



STAYING ON TRACK

DEVELOPER : Level Crossing Removal Project
 MAIN CONSTRUCTION COMPANY : Southern Program Alliance
 CONSTRUCTION VALUE : \$3 billion

Melbourne's Level Crossing Removal Project involves the removal of dangerous and congested level crossings and the creation of new community open spaces, rail infrastructure upgrades, lift towers, waiting rooms, ticketing areas, kiosks, public toilets, landscaping improved parking, bike facilities, and new walking and cycling connections to improve public safety and create new premium stations.

In one of the nation's largest infrastructure initiatives, the Victorian Government is removing 75 dangerous and congested level crossings across Melbourne. With a completion target date of 2025, the multi-billion-dollar investment programme represents the largest project of its kind in Victorian history.

The Level Crossing Removal Project is managing the programme which has already successfully removed 35 crossings, and will provide significant benefits including a major improvement in safety for road users and pedestrians. It will also improve travel time around Melbourne for public transport users, pedestrians, cyclists and drivers.

On the Frankston line, 18 level crossings will be removed and 12 new stations will be built, as part of a \$3 billion upgrade of the line that will improve safety, reduce congestion and allow more trains to run more often. The section is under the direction of the Southern Program Alliance (SPA), which comprises Lendlease, ACCIONA Coleman Rail, WSP, and Metro Trains Melbourne, with the Level Crossing Removal Project.

Carrum Station and level crossing removals as well as the \$10 million revitalisation of Seaford Road were completed earlier in 2020, with Cheltenham and Mentone stations currently under construction. New stations at Mentone and Cheltenham are planned to open in August. In Melbourne's north, Reservoir station opened in December 2019 and later in 2020, the Coburg to Moreland level crossings will be receiving attention.

Several aspects of the level crossing removal programme are delivering substantial benefits which go beyond the engineering achievements. Thousands of jobs have been created during construction. Many of these positions have opened opportunities for disadvantaged people, with a positive emphasis on inclusiveness in the workforce. Creating these positions means that those involved have received valuable vocational training to assist in securing their futures.

"We're able to leverage the Victorian Government's massive investment in major infrastructure to help support social enterprises and create an inclusive workforce," Level Crossing Removal Project CEO, Kevin Devlin said. "I'm extremely proud of the work we're doing in this space."



Urban renewal has also received a great boost. A recent survey by the RACV revealed that nine of the 10 of the most loved stations were those built as part of the crossing removal programme.

This high ranking is a result of the striking architectural aspects of the new stations, the beautiful community spaces and park lands, extensive bicycle and pedestrian paths and improved community connections. There has been a strong emphasis on sustainability, with the preservation and re-planting of mature trees and the planting of Australian native shrubs and trees.

Importantly, community input has been integral to the design of station, park lands and surrounds. A great deal of effort has been invested in ensuring that local communities around each crossing are consulted. As a result, the designs and plans that are finally instituted have a high degree of community ownership and support. This has included acknowledgment of Indigenous history.

Incorporating Indigenous designs into the infrastructure was highly important. This culminated with design features like the 12m high

'urban marker' and 'yarning circle' near Carrum Station. The 'urban marker' has an aluminium frame with wedge-tailed eagle design, or Bunjil, the symbol of the creator of the bay for the Bunurong Indigenous Owners.

Specialists in the field of strategic planning and team building are being used to bring together the many subcontractors utilised in the programme so that there is an alignment of objectives to deliver high performance outcomes. The use of technology to keep track of all personnel and equipment on any one site in real time, is enhancing safety and simplifying record keeping.

Similarly, the latest technology in measuring traffic movements around work sites has allowed extra construction time and minimised disruptions to the public.

For more information contact Level Crossing Removal Project, Level 9, 121 Exhibition Street, Melbourne VIC 3000, phone 1800 105 105, email contact@levelcrossings.vic.gov.au, website www.levelcrossings.vic.gov.au

Below UDEC prepared documents for utility relocations including drawings, utility register, risk/opportunity matrix and management plan.

Below ADE Consulting Group completed a range of occupational hygiene, geotechnical and environmental services.



UDEC (Utilities, Design, Engineering, Construction) is an Australian based consultancy specialising in high quality, cost effective utilities solutions.

With expertise in road and rail infrastructure, UDEC was contracted by the Southern Program Alliance (SPA) for the Carrum Station Redevelopment project. UDEC's work was preparation of bid documents for utility relocations, including drawings, a utility conflict register and inputs to the programme, risk/opportunity matrix and management plan.

During the project early works phase UDEC provided the Utility Authority Interface Manager. UDEC supported SPA by managing utility interface and liaison during the Design and Construction phase of the project, and securing Utility Authority approvals.

As an accredited consultant to the Melbourne water industry, UDEC prepared the detailed design for water and sewer relocation, undertook site auditing during construction, and facilitated hand over to the utility operator. UDEC took the information gained through liaising with the Utility Authorities and used it to produce combined utility design packages. A combination of 3D and 2D computer

software was used to integrate utility works with other disciplines. UDEC's designs were compiled into SPA's federated models.

"The temporary removal of high voltage overhead power lines across the Patterson River to allow bridge construction saw UDEC interface with the electrical authority and the bridge designers to ensure the lines could be reinstated before the high demand period began. In the Carrum area the utility relocation works designed by UDEC included six new utility crossings of the rail corridor," said UDEC.

