

Australasian Concrete Repair Association - Concrete Connections

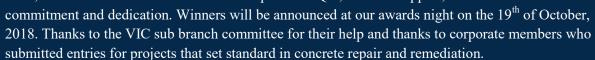
Spring 2018



Your President's message

This special spring edition features the projects entries for the 'ACRA Awards for Excellence 2018' to honour the most creative projects in the concrete repair and refurbishment industry. We had the largest number of project entries spanning across several categories, and it certainly wasn't an easy task for the judges to come up with the winners for the categories and the overall winner award.

On behalf of ACRA, I would like to extend special thanks to the judges of industry professionals, Fred Andrew-Phaedonos from VicRoads, David Millar CEO, CIA and Mike Rutherford from Conspectus in Qld, for their support,



While we all will be meeting to appreciate and applaud concrete innovation and excellence across the region, the event also provides a platform for the award winners to shine as they will be honoured during the ACRA Awards Gala. The awards night is at the glamorous Crown Casino Melbourne with views overlooking the river and city of Melbourne. All those people involved in the projects entered are encouraged to attend the awards night to cherish the winners. I would also encourage all to attend this night with their spouses. The biennial event is always one of the biggest highlights in the concrete industry's calendar and will be one not to miss.

Hamid Khan - ACRA President 2017-2019







ACRA OFFICERS

President, Hamid Khan

Parchem Construction Supplies hamid.khan@parchem.com.au

Executive Officer, Nicole Raymond

Australasian Concrete Repair Association Inc. info@acrassoc.com.au

Editorial contributions are welcomed.

Please contact the ACRA (02) 9654 3692

Email: info@acrassoc.com.au

Postal: PO Box 452, Chester Hill NSW 2162

www.acrassoc.com.au

Publisher/Editor

Nicole Raymond 0429 890 761

ACRA Board of Directors

Henk van den Heuvel, Andersal Pty Ltd (Treasurer)

henk@andersal.com.au

Greg Zambesi, GHD Pty Ltd

greg_zambesi@ghd.com

Daniel Rowley, CE Construction Solutions

daniel@cecsgroup.com.au

Harvey Welman, Ardex Australia

harvey.welman@ardexaustralia.com

Michael Batty, Dukes (Secretary)

mbatty@dukes.net.au

Keiran Smith, Freyssinet

kjsmith@freyssinet.com.au

Peter Johnsson, ACOR Consulting

pjohnsson@acor.com.au

Grahame Vile, BAAM Consulting grahame.vile@baam.com.au

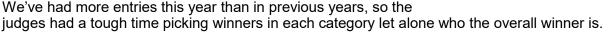
ACRA Awards For Excellence in Concrete Repair and Protection 2018

The judges have made their decisions and on Friday 19 October 2018 at the Melbourne Crown Casino, we will all get to see who the winners are. The ACRA Awards in Excellence 2018 is a chance for all our Corporate Members to enter projects for a chance at this prestigious industry award.

In past years, we have seen some of the best projects and entries from all over Australia including a few joint projects and this year its no different as we continue the tradition of showcasing our members' good work.

Following the awards, we will be running an editorial in a number industry publications to showcase the awards and the winners.

All entries will be acknowledged, with the winners having the opportunity to further promote themselves.



ACRA has chosen the luxurious <u>Melbourne Crown Casino</u> to showcase this grand night of nights within your industry.

We have chosen a Friday night so everyone can relax for a great evening and, for any out-of-towners, vou could even make a weekend of it.



Accommodation

ACRA has secured some excellent rates within Crown Casino as part of this event. By clicking the link you will have 3 different Crown properties to choose from.

Click here to see all 3 properties and to book for accommodation.

Book your Event tickets

The Awards night is \$120 per person and we invite everyone to attend the biggest and best networking event on the ACRA calendar. Bring your spouse/partner with you so they, too, can enjoy this amazing night.

Special guest MC will be Steve Hoskin who is a one of Sydney's headlining comedians and voice over person. Steve will keep you entertained until the big winner of the night is announced.

