

# DERBY DISTRICT HIGH SCHOOL UPGRADE PROJECT

**PROJECT** Derby District High School - Feature Survey | Derby, Western Australia

**CLIENT** Bateman Architects

## THE SITE

Derby is located over 2,000kms north of Perth, and almost 1,000kms 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 began construction in 1957 and today the Derby District High School accommodates over 600 students ranging from kindergarten to Year 12. Significant upgrades, valued at over \$20 million for the school buildings and facilities was announced late in 2020.

## THE CHALLENGE

The first requirement for the upgrade was to obtain an accurate detailed survey of the buildings, and the grounds, plus underground services. Due to the age of the buildings and poor maintenance records there was virtually no information available for the design team to work with.

Several factors needed to be considered with the project. The remoteness of the site was one that meant the time spent on the site had to be efficient. Every possible detail had to be surveyed correctly the first time to avoid any revisits for unexpected features on the site. In addition to this, the school year was about to recommence and it was important to minimise the time on site to avoid distractions to staff and students on the campus.

## THE SOLUTION

In consultation with the Perth based architects, MNG proposed that a 3D Revit model would provide the most accurate detail of the school buildings, enabling design teams to commence on the project. MNG also proposed to utilise their Mobile Mapping system, HALO, which would optimise time on site to capture a high density, high accuracy point cloud, along with 360° panoramic imagery.



HALO - PROVIDING A NEW LEVEL OF MOBILE MAPPING

# CASE STUDY

The HALO system was used across the 2.5ha site to capture detail of ten separate multi-level buildings, plus ground features including vegetation and fencing. In addition to the HALO, Ground Penetrating Radar was used to survey subsurface utilities including electrical and water services across the site.

## THE OUTCOME

An accurate and detailed 3D Revit model of the site was derived from the Mobile Mapping system and supplied as the primary deliverable for the project. This was welcomed by the team as the original requirements specified a CAD drawing, which would have required further enhancement.

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

The ability to see detailed imagery and take accurate measurements is a new level for these surveys. MNG have refined rapid mobile mapping for the Architectural Engineering Construction (AEC) market with these solutions.



HIGH DENSITY COLOURISED POINT CLOUD



3D REVIT MODEL OF SITE

A KEY BENEFIT TO THE CLIENT WAS PROVIDING AN ACCURATE AND DETAILED MODEL FROM A SINGLE SURVEY.

MNG PROVIDE INNOVATIVE  
AND PERSONALISED SOLUTIONS  
FOR ALL PROJECTS

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