UDEC is currently engaged on four other projects with SPA to undertake similar utility consulting. UDEC's work in managing utility risk continues to support the Alliance in the removal of level crossings on the Frankston rail line.

UDEC has built an industry reputation as a cohesive, experienced and effective team. UDEC draw on this experience to fulfill the needs of Clients in the field of utilities; water, sewerage, gas, electrical and telecommunications.

For more information contact UDEC, phone 0435 245 145 / 0423 701 557, email admin@udec.com.au, website www.udec.com.au

ADE Consulting Group (ADE) is a leader in environmental, occupational hygiene, geotechnical, drilling and laboratory services. ADE was engaged by the Southern Program Alliance (SPA) to undertake consulting services at the Carrum Station Redevelopment where three level crossings were being removed and a new station constructed.

ADE's Operations Manager, Shahin Motamedi, said that ADE conducted a range of occupational hygiene, geotechnical and environmental services across the site. "The hygiene aspects included identification of asbestos containing material, asbestos air monitoring and clearance inspections under controlled environments to ensure safe removal of these materials."

Geotechnical services included classification of subgrade materials in the rail corridor to ensure minimum strength requirements were met, based on the specifications for the project.

Soil material was sampled across the site and classified according to the EPA industrial waste resource guidelines, a requirement for offsite disposal. Additionally, soil material was assessed for the purpose of reuse onsite against criteria under the relevant guidelines. Validation

sampling was also conducted to confirm successful removal and classification of soil materials.

Due to the known occurrence of acid sulphate soils in the Port Phillip Bay area, sampling and assessment of soils within the natural profile was undertaken to enable identification of potential acid sulphate soils underlying the fill material within the site.

Established in 1997, the group has a team of 140 including over 100 professionally qualified personnel across offices in Sydney, Melbourne, Brisbane and Newcastle. "This was a major project utilising ADE's scientists, engineers and our own NATA accredited laboratory in Melbourne, providing an excellent example of ADE's capabilities and professional expertise," Shahin said.

ADE has also been engaged on significant rail projects with Rail Infrastructure Alliance, North West Program Alliance and Metro Trains Melbourne.

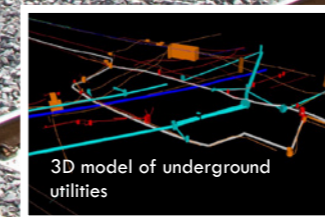
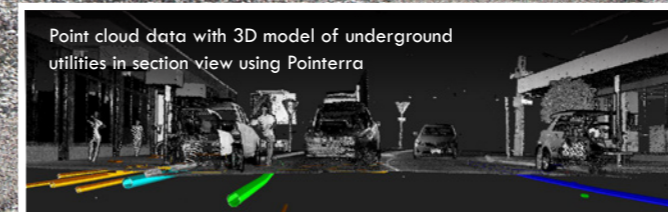
For more information contact ADE Consulting Group, Unit 4/95 Salmon Street, Port Melbourne VIC 3207, phone 1300 796 922, email info@ade.group, website www.ade.group

Below 3D Safety installed an efficient and paperless compliance management system, for contractor on-boarding and governance on the project.

Below Utility Mapping accurately recorded the position of all underground utilities, anomalies and structures that were located.



3D Safety System installed at West Connex - Rozelle Interchange project.



Keeping track of all compliance and workplace safety requirements is a key priority on any construction site. 3D Safety Systems is an innovator in providing accurate, efficient and paperless compliance management systems which can be tailored to any construction project.

3D Safety Systems was engaged to provide their compliance system to the Southern Program Alliance (SPA) which is removing seven railway level crossings on the Frankston line in Melbourne. 3D Safety Director Simon Morrow, said that a critical requirement for the SPA consortium of contractors was the accurate on-boarding and governance of all workers and contractors on the site.

“The Carrum Station redevelopment had certain high risk elements and it was essential that the project teams had insight and visibility on everyone involved onsite on a real time basis, particularly if a situation arose where evacuation was necessary,” explained Simon.

The on-boarding process was comprehensive, involving registration of every worker’s details, the safety training they had undertaken, their qualifications and licensing, and where they were working on the project at any time. The process is paperless with all details accessed

onsite via mobile apps or online. Kiosks set up by 3D Safety enable workers and contractors to tap on each morning using an ID card issued after initial registration.

The 3D Safety software also includes an application for plant used onsite which plant specialists and providers can access.

In the case of the Carrum Station Redevelopment, 3D Safety Systems customised the software to deliver specific requirements of the Victorian Government including reports on diversity of the workforce such as indigenous employment and the number of trainees and apprentices employed on the project. “The 3D Safety team provides support throughout any project, making any adjustments to the reporting capability to deliver insights as required.”

Operating across the entire eastern coast of Australia, the 3D Safety team of highly skilled mobile staff services the safety and compliance needs of more than 150,000 users.

For more information contact 3D Safety Systems, 27 Sir Joseph Banks Street, Botany NSW 2019, phone 1300 663 195, email support@3dsafety.com.au, website www.3dsafety.com.au

Using a range of geophysical and survey techniques coupled with skillful modelling and analysis, Utility Mapping provides essential subsurface information needed to ensure a viable and accurate design is established before construction begins.