Click here to register for the event

And the winner is...



Buildcorp Asset Solutions

Project: The Four Seasons Hotel, 199 George Street, Sydney NSW Australia

Category entered into is Commercial Buildings

The Buildcorp Asset Solutions team were engaged to repair, stabilise, restore and conserve the distinctive precast concrete, exposed aggregate façade of the

Four Seasons Hotel. The works comprised of cleaning the structure, then carrying out approximately 6,000 litres of concrete repairs in 1,500 locations and approx. 15,000m² of external coating. To match the existing exposed aggregate finish, trials were carried out over many weeks with different materials until an exact match was found. This aggregate & binder blend was then replicated and used on the rest of the building.

On completion, the building was re-cleaned and a clear silane coating applied over the entire facade. All work to the façade was done from 8 mast climbers all operating simultaneously on all four facades.





Infracorr's innovative, solutions based approach helps maximize the longevity of assets whilst minimizing the cost of remedial works.

Talk to us today about how an Infracorr investigation, repair & specification or supervision & support could save you time and project budget.

infracorr.com | p: 1300 805 089 | e: info@infracorr.com



Dapcor Building Services Pty Ltd

Project: Residential Remedial Works and Building Upgrade, 1 Finney St, Hurstville NSW Australia

Category entered into is Residential Buildings

This project is an industry example of the impact of unsafe and defective buildings effecting the strata community in NSW. This property revealed significant defects within the first 12 years of occupation, not to speak of the construction faults found during remedial works. Dapcor continuously supported the clients in finding the most cost effective remedial solutions to an ever growing scope of works. The result for the Owners was beyond expectation adding substance both through increased property value and higher rental yields.

The building has been given a second chance with a meaningful improvement in user experience.

Other ACRA members involved in this project were: Sika, Parchem.



FOSROC. FUTURE PROOF.

At Fosroc, we know great construction demands solid foundations. We deliver tailored, functional construction solutions - both above and below ground. Talk to us to future-proof your buildings and infrastructure.

AU 1300 737 787 parchem.com.au NZ 0800 657 156 concreteplus.co.nz

*Fosroc and the Fosroc logo are trade marks of Fosroc International Limited, used under license.



Concrete Repair



Joint Fillers & Sealants



Anchors



Flooring



Waterproofing



Protective Coatings



Surface Treatments



Admixtures & Grinding Aids



constructive solutions

Diagnostech Pty Ltd

Project: The Elan, 1 Kings Cross Road, Darlinghurst NSW Australia

The Elan project represents a large scale concrete repair and protection project on a large scale high rise residential property.

The Elan is a high end property which sits prominently on top of the Kings Cross hill above the Cross City Tunnel and stands 40 stories and 136 metres tall.

Diagnostech provided a full 'concept to completion' consultancy service for The Elan project.

This included initial consultations, façade inspections via industrial rope access (abseiling), defect diagnosis, compiling technical specifications, tendering and cost forecasting, and also superintending the full façade rectification process.

The project proved very successful on the back of excellent cooperation between all stakeholders; client, consultant, contractor and supplier.

Other ACRA members involved in this project were: Ardex Australia

Categories entered are: -Investigation & Diagnosis -Residential Buildings



Giving you peace of mind with a guaranteed system that works





Congressit Consideration Cast Conference Repair Congress Report R

ARDEX Concrete Repair & Waterproofing Solutions

Duratec Australia Pty Ltd

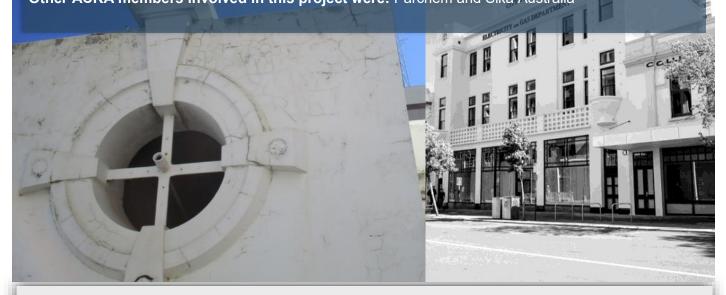
Project: 132 Murray Street Facade Restoration, Perth WA Australia

The restoration, reuse and preservation of character and heritage buildings in Perth's CBD is being driven by owners and developers with a special sense of place in our community.

