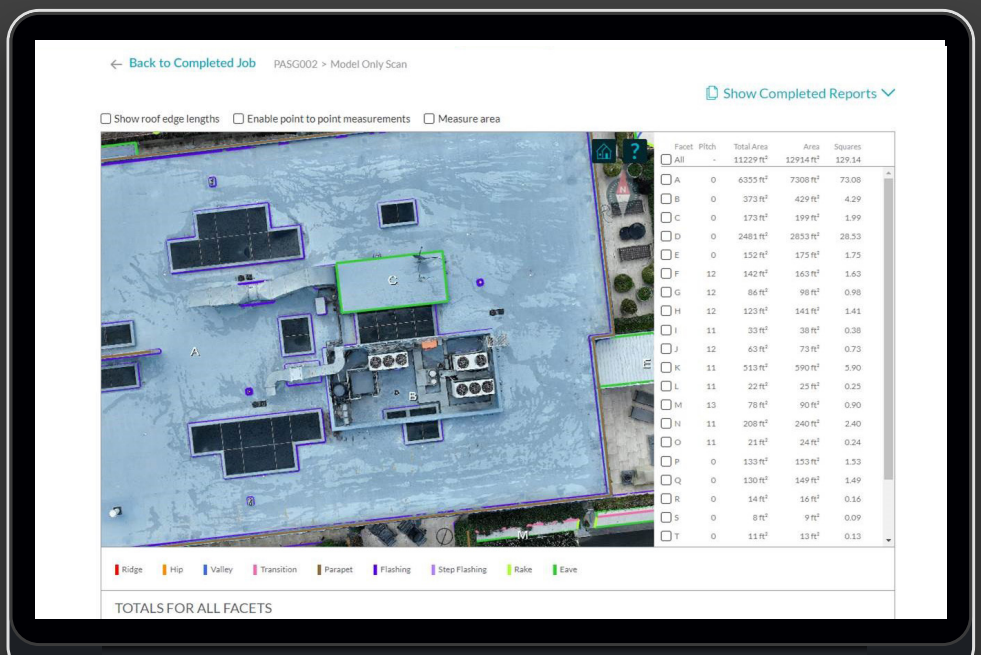
The Owners Corporation Committee of an apartment building were concerned with the amount of water leaks their apartment block was experiencing. Due to the lack of accessibility to the building's roof and facade, the initial proposal to examine the roof and facades was quoted to cost tens of thousands of dollars and take considerable time to schedule and complete. PASG was able to overcome these issues and propose a process to scope the works saving the OC thousands of dollars.

The traditional approach to assessing the exterior of a building is a 'hands-on' physical inspection of the roof and facades. The accessibility issues in this case required the use of abseil equipment and a considerable amount of labour. The cost would be in the tens of thousands of dollars and the resourcing and reporting would take a few weeks to compile.

The PASG Projects approach was to use state of the art 3D digital imaging, Lidar technology, and Artificial Intelligent (AI) software to accurately identify and assess each defect. No physical inspection

was required of the roof or facades was required. This reduced labour costs, the need to meet occupational health and safety requirements, and the potential for human error.

This approach saved thousands of dollars, fast-tracked the project, provided detailed analysis and identification of the roof and facade's defects, and produced the detailed report within 7 days.



*This image illustrates the pitch of the roof and its attributes.

Benefits of PASG 3D Imaging Service

The benefits for the Owners Corporation Committee and the strata managers advising them were:

Accurate measurements – of the roof and facades:

- Greater accuracy for measurements used in the tendering process for contractors and builders to remediate faults.
- Reduced the need for contractors to factor in a risk premium to their pricing. (For projects without this level of detail, quotes often factor in an extra amount to cover unforeseen problems. 3D imaging and Lidar technology significantly reduce this issue.)
- Reduce latent conditions – the 'hidden' defects that can go unnoticed with visual inspections. The scoping of projects is more accurate.

Better communication – with all stakeholders:

- Higher quality information with exact measurements.
- Faster reporting with the defects report ready within 7 business days from the order.
- Easier for Strata Managers to convey the issues with the roof and façade.

Assesses broader issues – in this case accurately measured the roof's pitch:

- Better understanding of the roof pitch to identify where the lack of fall was contributing to water ingress.

AI Technology – for identifying, understanding and tagging defects:

- Highly accurate measurements and tagging of individual defects – meets international standards of 99% for accurate and exportable measurements.
- Reduces the potential of human error, particularly when working of roofs, facades, private open spaces and hard to reach spaces.
- Assists project managers with scoping the remediation of the roof and advising consultants and contractors.

Access – we were able to:

- Review the condition of private lot balconies and balustrade capping.
- Access difficult to reach areas, create high resolution images, and use AI technology to determine any faults in the façade.

No need for physical inspection – significant cost and time saving:

- Did not require abseiling equipment, OH&S resourcing and on-site assessment.

Faults Detected

The 3D imaging and AI not only provided benefits for assessing the roof and facades, but also in preparing the works to remediate the water issues. Some of the defects identified included:

There was no fall to the roof into drainage points. This caused water pooling throughout the roof with the breakdown of the roof's membrane causing water ingress.

The roof cappings were pooling water and were not at the required minimum 3 degree angle.

Roof cappings failed to achieve 500mm fixing intervals as required for AS HB39.

There was a breakdown of Dektites and silicone around penetrations in the roof.

The use of advanced technology and our experienced remediation project managers ensured all defects were identified. The strata managers and Owners Committee had a full understanding of the defects and the proposed solution. Contractors were provided with an accurate scope of works with detailed measurements which reduced risk and costs.

To find out more about the PASG 3D Imaging service **Call 1300 167 796** for an obligation free chat. To find out more about building remediation, download our free Remediation Guide from pasg.com.au

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