Utility Mapping’s expertise has been engaged extensively during the removal of dangerous level crossings in the greater Melbourne area. One of the latest projects undertaken by Utility Mapping was the Carrum Station Redevelopment, for the Southern Program Alliance (SPA).

The survey team accurately recorded the position of all underground utilities, anomalies and structures that were located, allowing for easy integration with existing feature survey data and the proposed design. Utility Mapping recorded valuable utility information including depth, utility type, size, material, direction of flow and configuration when multiple conduits were present. The data was then presented in a three dimensional modelled format.

Alex Jones, Utility Mapping’s Operations Manager and Matt Keppich, General Manager, said that the project posed a number of challenges. “We worked under tight time constraints to not only complete site works but deliver the data as required to ensure the project hit critical

deadlines. There were multiple work fronts, activities and large complex data sets to be managed in a busy location with railway operations continuing around the site.”

Alex and Matt said the team overcame these challenges by allowing sufficient time, pre-planning and resources to cover the project requirements. “We used a dedicated team of eight site staff and four office based staff which ensured continuity of information and work flows. The final deliverable in 3D format provided the project with a detailed model of utility information throughout the project.”

After five years of operation, Utility Mapping has established a strong reputation in the subsurface utility engineering industry and has grown to become a leading provider of utility location, survey, ground penetrating radar and utility mapping solutions for level crossing removal projects including Mentone, Cheltenham and Parkdale for SPA and Mooroolbark, Mont Albert, Surrey Hills and Lilydale for the South-East Program Alliance. Utility Mapping were also contracted for the track renewal project for Metro Trains Melbourne.

For more information contact Utility Mapping, phone 1300 627 746, email melbourne@utilitymapping.com.au, www.utilitymapping.com.au



Below Monero Constructions supplied a formwork, reo and pour package for 9km of shared user path pavements and various in situ concrete works.



Image supplied by Level Crossing Removal Project
The old track at Reservoir Station Level Crossing Removal

Operating with a priority focus on safety, integrity and high quality workmanship, Monero Constructions has become a highly respected concrete specialist in the construction industry.

Proudly Indigenous owned and led by Director, Gary Mongta, Monero Constructions has worked with some of the largest building companies in Australia. They have been engaged on a regular basis to work on the Melbourne Level Crossing Removal project.

Established in 2017, Monero provides integrated structural solutions in the civil, commercial and high rise construction sectors across formwork, steel reinforcement and concrete with capabilities spanning level crossing removals, roads, bridges, culverts, raft slabs, suspended slabs and landscaping.

Gary said that Monero Constructions has been involved in several level crossing removal projects for the Southern Program Alliance (SPA) as well as crossings to the west of Melbourne. “We are delivering a formwork, reo and pour package for 9km of shared user path pavements and various in situ concrete works between Seaford and Mentone for the SPA. We commenced in September 2019 and the work is ongoing.”

Gary is committed to providing employment and educational opportunities for Indigenous youth in order to open lifelong opportunities in the construction industry.

“Pre-employment training is provided through our partnering organisation, Nerdu Badji Education. We then provide on the job mentoring and support to ensure our staff are empowered as a team in an inclusive and encouraging environment. We always target 40% Indigenous employment rates which we have achieved on the SPA projects.”

Monero Constructions is Supply Nation registered and a member of Kinaway, the Victorian Aboriginal Chamber of Commerce. “We aim to be a major force in producing a new generation of Indigenous industry leaders. Australia’s major construction companies have been very supportive of our social objectives.”

For more information contact Monero Constructions, 18 Bottletree Road, Point Cook VIC 3030, phone 0400 458 420, email projects@moneroconstructions.com.au, website www.moneroconstructions.com.au

Below Next Generation Concrete Pumping provided their pumping services at Carrum, Seaford, Mentone and Cheltenham stations.

Next Generation Concrete Pumping has built a reputation for excellence in the delivery of concrete pumping services during more than 10 years of operation across the greater Melbourne area. A total commitment to superior service and outstanding project outcomes is the foundation for Next Generation's success.

Amongst the company's long list of achievements pumping concrete for government, commercial and residential projects, has been the Melbourne Level Crossing Removal Project (LXRP). Engaged by the Southern Program Alliance (SPA) which is removing dangerous level crossings and re-building a number of stations, including those on the Frankston line, Next Generation Concrete Pumping provided their services at Carrum, Seaford, Mentone and Cheltenham.

Managing Director of Next Generation, Paolo Russo, said that high capacity concrete pumping was an integral part of any major construction job and infrastructure projects were no different.

"We gave top priority to the jobs we did for SPA, including investing in new technology to ensure a first class result. Apart from the major challenge of working with heavy equipment in a very narrow corridor, the Level Crossing Removal Projects have been great to work on."

Paolo added that the project was trialling a new concrete mix and Next Generation had the task of adjusting the pumping method to ensure a successful pour, especially where the fills in the tracking were similar to a grouting process.

"We also bought new natural rubber reducing hoses from Germany for the job. These provided a greater level of safety for our pouring teams as air pockets could be squeezed out safely. They provide greater flexibility in the pouring process as well. The end result was a high capacity concrete pumping technique that was safe, fast and cost effective."