132 Murray Street was built in 1927 for the Perth City Council as headquarters for the recently acquired Perth Gas Company. The building is predominantly rendered brick with concrete spandrel beams and large glazed shopfronts for display.

After nearly 90 years of continued use including several alterations and additions, Duratec was contracted by Western Power to fully restore this architecturally important Inter-War free classical style building to its original condition.

Other ACRA members involved in this project were: Parchem and Sika Australia





Systems for Structural Repair and Concrete Protection













Categories

entered are: -Commercial

Buildings -Heritage

Structures





- Protecting reinforcement rods
- Repairs with cementitious binders
- **Concrete protection systems**
- Waterproofing systems
- Repairs with controlled shrinkage mortars

Eywad Pty Ltd

Category entered into is Water & Sewer

Project: Brooklyn Trunk Sewer Manhole BTS001 Rehabilitation—Design, Construction and commissioning, 87-89 Millers Rd, Brooklyn VIC Australia

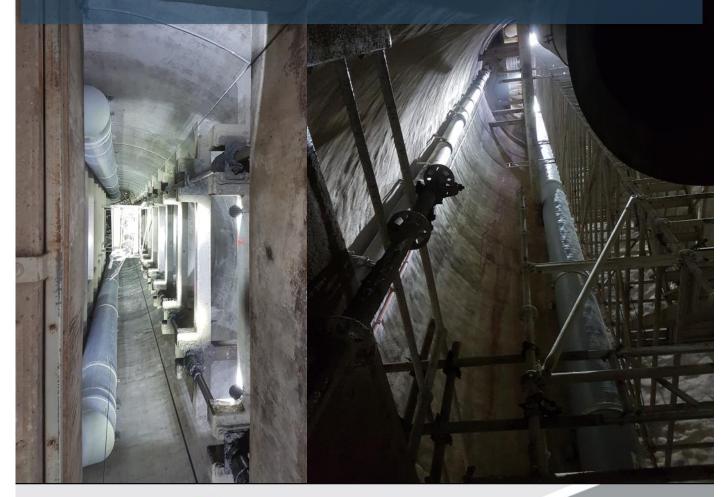
EYWAD executed the structural rehabilitation and upgrade works to the 53-year-old, 45-meter deep, 6.7m diameter (confined space) concrete sewer shaft, at Melbourne Water's Brooklyn Pumping Station.

The works consisted of structural concrete repairs to the shaft walls, removal of concrete stair cases, beams and columns, refurbishment of penstocks, bearings and drive rods, removal and replacement of drop pipes, construction of vortex structure, structural steel platforms and ladders, lighting system and ventilation pipe work.

The works were executed off a complex engineered scaffold structure.

The project took 12 months to complete, with a 100 per cent safety record.

Other ACRA members involved in this project were: Triaxial Consulting and Parchem





Expert Engineered Corrosion Solutions for Infrastructure

Freyssinet Australia

Project: Port Bonython, South Australia

Categories entered into are: -Mega Projects >\$10 Million -Marine

The Port Bonython Dolphins Rehabilitation project is one of the most challenging and innovative project completed by Freyssinet Australia in recent times. Some of the challenges that faced the project team included: Waves in excess of 3m during severe inclement weather, the site being within a giant cuttle fish breeding ground, continuation of shipping operations during the works period, handing of heavy construction loads.

The team rose to these challenges in successfully delivering the project on-time, to very high quality standards and with an LTI rate of zero which they were extremely proud of. Innovation was at the forefront of this project, particularly in terms of the access system which was

designed not only to provide operatives safe access but additionally to support heavy construction and site operational loads applied to the structure.

