CASE STUDY

RAPID MAPPING ENABLES VIRTUAL SITE INSPECTIONS

PROJECT: Derby District High School Feature Survey - Derby, Western Australia **CLIENT:** Bateman Architects

PROJECT BACKGROUND

Derby is located over 2,000km north of Perth and almost 1,000km south of Darwin, at the southern end of King Sound in the Kimberley region of Western Australia.

With a population of just over 3,300 people, predominantly Aboriginal and Torres Strait Islanders, Derby is a remote town in a remote part of Australia.

The original school buildings were constructed in 1957 and today, the Derby District High School accommodates over 600 students ranging from kindergarten to Year 12. Over $20million in funding to support significant upgrades to the school's building and facilities was announced late in 2020.

The first stage in the upgrade required an accurate, detailed survey of the buildings, surrounding grounds, and underground services. Bateman Architects were commissioned by the WA Department of Education to provide architectural services for the project. Bateman Architects commissioned MNG for survey of the site.

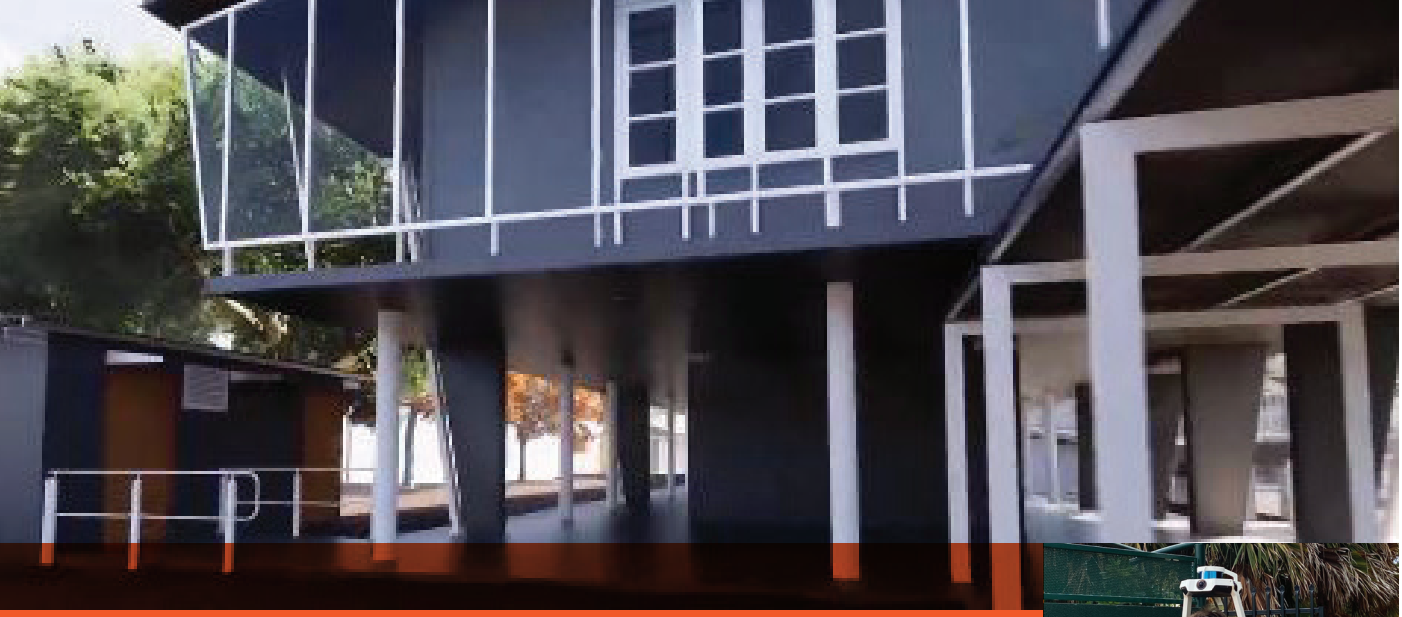
CHALLENGES

The Derby District High School project presented several challenges.

Due to the age of the buildings and poor historical maintenance records, there was almost no information available for Bateman Architects' design team to work with.

The remoteness of the site presented additional logistical and safety challenges which would result in increased costs for the client. To avoid this, time on site had to be maximised with every detail accurately and correctly surveyed the first time, and all activities were to be conducted safely and efficiently to reduce the need for repeat visits.

Further, as the school year was about to recommence, it was important to minimise the time spent on site to avoid distracting staff and students on the campus.



MNG COMBINES ABOVE AND BELOW GROUND DATA SETS IN A HOMOGENEOUS SOLUTION.

SOLUTIONS

MNG worked with Bateman Architects and determined a 3D Revit model would provide the details of the school buildings required to enable design teams to commence the project.

MNG suggested utilising its Mobile Mapping system (called "HALO"), to optimise time spent on site and capture a high density, high accuracy point cloud, along with 360° panoramic imagery. HALO was used across the 2.5ha site to capture detail of ten separate, multi-level buildings and ground features including vegetation and fencing.

In addition to HALO, Ground Penetrating Radar was used to survey subsurface utilities such as electrical and water services across the site.

OUTCOMES

An accurate and detailed 3D Revit model of the site was developed from the data captured and supplied to Bateman Architects. This output was welcomed by the team as the original requirements had specified a CAD drawing – a format which would have required further enhancement.

In addition to the 3D model, an online panoramic viewer of the site was provided which enabled every consultant to "virtually" visit the remote site, located 2,000kms north of their office.

MNG combines above and below ground data sets in a homogeneous solution. MNG continues to use this technology to enhance rapid mobile mapping surveys, in support of the broader Architectural Engineering Construction market.

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