Next Generation Concrete Pumping is constantly expanding their fleet so that the company remains at the forefront of the latest technology. "We've invested tens of millions

of dollars in state-of-the-art concrete pumping technology, primarily manufactured by global brand leader Putzmeister," Paolo said. "This has enabled us to be highly competitive on any project, particularly for high rise jobs."

The company established their high rise division in 2018 and has acquired a large number of 32/36m Z-fold static booms. Their fleet of mobile pumps are all high pressure machines set up to plug in and push extreme heights. Booms range in size from 20m to 56m, so Next Generation has the ability to service the requirements of virtually any job.

All the boom pumps used by Next Generation are fully compliant to all Australian Standards and less than five years old. As they all have the capacity to Z-fold, Next Generation are able to pump concrete height restricted areas, such as tunnels and factories, both internally and externally.

All of the company's mobile concrete pumps have the ability to shotcrete as well, providing another option for clients. Next Generation utilises the most up-to-date and safest methods to spray concrete and puts in the extra effort required to get a premium result.

The Next Generation vehicle fleet is comprised of late model Mercedes, Volvo, MAN and DAF trucks that are maintained in excellent condition.

Paolo said that safety is Next Generation's number one priority. Crews are trained in all aspects of working safely and all equipment is well maintained and serviced regularly.

"We start every job and every day with a thorough safety briefing to ensure our safety standards are maintained. Our equipment is fitted with the highest level of safety options available and team members are professionally trained by our equipment distributor to ensure all machinery is operated in a safe and effective manner."

For more information contact Next Generation Concrete Pumping, phone 0400 093 428, email admin@nextgenerationcp.com.au, website www.nextgenerationcp.com.au



Below McKay United provided an extensive range of equipment to support the lifts required on the project.

Below BDS Civil & Construction provided 1.6km of Combined Service Route (CSR) for signalling, electricity supply and communications conduits.



McKay United has built a sound reputation over their 30 years in business as a dependable and committed operator of three mobile crane hire businesses and a bare rental company.

From their beginnings servicing Melbourne's western industrial and construction precinct as Williamstown Crane Hire, McKay United now has additional operations in Geelong through Eastside Crane Hire, and Hobart through Elliott's Cranes.

McKay United was selected by the Southern Program Alliance (SPA) to provide cranes for the Carrum Station Redevelopment on the Frankston line south of Melbourne. Managing Director Tom Smith, said that a large range of equipment was supplied over a period of six months including cranes capable of heavy lifts.

"We supplied a GMK7450 450 tonne All Terrain crane and a GMK6400 400 tonne All Terrain for this purpose, plus two 350 tonne Demag crawler cranes, two 250 tonne All Terrain units, various 25 tonne pick and carry cranes and three other units for lighter loads," said Tom. "The main challenge we faced was delivering the full range of project requirements in the small amount of space available."

McKay United has around 100 employees in Victoria with the Carrum Station job requiring 30 employees at the peak of activity.

"We have a specialised project team at McKay United which prepares plot drawings of crane positions well in advance to the site engineers. This team then works on the project and delivers the crane requirements as needed by the client, delivering cost effective and efficient services with safety as a priority."

McKay United is no stranger to large projects. They have provided 17 cranes to the ExxonMobil maintenance program in which 60 crew members were required. They were also involved with the QUBE ports resupply programme involving 250 tonne – 450 tonne hydraulic mobile cranes.

For more information contact McKay United, 114 Doherty's Road, Laverton North VIC 3025, phone 1300 555 214, email tom@mckayunited.com.au, website www.mckayunited.com.au

BDS Civil & Construction is an accomplished practitioner in all aspects of civil construction with a particular specialty in the rail construction industry. The company has expertise in the planning, methodology and development of new and existing rail projects and rail infrastructure.

BDS Civil was engaged by the Southern Program Alliance (SPA) to provide approximately 1.6km of Combined Service Route (CSR) at the Carrum Station Redevelopment, part of a Victorian Government programme removing 71 dangerous level crossings around Melbourne.

The CSR housed all conduits for signalling, electricity supply and communications. The company also carried out a range of civil and structural tasks as well as providing a labour and plant hire service to SPA. BDS Civil had provided similar services at the Seaford crossing removal.

Director, Scott Rerden said the total package provided by BDS Civil & Construction included building pedestrian crossings, a 1.2m high retaining wall at the south end of the bridge and general excavation and civil tasks. "Probably the major challenge when building the CSR was dealing with existing underground services. We had to undertake

deep trenching in sandy conditions which at times was 1.5 to 2m deep. The trenches required shoring to ensure worker safety."

At the peak of the project, around 25 skilled team members from BDS Civil were onsite. The company also supplied 5 tonne and 8 tonne excavators and tip trucks, plus posi track skid steer loaders and a float for the machinery

Founded in 2016 by a team of experienced civil and rail industry practitioners, BDS Civil has already established an excellent reputation in platform and station construction, light rail construction, track lift and lining as well as all associated specialised and civil tasks.

The company is working on numerous tram and light rail projects in addition to the Ballarat Line Upgrade and Cheltenham and Mentone Crossing Removal projects.

For more information contact BDS Civil & Construction, phone 0412 531 077, email admin@bdscivil.com.au, website www.bdscivil.com.au

Below Tree Top Tower Hire was engaged to undertake designated tree removal within the rail corridor throughout the Level Crossings Removal Project.