Other ACRA members involved in this project were: Aurecon and Parchem



ACRA Concrete Repair & Protection Full Day Courses

NZ - 7 November 2018 NSW - 27 November 2018 SA - 15 November 2018

WA - 28 November 2018

Cost: \$495 for members \$595 for non-members
More details and to register www.ACRAssoc.com.au

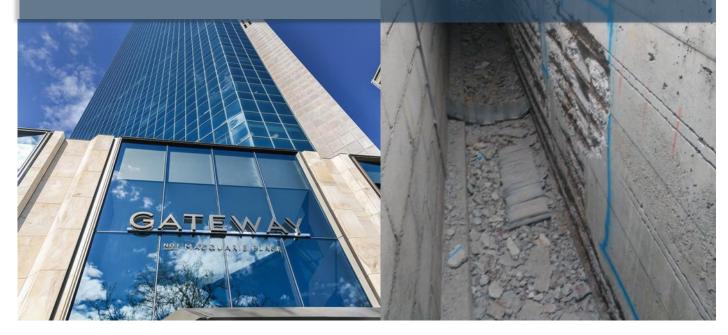
Freyssinet Australia

Project: The Gateway Building, 1 Macquarie Place Sydney (Circular Quay) NSW

Category entered into: Commercial Buildings

The Gateway Building had suffered from the effects of Chloride Attack and Freyssinet Australia were tasked with completing the Design and Construct project to repair the damage caused the concrete structure and also Design and Install and Impressed Current Cathodic Protection System to stop the corrosion process and protect the structure from further attack and maintain durability in the future. This project was particularly challenging as the works has to be completed within a live operating structure that housed both commercial tenants in the building above and a commercial car park, which had many of its car park spaces effected by the works.

Other ACRA members involved in this project were: Arcadis and Parchem





Register for the Concrete Repair & Protection Training Course in New Zealand

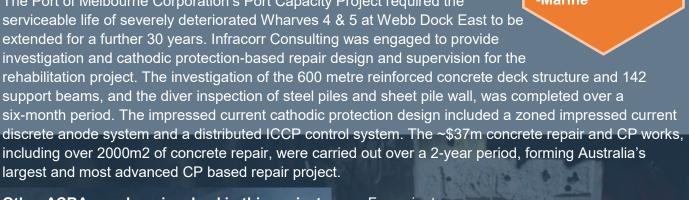
7 November 2018

Infracorr Consulting Pty Ltd

Project: Investigation and Rehabilitation Design of Webb Dock East Wharves 4 & 5, Webb Dock, Melbourne Australia

The Port of Melbourne Corporation's Port Capacity Project required the -Marine serviceable life of severely deteriorated Wharves 4 & 5 at Webb Dock East to be extended for a further 30 years. Infracorr Consulting was engaged to provide investigation and cathodic protection-based repair design and supervision for the rehabilitation project. The investigation of the 600 metre reinforced concrete deck structure and 142 support beams, and the diver inspection of steel piles and sheet pile wall, was completed over a including over 2000m2 of concrete repair, were carried out over a 2-year period, forming Australia's largest and most advanced CP based repair project.

Other ACRA members involved in this project were: Freyssinet



Categories

& Innovation -Mega Projects

entered into are: -Research, Design

>\$10 Million



Infracorr Consulting Pty Ltd

Project: Restoration & Protection of Morell Bridge Melbourne, Anderson Street & Alexandra Avenue Melbourne VIC Australia

Categories
entered into are:
-Research, Design
& Innovation
-Heritage Structures
-Long Term
Performance

In 1994, the historic Morell Bridge over the Yarra River, designed & constructed by Sir John Monash in 1899, was suffering badly from reinforcement corrosion and spalling to the 3 span arches. The repair design and construction by Remedial

Engineering utilized an innovative cathodic protection anode arrangement installed in the soil backfill above the arches, allowing reduced extent of concrete repair and ongoing CP protection to the arch concrete. In 2017, the bridge underwent landscaping works at deck level causing damage to the existing soil ICCP system's cable/conduits. Infracorr was engaged to investigate, design and supervise the repair works and upgrade the ICCP system. Infracorr recommended all twelve anodes be replaced as the system was reaching its intended design life. Repair works were completed and the system was recommissioned in late June 2017.



