

# ELIZABETH MACARTHUR AGRICULTURAL INSTITUTE OF BIOSECURITY UPGRADE

Due to a mutual respect and trust between the Client, Primary Industries, the Project Manager, NSW Public Works and Cockram Construction the project team worked well together in delivering The Elizabeth Macarthur Agricultural Institute.

# A UNITED FRONT

Cockram Construction provide a successful upgrade and construction works at the Elizabeth Macarthur Agricultural Institute

THE ELIZABETH MACARTHUR AGRICULTURAL INSTITUTE OF BIOSECURITY / COCKRAM CONSTRUCTION



**Institute (EMAI) is located at Camden Park** and was opened in 1990 as the Department of Primary Industries' Centre of Excellence for plant and animal health. The Institute employs more than 200 staff and plays a crucial role in protecting the State's economy by helping to maintain the disease free status that gains Australia advantages in international markets for livestock and horticultural products.

An example of the exceptional work carried out at the EMAI was the 2007/2008 equine influenza outbreak where more than 131,000 veterinary samples were tested for the virus. Without the fast turnaround provided by EMAI, NSW could not have successfully eradicated the disease in world record time.

The original Institute facilities were constructed in the late 1980s to the highest international standards at the time. Understandably, laboratory standards have become more stringent and an upgrade was required to meet the current international bio-security standards and to retain Australian Quarantine & Inspection Service (AQIS) and Office of the Gene Technology Regulator (OGTR) accreditation.

NSW Public Works were appointed as Project Manager to manage the design and delivery phase of the project. The scope of works delivered under a GC21 contract included:

- The construction of new QC3/PC3 & QC2/PC2 biosecurity facilities;
- The refurbishment of some of the existing laboratory facilities to varying standards up to QC2 level;
- Upgrade of engineering services, including the construction of a new effluent management system for the biosecurity facilities;
- Upgrade of site wide security and data/voice/communication across the entire Institute.

The relationship developed from the outset of the project, between the Client, Primary Industries, the Project Manager, NSW Public Works and Cockram Construction was one of mutual respect and trust. As a result, the project team worked very well together on solving problems and issues that developed during the works.

An innovative move early on in the project was the introduction of an alternative Decanting Strategy that significantly reduced the original 24 month construction period.

The original construction program was based on the initial construction of the two new buildings and then to move the existing facility occupants into the new buildings to allow the existing facilities to then be refurbished.

After a review of options during the tender phase, Cockram Construction proposed the provision of a temporary PC2/QC2 laboratory using a portable building system therefore allowing the new building and refurbished building works to be carried out simultaneously.

Challenges for the successful implementation of this strategy involved providing a portable building that met with the stringent standards required to allow the AQIS and OGTR work carried out by the EMAI to take place in this building and to have a building flexible enough to cater for the significantly different science performed by the various units and groups within the Institute.

A Decanting Team represented by Primary Industries, Cockram Construction, key users, NSW Public Works and the AQIS Third Party Assessor was formed at the commencement of the Contract and within the first six weeks, concept layouts and service requirements were developed and agreed. After a 12 week fabrication, erection and fitout period, the temporary laboratory was certified by AQIS and the first users were relocated just 18 weeks after initiating the alternative strategy.

The benefits to the client were a reduction in the overall construction period from 24 months down to 15 months and a significant cost saving.

Cockram Construction offer a range of specialist skills including general contracting, construction management and design and construct.

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**Below** AMEC Zektin's specialised work on the The Elizabeth Macarthur Agricultural Institute of Biosecurity.

**Below** Red 8 Roofing demonstrated a high level of project management skills and quality standards at The Institute of Biosecurity.



**The Elizabeth Macarthur Agricultural Institute of Biosecurity showcases** the outstanding work of AMEC Zektin. Engaged to act as a specialist consultant, AMEC Zektin, provided HVAC design reviews, independent pre-AQIS (Australian Quarantine Inspection Service) inspection advice, specialist containment liquid biological waste treatment detailed design and dangerous goods storage advice.