Below E & J Septics provide a comprehensive range of waste management services including septic tank desludging, waste tanks and a pump-out service.



Tree Top Tower Hire is a Ballarat based business providing quality tree care services across metropolitan Melbourne, western Victoria and the central highland region. The company also undertakes large interstate projects.

With a successful track record in tree removal and vegetation clearing, Tree Top Tower Hire was engaged to undertake designated tree removal and associated tasks at the Carrum Station Redevelopment.

Director Jason Scholten, said that Tree Top completed works ranging from tree pruning for improved line-of-site and aesthetic reasons, through to complete removals including stumps. Sizes ranged from smaller scrubby type trees through to very large eucalyptus trees.

“We always customise the service we provide utilising the advice of our expert arborists,” Jason said. “We also take into account client project management needs as well as the job site layout.”

Jason added that equipment and crew numbers supplied by Tree Top are specific for the site and stage of works being completed to ensure the works are completed in the safest, most efficient and cost effective manner for the client.

“On rail projects like Carrum Station we typically have five to six employees and equipment usually consisting of a 12m to 23m truck mounted elevated work platform, a 5t excavator to feed the cut material into a Bandit Intimidator 21XP chipper, one of the largest available and only a few available in the country,” Jason said. “Larger logs are removed from site using one of the company’s tipper trucks and stumps ground using a self-propelled 100hp Rayco Stump Grinder.”

On all large projects, time frames change and unplanned works arise. Tree Top is conscious that if these changes cannot be completed as soon as possible they could have significant effect on downstream works of other contractors. “We will always do whatever it takes to get the work done on time and on cost for the client, including working over public holiday weekends or night shifts,” Jason said. This is especially important to keep shutdowns to the rail network to a minimum.”

For more information contact Tree Top Tower Hire, 302 Charlesworth Street, Ballarat East VIC 3350, phone 0419 501 126, email info@treetoptowerhire.com.au, website www.treetoptowerhire.com.au

E & J Septics Pty Ltd has provided a wide range of waste management services and products for over 40 years across all suburbs of Melbourne including the Mornington Peninsula, Dandenong Ranges and south eastern suburbs.

The company was contracted to provide servicing of the portable toilets set up by the construction teams at the Carrum Station Redevelopment in Melbourne’s south east. Manager of E & J Septics, Ryan Sockett said that his company provided a daily service call to the Carrum Station site to maintain a high standard of health and hygiene for construction workers. “We also have a 24 hour, 7 day a week service availability to cover emergency call outs and work sites operating around the clock.”

E & J Septics provides a comprehensive range of waste management services encompassing septic tank desludging, domestic grease traps, waste tanks and a pump-out service for large events like music festivals.

No job is too big or too small for his team. “With our fleet of tankers we can handle septic system pump-outs from 1,800L to commercial size 25,000L filtration systems. We always carry up to 60m of suction hose to ensure almost every property is easily accessible.”

E & J Septics is a locally owned and operated business with a team of eight drivers and three office staff. They have built a specialised fleet of modern service vehicles including tankers and trailers designed to reach any location including basements, carparks and restricted access sites. Tanker sizes range from 2,100L, 8,000L, 12,000L to 24,000L capacity. The company also has a crane to facilitate portable toilet delivery and removal.

E & J Septics always ensures it provides their clients with a prompt, professional and value-for-money service whether as a one off job or on a regular contract basis.

For more information contact E & J Septics, Factory 2/11 Isa Way, Boronia VIC 3155, phone 03 9729 6844, email service@ejseptics.com.au, website www.eandjseptics.com.au

Below Action Alliance applied the protective coatings to steelwork and concrete on a number of Level Crossing Removal sites.

Action Alliance has a high reputation as the leading industrial and protective coating, abrasive blasting company in Victoria. This has been earned over 25 years of business by their team of industry specialists who work closely with customers in order to deliver tailor made and cost effective coating solutions.

Action Alliance has been contracted on several projects for the Melbourne Level Crossing Removal Project (LXRP). One of the major tasks undertaken has been for the Southern Programme Alliance (SPA) at Carrum. Action Alliance applied all the protective coatings on the new bridge across the Patterson River. This included the tower, the steel balustrading and concrete elements which were coated with an anti-graffiti paint.

Adam Wharton, Action Alliance General Manager, said Industrial Protective Coatings were used on the steel structures. "We apply coatings in our factory on new steel fabrications which requires abrasive blasting prior to the spray application process. Where we need to work onsite on concrete structures, we would use a number of techniques to apply the coatings on the surfaces."

The location around the bridge, station and other works at Carrum presented several challenges. "Being right on Port Phillip Bay meant the winter months extended curing times, with wind and rain impacting on the number of hours we could work onsite. Delivering on time became a priority. We had around sixteen employees in the factory and six onsite to meet the schedule, which we were able to do."

Other major projects that Action Alliance has undertaken for the LXRP included Reservoir

Station and Buckley Street underpass at Essendon Station. "Both projects were very significant," Adam said. "We had 24 of our total team of 50 staff working on the Reservoir job for around four months and another 12 on the Buckley Street project for three months, where a deep concrete underpass was painted."