MAX Build

Project: Building Structural Repair, 1 Beach Rd, Bondi Beach NSW Australia

Categories
entered into are:
-Residential
Building
-Heritage Structures

Each step of this concrete remediation project posed a challenge. It was akin to performing open-heart surgery: the building remained largely occupied by residents and commercial tenants, is situated on a tight seaside block, and adjacent to a primary school.

This 1926 building was one of Sydney's first using the concrete beam and column system, and its four storeys and ground floor structure had degraded to the point of potential failure.

The magnitude of works required a staggered approach, two years apart (2013 and 2016), to allow for funding and to provide residents/landlords some respite.

The extremity of problems stemmed from the building's age, the original poor techniques and materials used, and from its harsh marine environment.

Other ACRA members involved in this project were: Parchem

Category entered into is Commercial

Buildings

MAX Build

Project: Birkenhead Shopping Centre-Basement Remediation, 19 Rosebery Street, Birkenhead Point NSW Australia

In a heavily trafficked shopping centre MAX Build remediated concrete structures to allow for new commercial tenancies and erected a steel and concrete structure underneath a supermarket's cool room. Works included:

- Floor Strengthening
- Sandblast existing reinforcement Realign existing props, double-up new props with hardwood plates
 for new beams Install footing, columns and beam system Install shotcrete slab to soffit to
 engineer's detail
- Migrating Corrosion Inhibitor Application
- Concrete Spalling Repair
- 3,500 litres
 Building a corefill concrete block wall and injecting structural resin into the northern alcove
 Forming and pouring new concrete columns around existing steel UC's

Other ACRA members involved in this project were: Triaxial Consulting, Parchem and BASF





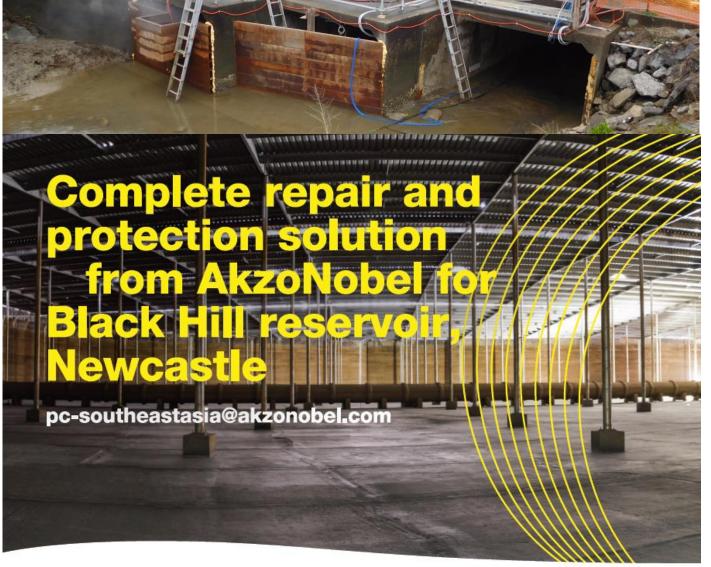
Marine & Civil Maintenance Pty Ltd

Project: Repair & Life Extension of a Tidal Concrete Culvert, Pacific Highway, Cairns QLD Australia

This project involved the investigation, repair and long-term protection of a three celled, tidal culvert under a major highway in Cairns, Qld. The refurbishment consisted of patch repairs of damaged concrete and installation of hybrid anodes in locations of high corrosion activity, with galvanic anodes in the submerged sections. Tidal culverts can be difficult to access because of high water levels and flow in both directions. In this case, there was also the risk of crocodiles entering from the creek.

This encouraged MCM to develop an innovative levee system to close any two of the three cells for the work.

