



Sydney Opera House Grab Arm

The Sydney Opera House exterior walls are faced with decorative granite and pre-cast concrete panels. The Sydney Opera House Trust engaged GW Engineers to develop a method of removing the panels for maintenance, which would not damage the panels in any way. Design options were limited by the restricted access available behind the panels. We designed a panel "grab arm" which can be suspended from a crane hook.

A hydraulic system is used to clamp the top of the concrete panel between two rows of rubber-faced jaws, permitting the panel to be lifted from the wall for inspection and repair. The panel grab is so easy to use that, even on the first day, operators were able to remove eight panels.

GW Engineers Sydney Opera House Projects:

Southern Bronze Door Detailing
Sea Water Pit Platform & Monorail
Crash Barrier Design
New Audio Winches Support
Forecourt Parapet Panel Investigation
Counter Weight Sheave Rectification
Sydney Festival "She Wei Dance"
Concert Hall Ceiling Truss Works
North Shell Rim Lighting
Australian Idol Winch & Roof
Zone Check
Theatre Cable Inspection
Inspect Deflection
Opera Theatre Stage
Truss Upgrade Concert Hall Ceiling
Concert Hall Stage Concept Design
Playhouse Theatre Stage Extension
Container Lifting System
Access Ladder Risk Assessment



26 July 2004

Mr Allan Rose
GW Engineers
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Dear Allan

I would like to take this opportunity to express my appreciation for the value and quality of service that GW Engineers have provided to the Sydney Opera House for a number of years. Your people have consistently provided innovative solutions to the engineering problems that we have been confronted with and this has resulted in the delivery of cost effective and safe outcomes. In particular:

- Your design of the grab arm for removing/reinstating the external cladding façade panels enabled us to remove and replace these panels without causing damage to them – the previous method required coring of the panels.
- Your concept design for motorising the flying system in the Drama Theatre is a practical solution which effectively utilises the limited space available for plant.
- The procedures you prepared in 1996 for installing temporary structures on the Forecourt, and in other external locations, have enabled our Presenter Services department to more effectively brief hirers of these external areas - I am sure they have contributed to the nil incidents record of these external events.
- The procedures you prepared for the selective replacement of cooling and heating pipework in the basement area of the Main Plantroom have been very useful as we continue our program of replacing these 30 year old pipes.

In conclusion, I have appreciated the cooperation and collaboration that your staff has displayed in dealing with the SOH staff, as well as with other consultants and contractors.

Sincerely


John Dare
Asset Development Manager

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