

Project Profile



Client	Augility
Location	Woomera, South Australia
Contract Type	Lump Sum Construct Only
Value:	\$1.1 million
Duration	September 2018 to March 2019
Disciplines:	Building Works, Concrete Works, Earthworks, Electrical Works, Mechanical Demolition
Performance:	6,000 work hours, Zero LTIs, Zero Environmental Incidents, Completed on Time

Project Overview

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The Department of Defence's Woomera Range Complex located in South Australia, approximately 500km northwest of Adelaide, is comprised of the Woomera Test Range, RAAF Base Woomera and the Nurrungar Test Range.

Woomera Fuel Installation Remediation – Edinburgh Defence Precinct Woomera

The function of the Woomera Test Range is to provide a specialised operations environment in support of directed whole-of-Defence activities for the testing of war materiel and other activities in the wider national interest. The range also supports a wide variety of trials covering many Defence related technologies including ground-based weapons systems, explosive ordnance and hazardous materials, and specialised force preparation activities. The Woomera Test Range is managed by Air Force Test Ranges Squadron, a command unit of the Air Warfare Centre.

Woomera's existing Fuel Quality Control Centre was a non-compliant transportable building and required replacement. Project managers for the works, Augility, engaged Intract Australia to undertake building construction works for a new compliant Fuel Quality Control Centre and to dispose of the existing non-compliant facility.

Scope of Work

Works included the construction of a compliant Fuel Quality Control Centre at the Woomera Defence Fuel Farm secure compound and included a laboratory, offices and amenities. The existing Control Centre was a non-compliant transportable building and was disposed of as part of the project. Scope included concrete, structural, electrical, fire, hydraulic and mechanical installation works.

Works in this remote Defence facility included site establishment, clearing and grubbing works, excavation and preparation of subgrade and base materials, detailed excavation of footings, trenching for services and provision for lightning protection system and concrete works.

Structural works included the offsite fabrication and site erection of steel superstructure, wall and ceiling framing, linings and paint finishes, louvered fencing infill to plant enclosure, and the insulation and installation of roof and eaves linings, penetrations and roof plumbing.

Electrical works included power, lighting and lightning protection system. Mechanical works included air conditioning, ducted exhaust and gas detection system. Hydraulic works domestic cold water reticulation, sanitary-ware, waste and septic system. Fire services works including laboratory fire protection and installation of flammable cabinets.

The project achieved a 15% Indigenous Participation rate. Major Indigenous contractors included demolition works. Intract personnel self-performed partition, ceiling, lining, carpentry, roofing and hydraulic works.

Project Challenges

Fuel Storage Risks

A major challenge on the project was undertaking works adjacent to existing diesel storage tanks, which carried explosive and chemical hazard risks. The Project team worked closely with Defence personnel to ensure certain works such as welding or grinding, were ceased during refuelling activities.

The Fuel Quality Control Centre itself was classified as a hazardous area zone and therefore required additional building features to meet hazardous area building requirements, such as earthing and lightning protection, separate drainage's for waste liquids and hydrocarbons, zoning of mechanical and electrical equipment within the facilities, and advanced fire services equipment.

Prolonged Periods of Extreme Heat

The project faced many days of extreme heat conditions, including 14 consecutive days where the daytime temperatures were over 40°C. This restricted many onsite activities including hot works which required permits from the Country Fire Service.

Heat also caused structural steel members to expand and become too hot to handle during the day. To ensure program was not impacted, structural steel erection works occurred late into the night when air temperatures were at their lowest. Heat also affected concrete batching, which required alternate methodologies and additives to stop concrete 'going off' too quickly.

The dry, open and dusty environment was home to a variety of native wildlife and the extreme weather caused a prevalence of animals such as snakes and kangaroos on site. Extra care was taken to check for venomous snakes before any works commenced.

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