Zektin was formed in 1992 as an Engineering company providing consulting services to the pharmaceutical, biopharmaceutical and food & beverage industries. In 2006 Zektin Architecture was introduced completing the companies multi discipline design capabilities and expanding services to research Laboratories, Defence and Advanced Education.

In 2011 Zektin, with over 200 employees, was acquired by AMEC, a global company with the ability, expertise and experience to service all types of industries across the world, including EPC and EPCM services. AMEC Zektin can now service a larger number of clients with expanded technical expertise in new industries such as the Biofuels and Renewable Energy sectors from multiple offices in Australia.

To compress the construction time on the Institute of Biosecurity project, a temporary generic containment laboratory was designed by AMEC Zektin and constructed by Cockram Construction. This allowed the four laboratories that required refurbishment to be sequentially vacated, refurbished and reinstated without impacting the new works construction schedule. These laboratories ranged in size from approximately 600m<sup>2</sup> to 1000m<sup>2</sup>.

AMEC Zektin has the flexibility to offer design services from concept right through to full detailed design, construction support and commissioning assistance as required using their fully integrated design team of engineers and registered architects. The Institute of Biosecurity project displays their expertise in laboratories, bio containment facility design and whole project delivery.

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**Multi-award winning company Red 8 Roofing take pride in their workmanship, striving to deliver impeccable results.** The dynamic team is focused on satisfying customer needs, providing metal roofing solutions in the latest trends, styles and colours for a wide range of commercial, industrial and residential projects throughout New South Wales. Their range of services covers both roofing and specialised cladding services, including Colorbond metal roofing, guttering, wall cladding, thermal and acoustic insulation and other purpose made materials.

Red 8 Roofing were thrilled to be involved in the construction of a new laboratory precinct at the Elizabeth Macarthur Agricultural Institute. The Institute plays a key role in protecting the NSW economy by providing services in animal, plant and aquatic Biosecurity. Originally constructed to the highest standards in the 1980s, the laboratory facilities needed an upgrade in order to meet the more stringent International Biosecurity standards of the 21st century and retain accreditation.

“This project required the best of materials, and scrupulous attention to detail in order to meet the standards required by a specialised scientific facility. Red 8 Roofing used high quality Kingspan products to ensure the best result, supplying and fitting the 60mm RW Kingspan roof, and also the wall cladding, including 50mm AWP Kingspan in Metallic

Portico Grey and .48 Custom Orb in Slate Grey, finished with detailed custom-made flashings. Red 8 Roofing Project Manager, Jason Hodge, was an integral part of the entire project and ensured that communication with Cockram Constructions was second to none,” said Red 8 Roofing Operations Manager, Steven Clarke.

“Incorporating many different roofing products to achieve the overall outstanding result demonstrates the high level of project management skills and quality standards our team bring to a site. High safety standards are also adhered to on every Red 8 Roofing job. The Clad Boy system, a versatile vacuum lifting system, and cranes were used to safely lift and place the large roof and wall panels for installation.”

Red 8 Roofing's other recent major projects include Orange Hospital, IKEA Tempe, Westfield Canberra, Cranbrook School, Mascot ING Business Park, Emirates Resort in Wolgan Valley, Kurnell Desalination Plant, Equinix Data Centre and Warragamba Dam. The company has also completed numerous BER School projects, railway stations, universities and major shopping centres.

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Below State Building Contractors role on the Elizabeth Macarthur Agricultural Institute included 20 cool room slabs.

Below Reid Medical Engineering supplied and installed the main equipment required for the upgrade.



State Building Contractors Pty Ltd (SBC Pty Ltd) operates a diversified business with services in construction, development and property management. Their strong history of completing challenging works on time has seen them become a recognised brand for both commercial and domestic works.

Their services on the Institute of Biosecurity, at the Elizabeth Macarthur Agricultural Institute, were diverse as well and included the concrete topping of 20 cool room slabs, installation of 6 air conditioning plinths and various other jobs including penetration infill, demolition and excavation works.