Action Alliance has also completed work at Mernda and Hawkstowe Stations, north-east of Melbourne and Ringwood, Rosanna and Wyndham Stations. The company has also worked at SkyRail Stations at Noble Park, Clayton, Hughesdale and Murrumbeena, all part of the LXRP.

With a large, custom built facility in Laverton North in Melbourne's western suburbs, Action Alliance is close to the Westgate Freeway and so can easily service any location in Victoria for coating or abrasive blasting requirements. The company has held ISO 9001 quality accreditation since 2004 and is fully qualified to provide fire protective paint for structural steel using intumescent coatings.

Often working on projects with large steel components, Action Alliance also has an associated company, Shamick Transport, which has been providing over mass and over dimensional load transport, general cartage and pilot services since 2009.

Shamick Transport complements Action Alliance's activities, moving all over size steel fabrications to site, like bridge girders, large dimensional frames and lift shafts. Shamick Transport also provides the same services to other customers, with their haulage service operating 24 hours a day, seven days a week across Australia.

Shamick's fleet of trucks and trailers is fully equipped with the latest technology to safely manage the transport of machinery, equipment, steel and miscellaneous items from pick up to the final drop off location. With a modern fleet of new prime movers, trailers and other short and long distance vehicles, the company's carbon emissions are kept to a minimum and productivity is maximised.

Shamick's experience, versatility, reliability and personal approach to all client needs means they provide an unequalled service. Deliveries can be programmed to suit clients' schedules with flexibility in the event of timing changes.

Located in Laverton North with Action Alliance, Shamick Transport is ideally placed for easy access to all major arterial routes.



For more information contact Action Alliance, 3/50 Cyanamid Street, Laverton North VIC 3026, phone 03 9931 0740, fax 03 9931 0750, email info@actionalliance.com.au, website www.actionalliance.com.au



For more information contact Shamick Transport, phone 03 9369 9468, email scheduling@shamick.com.au, website www.shamick.com.au



Reservoir Station



Buckley Street Underpass at Essendon Station.



Image supplied by Level Crossing Removal Project
Old track removal at Carrum Station Level Crossing Removal

Below Jelmac completed directional drilling for combined services routes and utilities where open-cut trenching was not possible.

Below Auspat Land Survey Australia's qualified surveyors assisted with construction of the elevated rail line, stations and associated infrastructure works.



With a reputation for tackling difficult projects, horizontal drilling specialist Jelmac Directional Drilling has continued to deliver their expertise on the Melbourne Level Crossing Removal project.

Managing Director of Jelmac, Brad Boote, said that the main focus for his team was on the combined services route and utilities where open cut trenching was not possible. "Our trenchless underground drilling enables the various conduits, pipes and cables to be laid with accuracy and safety. We have completed work at Mentone and Carrum for the Southern Program Alliance (SPA) and are currently engaged in water main relocations at Cheltenham."

Amongst the challenges have been the ground conditions, with sandy soils complicated by a high water table throughout the southern route. "Holding bore hole integrity to ensure that piping and conduits can be installed properly has required close attention," Brad said. "We have also had to drill at considerable depth in some locations and this makes tracing and steering the borehead quite challenging."

For the larger horizontal bores, Jelmac's highly experienced team utilises a Vermeer D60x90 machine which enables trenchless underground

installation of varying conduits under environmental areas, roadways, footpaths, driveways, sewer and drainage systems in various diameters, lengths and ground conditions.

Jelmac also provides vacuum truck support for the removal of fluids and muds generated as a result of the horizontal directional drilling process.

Jelmac Directional Drilling has achieved outstanding success since Brad founded the company in 2013, including major work on the Caulfield to Dandenong level crossing removal project. Working throughout the greater Melbourne area, Jelmac has been on a growth trajectory since its inception, acquiring the most advanced equipment in the industry. "We have a skilled team of technicians who are committed to delivering every project safely, accurately, within budget and on time," said Brad.

For more information contact Jelmac Directional Drilling, 2 Jeanette Maree Court, Kilsyth VIC 3137, phone 0417 351 908, email info@jelmac.com.au

Auspat Land Survey Australia is a dynamic and progressive survey company providing skilled survey professionals to the construction and infrastructure industries. With 20 years experience, Auspat has successfully completed many large scale infrastructure projects throughout Australia. One of their largest jobs has been the Melbourne Level Crossing Removal Project which is a multi-billion dollar project to remove 75 dangerous suburban level crossings and rebuild stations and associated services.

Auspat Director, Colin McIntosh, said that the Level Crossing Removal Projects were always challenging because of the complexity of the design. "This creates time constraints as there is obviously a requirement to move these projects along as quickly as possible to minimise disruption to commuters and communities."

The Caulfield to Dandenong level crossing removal commenced in August 2016 and completed in January 2019, the project involved the removal of nine level crossings and rebuilding five stations on the Cranbourne to Pakenham line.

Auspat was involved in the construction of the elevated rail line, stations and associated infrastructure works. "We had up to ten of

our qualified surveyors engaged in the field plus office support for the project's consortium," Colin said. "We are committed to meeting all deadlines and this major project was no exception."