Other ACRA members involved in this project were: Infracorr Consulting Pty Ltd and Parchem Construction Supplies





Categories entered into

-Water & Sewer

-Investigation &

are: - Marine

Category entered into is Industrial

National Concrete Solutions Pty Ltd

Project: Wilma Sugar Stack 11 Refurbishment, Victoria Mill Rd, Victoria Plantation QLD Australia

National Concrete Solutions were awarded the contract to rehabilitate the 66m high concrete boiler stack at the Victoria Mill, Queensland. Acting as principle contractor, NCS spent 5 months treating the internal and external surfaces of the stack to extend the service life.

After laser mapping of the stack, a 3D model was produced and a scaffold system designed and erected to allow safe access to the external surfaces of the stack. Internal access was via a purposely designed swing stage system which allowed NCS Technicians safe access to the internal surfaces of the stack.

The internal stack surfaces (1,000m2) was completely relined with a specialist repair mortar system. The external surfaces (2,500m2) were also treated with specialist products and the overall result was a system which will allow the stack to operate for a further 20 years.

Other ACRA members involved in this project were: Xypex Australia and Parchem Construction Supplies





Concrete is the most popular construction material. The repair of concrete costs billions worldwide. HB84-2018: Guide to Concrete Repair and Protection

ACRA's updated one-day training course is based on the new edition of HB84-2018 and designed for those requiring a thorough and independent understanding of the theory and practical aspects of the industry.

The ACA/ACRA two-day course is the perfect next step in your career. Designed for post-graduates and experienced professionals.

To learn more about these courses contact ACRA.

Go to

www.acrassoc.com.au

for a searchable list of Consultants, Contractors and Material Suppliers in Australasia



Australasian Concrete

Setting the standards in concrete repair for 27 years!

Email: info@acrassoc.com.au



RKF Engineering Services (RKF ES)

Project: 30 Years of Cathodic Protection within a Major Reinforced Concrete Wharf, Port Headland, Western Australia, Australia.

This 1981-2018 project involving significant research produced a multifaceted repair, including cathodic protection (CP), within an isolated 650m x 25m wharf deck in Port Hedland. The aim was to address early age failure and associated business interruption risk within standard concrete repairs.

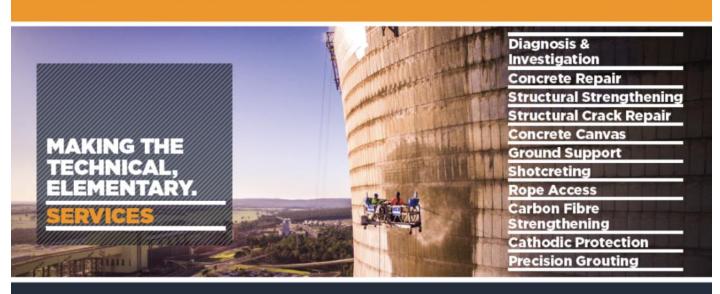
In the first 20 years after construction, the deck experienced a 6-fold (exponential) increase in chloride ion induced reinforcement corrosion initiated damage.

30 years after completion of structural repairs (10,000m²) and ICCP (20,000m²) there has been no damage in any area covered by ICCP. These works were completed without unplanned disruption to shiploading, on time and under budget.

Categories entered into are:

- -Long Term
 Performance
- -Marine
- -Mega Projects >\$10 Million
- -Research, Design & Innovation





Extending the life of concrete buildings and structures across the world.

GET TO KNOW US AT SRGLIMITED.COM.AU

AUSTRALIA / AFRICA / MIDDLE EAST / ASIA PACIFIC / HONG KONG

CALL 1300 775 477



SRG Limited

Project: Loy Yang Cooling Tower, Bartons Lane Taralgon, Victoria, Australia

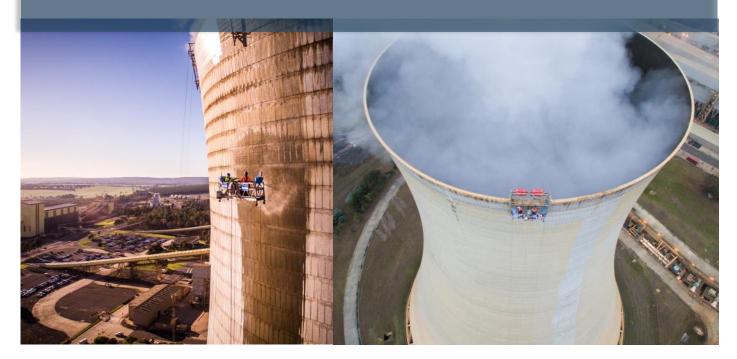
Categories entered into are:
-Industrial
-Infrastructure