SBC Pty Ltd provides quality, innovative and successful delivery of major projects, often completed under extreme conditions and operating around live production lines while ensuring limited disruption. In particular SBC Pty Ltd takes pride in their specialised knowledge and practical experience of constructing and refurbishing concrete structures.

Civil construction is another area of expertise for SBC Pty Ltd and they have completed various local government works. With established clients such as Pfizer Pty Ltd, Roche Pty Ltd and

Rocla, SBC Pty Ltd provides an effective maintenance program for their clients.

SBC Pty Ltd commenced as a strong concrete placement firm, undertaking a variety of concrete placement works within the Sydney Metropolitan regions. Progressively the company was in demand for their quality and efficient work ethics and their ability to handle complex and challenging projects. These projects include commercial maintenances, restore and build factory sites and all domestic work.

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PO Box 421 Sydney Markets NSW 2129, phone 02 9764 5586, fax 02 9764 5601, mobile 0414 285 682, email: [sbc@bigpond.net.au](mailto:sbc@bigpond.net.au), website: [www.statebuilding.com.au](http://www.statebuilding.com.au)

Located at Camden Park, the Elizabeth Macarthur Institute is New South Wales' central animal, plant and aquatic biosecurity facility.

Reid Medical Engineering was successful in their tender to supply and install the main equipment required for the Bio-Security upgrade.

On this project, Reid Medical Engineering supplied Shinva Autoclaves which have been specially designed with Barrier Seals to meet the P.C. (Quarantine) Lab specifications.

Reid Medical Engineering formulated a system and worked together with Micah & Co to apply a new barrier seal to ensure the room is completely airtight. This method and the materials used are new to the market and have not been used in Australia before.

As an agent for Shinva, Reid Medical Engineering can supply a range of sterilisers, washers, ultrasonic cleaners, instruments and ancillary equipment.

Reid Medical Engineering also provides service and maintenance to several major private hospitals throughout NSW and the ACT along with laboratory, dental and pharmaceutical clients.

Reid Medical Engineering was formed by Dennis Reid to supply engineering maintenance and breakdown service to central sterilising departments in hospitals and laboratories such as the Elizabeth Macarthur Agricultural Institute. Their successful history has seen them supply sterilisers, washers, ultrasonic cleaners, trolleys, packing tables and wire racks to large and small Hospitals and Laboratories. Just recently Reid Medical Engineering supplied equipment for a new, purpose built, Orthopaedic Surgical Hospital in Canberra.

Director of Reid Medical Engineering, Dennis Reid, has built a reputation for providing exceptional service in the field of sterilisation and related specialties.

*For more information contact Reid Medical Engineering Pty Ltd*  
phone 02 47827351, fax 02 47829642, Sales & Customer Service email: [sales@reidmedical.com.au](mailto:sales@reidmedical.com.au), General Enquiries email: [info@reidmedical.com.au](mailto:info@reidmedical.com.au), website: [www.reidmedical.com.au](http://www.reidmedical.com.au)

**Below** VPT Formwork used new F14 plywood together with LVL timber to achieve a class 2 finish to all exposed concrete elements.

**Below** Gridline Commercial Constructions successfully delivered a unique, stylish façade.



**VPT Formwork brought an experienced and highly reliable team** to the Elizabeth Macarthur Institute of Biosecurity project. Working to a tight program, a successful outcome was achieved thanks to the careful planning and the various trades offering each other support throughout the entire project. VPT Formwork also believes the projects success was a result of the excellent management offered by Cockram Constructions.

The multi million dollar upgrade to the biosecurity facilities at the Elizabeth Macarthur Agricultural Institute, in Sydney's southwest, is part of the State Governments plan to protect New South Wales from pests and diseases.

The laboratory facilities were constructed in the 1980s to the highest international standards at the time. Over the years, laboratory standards have become more stringent and an upgrade was necessary to meet the current international biosecurity standards and retain accreditation.