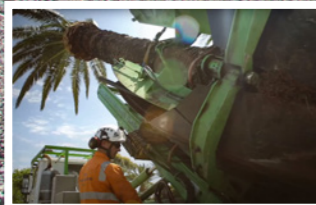
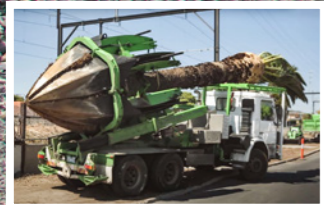
One of Auspat Australia's key advantages is that they have the ability to mobilise quickly to deliver full onsite survey resources to clients. Auspat's service is enhanced by state-of-the-art survey software and hardware providing clients with confidence that the job is completed accurately and on time.

Auspat has successfully completed the requirements and certification process for ISO 9001 Quality Management Systems, ISO 45001 OHS Management Systems & ISO 14001 Environmental Management Systems and recently achieved accreditation.

For more information contact Auspat Land Survey Australia, F55, 63 Turner Street, Port Melbourne VIC 3207, phone 1300 669 182, email admin@auspat.com.au, website www.auspat.com.au

Below Tree Transplanting Victoria relocated a number of mature palms with assistance from their truck-mounted SuperSpade.

Below Mooven manages traffic disruption through real time, web based tools, optimising work schedules and monitoring safe speeds.



The preservation of natural assets, including mature trees, is now a major community objective. Facilitating the relocation and conservation of large trees is the domain of Tree Transplanting Victoria, recognised as one of Australia’s leading authorities on large, complex tree transplanting methods.

The Melbourne Level Crossing Removal programme utilised the expertise of Tree Transplanting Victoria at several locations, including the Frankston Line, which required strategic planning and creativity to complete the tree removal safely.

“The size of the trees and tight space restrictions meant we had to be creative in our approach. At Cheltenham Station, we removed four very large date palms, 15m high with a 2.2m root ball,” said Director, Dan Rooney. “We had to devise an innovative method of dislodging the root ball from the soil so that the crane didn’t have to wrench the tree from the ground. We used air bags wedged around the root ball and as they inflated, the tree was safely freed from the surrounding earth with the root ball intact.”

Dan said that the date palms removed at Cheltenham Station, as well as another 500 plants and small trees removed at Mentone Station,

are all in nurseries being maintained until they can be replanted back onsite.

Tree Transplanting has all the specialised equipment necessary for the removal of mature trees even if they weigh many tonnes. Their secret weapon is a truck-mounted SuperSpade, an all-in-one excavator, crane and road legal transport vehicle. Tree Transplanting Victoria has developed techniques with the support of David Caldecott to minimise stress to transplanted trees, ensuring a high success rate.

Tree Transplanting Victoria has also worked at Ormond, McKinnon, Bentley, Blackburn and Footscray Stations. Another major project was undertaken at Melbourne Zoo where they relocated a 120 ton moreton bay fig, as well as many other valued trees. See all videos of tree relocation at www.tree-transplanting.com.au.

For more information contact Tree Transplanting Victoria, PO Box 547, Mount Martha VIC 3934, phone 0405 427 812, email dan@treetransplant.com.au, website www.tree-transplanting.com.au

The Southern Programme Alliance (SPA) utilised Mooven from the start of the Carrum Station redevelopment through to its completion, to reduce the impact of construction activity on projects.

Mooven creates space by helping contractors understand when and how to work. This is achieved through a real time platform that enables contractors to understand traffic patterns. As a result, delivery of projects is streamlined and disruption for local communities reduced.

“Our technology monitored traffic conditions including journey times, delays and average speed to allow SPA to use current, rich information to plan when construction activity should occur. We monitored the real time impacts and provided an evidence base on performance to support client queries, media responses and community engagement,” said CEO, Micah Gabriels.

“Before Mooven we couldn’t have the discussion with VicRoads about moving the standard construction hours’... Now we can. It has become possible to accomplish more in a shorter space of time,” Andrew Mason, Traffic Manager (SPA).

An analysis of the Mooven traffic management technology undertaken by SPA, LXP and Mooven at Carrum Station highlighted that SPA were able to secure up to 2.5 hours of additional time onsite per day, a 40% increase in productive time, without impacting customer experience for road users. A net reduction in disruption to local communities.

At Carrum, project teams also had the ability to respond to unexpected traffic events on the road network, implementing proactive mitigation strategies in real time to minimise the impact on traffic

Mooven’s technology is being used on the Cheltenham and Mentone crossing removals. The company is also working with Transport for Victoria and the MTIA for road projects including the Westgate Tunnel.

For more information contact Mooven, phone 1800 841 854, email sales@mooven.io, website www.mooven.io

Below L&M provided all civil and electrical construction services for the full traffic signals upgrade and associated hardware of each site.

Below ORBIZ have deployed their integrated performance management system for various participants across the Level Crossing Removal Project.



Since 1985, Victoria has been proudly served by L&M Traffic Signals. During that time, L&M has grown strong relationships with VicRoads, local councils, road and rail contractors and emergency services. The experienced L&M technicians have extensive inhouse resources supporting them, ensuring that the company remains at the forefront of traffic signal and public lighting installation.

L&M Traffic Signals has been very involved with the Melbourne Level Crossing Removal Project (LXRP) at several sites. The largest project was at the McLeod Street, Station Street and Nepean Highway intersection and currently L&M is undertaking the construction of seven pedestrian sites, all within close proximity to the main site.