SRG performed concrete repairs, strengthening and coating works to a 120m tall cooling tower for AGL at the Loy Yang Power Station in Loy Yang, Victoria.

In order to gain access to the cooling tower, a cradle for a swing stage type scaffold system was required to be lifted into place by helicopter. The cradle system enabled our personnel to ascend and descend the tower for the duration of the project.

The majority of the strengthening works were performed at the rim of the cooling tower. SRG's scope included concrete repair, crack injection, carbon fibre strengthening and water blasting and protective coatings to the entirety of the concrete shell.

Other ACRA members involved in this project were: BASF and Absafe Pty Ltd



Come and visit ACRA at Booth #33 at this years ACA Corrosion and Prevention Convention in Adelaide.

Register now, we look forward to seeing you in Adelaide



11th - 14th NOVEMBER 2018 | ADELAIDE CONVENTION CENTRE

SRG Limited

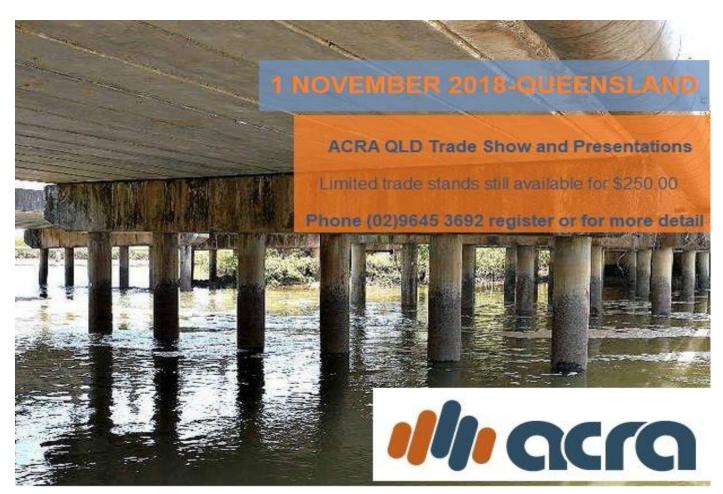
Category entered into is Infrastructure

Project: Monash Freeway Bridge Strengthening, Monash Freeway Victoria Australia

SRG were engaged by Cut & Fill and VicRoads to carry out strengthening works to eight bridges (four twin bridges) on the Monash Freeway. Over five kilometres of carbon fibre rods, laminate and fabric were used on this project to strengthen the bridges over Ferntree Gully Road, Jacksons Road, Police Road and Gladstone Road. The carbon fibre laminate strips were applied to the underside of beams, carbon fibre wrap to headstocks and carbon fibre rods in the top of the bridge deck. Works were conducted around the clock with crews working day and night to minimise any disruption to commuters during busy hours.

Other ACRA members involved in this project were: Sika Australia and VicRoads.