For The Elizabeth Macarthur Institute of Biosecurity project, VPT Formwork used new F14 plywood together with LVL timber to achieve a class 2 finish to all exposed concrete elements.

VPT Formwork are also working on several other projects at the moment such as Norfolk at Breakfast Point ,Yves Apartments in Double Bay and Calalla Appartments at Bronte, Sydney. VPT Formwork generally work on large commercial and industrial projects for various builders with a company motto of no job is to big or to small.



**For more information contact VPT Formwork**, Po Box 7000 Silverwater NSW 1811, phone 02 9648 1011, fax 02 9648 1077 Email: [formwork@vptgroup.com.au](mailto:formwork@vptgroup.com.au)

**Gridline Commercial Constructions Pty Ltd offers a one stop solution** for façade installation. Providing a specialised service for the Elizabeth Macarthur Agricultural Institute of Biosecurity project, Gridline Commercial Constructions had a team of 10 employees committed to the works.



With a range of services including the complete façade which comprised of aluminium composite cladding, windows and sunshades, Gridline Commercial Constructions upheld the modern and unique finish required for the Elizabeth Macarthur Institute of Biosecurity.

The Elizabeth Macarthur Institute of Biosecurity opened in 1990 at Camden, 60 km south of Sydney. The new facilities, which formed part of the upgrade, are considered to be of a world class standard and feature laboratories for virology, bacteriology, microbiology and molecular biology. The project also provided for the refurbishment of existing animal and plant health laboratories along with a major upgrade in electrical and safety solutions.

Gridline Commercial Constructions are also providing their services at Marketown, East Newcastle and Knox Grammar School, Wahroonga.

Over the years Gridline Commercial Constructions Pty Ltd have successfully provided quality architectural cladding solutions for major industrial and commercial building projects. The vast knowledge and valuable hands on experience held by the team at Gridline Commercial Constructions Pty Ltd make them a contractor of choice in their chosen field.

**For more information contact Gridline Commercial Constructions Pty Ltd** 2/8 Pullman Place EMU PLAINS NSW, 2750, phone 02 4735 6217, fax 02 4735 8178, email: [admin@glcc.com.au](mailto:admin@glcc.com.au)

The innovative façade at The Elizabeth Macarthur Agricultural Institute of Biosecurity, NSW.

Below Total Precision Contracting constructed the high containment PC3 laboratories and animal holding rooms as well as controlled environment areas.



**Total Precision Contracting has been involved with Cockram** Constructions, formally Hooker Cockram Projects, for almost 10 years. Cockram Constructions' experience in Pharmaceutical and Healthcare is extensive and they understand that consistent quality in construction is paramount in this highly specialized industry. With this in mind, Total Precision Contracting was chosen to ensure that the project was delivered on time and to the highest standard.

Total Precision Contracting forms part of FBJ Insulated Panel Systems Pty Ltd group of companies ([www.fbj.com.au](http://www.fbj.com.au)). Their primary focus is the construction of high quality cleanrooms and controlled environments for Universities, Hospitals, Research Facilities, Defence, Pharmaceutical and Healthcare industries. Total Precision Contracting have specially trained employee's, supervisors and project managers to ensure their work is first class. As well as being certified installers of the Dagard pre-engineered system throughout Australia, Total Precision Contracting also have significant experience with all other types of cleanrooms including, doors, windows and pass throughs.

The Dagard system was chosen for the Elizabeth Macarthur Agricultural Institute as it creates a unique clean environment that

provides PC3 biocontainment requirements and is easy to maintain. This project also included highly specialized two and four door pass throughs with UV decontamination and dunk tanks. Dagard have made significant advances in the Bio Security and Medical Research industry. This proven system which includes a unique fully flush design for all windows, doors and accessories is supplied and engineered by the one company. The modular system reduces installation time, and due to a reduction in trades, can also significantly reduce the time required to meet PC3 leakage rate requirements.

Total Precision Contracting has also delivered many successful projects throughout Australia including Dagards specialist Agro Range of products which we recently used for the construction of a hot room for testing of Military equipment in Melbourne.

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