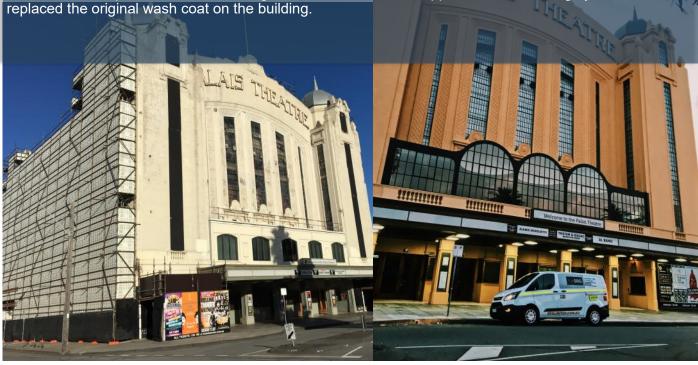


SRG Limited

Project: Palais Theatre, Lower Esplanade, St Kilda VIC Australia

Categories entered into are:
-Heritage Structures
-Commercial Building

SRG Limited (SRG) were engaged by the Managing Contractor Built to carry out façade remediation to one of Melbourne's most iconic and best-loved entertainment venues, the historic Palais Theatre. The refurbishment and repairs to the theatre's exterior was a critical aspect of the project requiring specialist skills and various repair methods. SRG's scope included undertaking lead paint removal from the entire façade, concrete repairs, render repairs, installation of waterproof membrane, fabrication and installation of all pressed cement heritage feature items and the application of a coating system which



BELLMONT FACADE ENGINEERING

Specialist consultants in

- Engineering Services
- Waterproofing
- Heritage Buildings
- Concrete Repair
- Project Management
- Expert Witness Services



Volumetric Concrete Australia Pty Ltd

Project: M1 Motorway Between Reedy Creek and Yatala, Queensland.

Categories entered into are:

- -Infrastructure
- -Research, Design & Innovation

Queensland Transport and Main Roads (TMR)-Roadtek Division identified defective concrete sections on the M1 Motorway that required immediate maintenance (replacement) to ensure that safety is maintained for the M1 users whilst extending the service life of the pavement, and withstanding public and political scrutiny.

Volumetric Concrete Australia was invited to investigate the use and adoption of CTS Rapid Set Concrete Technology in performing over 200 slab replacements on the M1 Motorway, minimising lane and Motorway closures and disruptions whilst providing a safe work and customer environment and extending the life of the pavement. This involved a collaborative approach adopting innovative bespoke methods.



ACRA would like to thank our sponsors for this years ACRA Awards for Excellence 2018







Calendar of Events

We have much to choose from in Australia and NZ

NSW - 11 October 2018 - ACRA AGM + Seminar: Risk in Remedial Work—Hints & Tips. Click here to register.

VIC - 19 October 2018 - ACRA Awards for Excellence 2018 Presentation- Melbourne, VIC

QLD - 1 November 2018—Trade Show and Seminar—Trade Stands still available.

NZ - 7 November 2018 - Full day ACRA Concrete Repair and Protection Course

NZ - 7 November 2018 - Free Event - Welcome to ACRA evening networking drinks. Email us your interest info@acrassoc.com.au

NZ - 8-9 November 2018 - New Zealand Build expo - ACRA will have a speaker at this event and look forward to meeting you all

<u>SA</u> - 11-14 November 2018 - ACA Conference, come and see the ACRA booth at this years Corrosion Conference in Adelaide

SA -15 November 2018 - Concrete Repair and Protection Course

NSW - 27 November 2018 - Concrete Repair and Protection Course

WA - 28 November 2018 - Concrete Repair and Protection Course

NSW - 6 December 2018 - Concrete Cancer Cup - The Greens North Sydney Lawn Bowls- SAVE THE DATE

All events can be found at www.ACRAssoc.com.au





ACRA CORPORATE MEMBERS















Give ACRA a call for more information about

Membership & Benefits

PO Box 452

Chester Hill NSW 2162

Australia

+61 2 9645 3692 (wed-fri) 0429 890 761 (Nicole)

info@acrassoc.com.au

Visit us on the web

www.acrassoc.com.au



BRISBANE CITY

































































ACRA CORPORATE MEMBERS















for natural and













Contact Us

Give ACRA a call for more information about

Membership & Benefits

PO Box 452

Chester Hill NSW 2162

Australia

+61 2 9645 3692 (wed-fri) 0429 890 761 (Nicole)

info@acrassoc.com.au

Visit us on the web

www.acrassoc.com.au

PORT AUTHORITY













Dapcor

























Sustainability In Concrete Structures