L&M Traffic Signals were also part of the Seaford crossing removal project for the Southern Programme Alliance (SPA) in 2019.

L&M Director, Allan McConnell said that the specific products and services provided by L&M included all civil and electrical construction for the full traffic signals upgrade and associated hardware of each site. L&M had a team of 10 civil and electrical staff engaged on the project out of their total full time staff complement of 13.

The level crossing removal programme sites all operate on tight time scales because of the need to minimise interruption to road and rail commuters. L&M only had access to the rail corridor at the Nepean Highway site five days before the agreed completion date.

The challenge was compounded by the adverse weather conditions, with high winds and heavy rain enforcing restricted works and even site closures. "To achieve site hand over on schedule, on budget and without disrupting the train network was a great achievement by the L&M team," Allan said.

L&M is constantly introducing new technology including solar power and radio controlled systems to reduce environmental impact.

Amongst the many major projects recently completed by L&M was the Stage 1 Plenty Road, Mill Park upgrade for Major Road Projects Victoria.

For more information contact L&M Traffic Signals, Unit 1, 2-4 Souffi Place, Dandenong South VIC 3175, phone 03 9768 2637, email info@lmts.com.au, website www.lmts.com.au

ORBIZ is a multinational management consultancy firm that facilitates the delivery of significant and sustainable improvements in bottom line performance across a variety of industries.

"We generally support our clients to increase their effectiveness in three ways: increasing their control of performance outcomes through improved visibility and accountability of programs and key performance indicators; resolving complex problems that are impacting organisational performance; and developing management systems that promote a culture of continuous improvement," said ORBIZ Co-Founder and Director, Ross Sterland. "Ultimately, we enable our clients to reduce risk and cost whilst increasing productivity and employee engagement."

ORBIZ have been engaged across the Level Crossing Removal Project (LXRP) in Melbourne since 2017, deploying their integrated performance management system to increase performance whilst developing a culture of innovation and continuous improvement. These systems have been developed specifically for the construction industry to increase governance and project control through transparency of information and clear accountability at each stage of the project lifecycle.

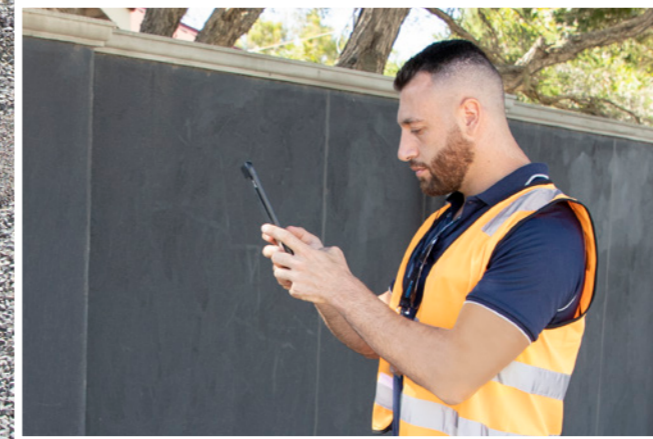
The system being deployed by the Western Program Alliance to provide oversight to the removal of three level crossings in Melbourne's west, and the Cranbourne Line Upgrade project in Melbourne's south east, encompasses five tiers of Visual Management Centres (VMC) including both traditional stand up and digital forums that cascade from the alliance leadership team to the worksite crews. The system being deployed by the LXRP to increase owner governance incorporates four tiers of VMC that cascade from the project executives to the discipline teams.

ORBIZ methodology has been utilised to engage multi-disciplined teams in alliance wide events to solve complex problems and deliver step change improvements. These methods that are built upon industry best practice principles have resulted in the development and execution of strategies to resolve key performance issues across design review, systems engineering and social inclusion. "Several members of our team have been involved in this program at various stages and the results have created significant interest from other major projects being delivered across the region and overseas," said Ross.

For more information contact ORBIZ, email info@orbiz.io, website www.orbiz.io

Below Enviro Management Services planted and maintained 110,000 plants over 2km either side of the rail line at Seaford Station.

Below SPI Property Inspections prepared dilapidation reports and street surveys including a geolocation inspection and video survey.



Marriott Support Services provides employment opportunities for people with disability in the rewarding area of landscaping and horticulture within Enviro Management Services (EMS).

As a certified social enterprise EMS's success can be easily determined by the great demand for their professional services from government, local councils and the private sector. EMS successfully undertook a large landscaping and maintenance project at Seaford, as part of the Melbourne Level Crossings Removal Project.

Divisional Manager for EMS, Raymond Lee says the Seaford contract involves planting and maintaining 110,000 plants over a 2km distance on either side of the rail line between Station Street and Bardia Avenue. EMS have also planted out and turfed the playground which is also a part of the Seaford redevelopment.

"We had between 5 and 10 of our employee's onsite at any time depending on the program requirements. All work is supervised by our Project Managers and trained Horticulturists," said Raymond. "All employees involved in the project gain valuable experience in all aspects of preparing the ground for planting, selection of plant varieties, mulching and after-planting maintenance."

The range of landscaping services offered by EMS includes construction, grounds maintenance, bushland management, broadacre and specialist mowing, along with weed control. "We are presently contracted with Melbourne Water, South East Water, Department of Human Services along with several of Melbourne's local councils, providing grass cutting and maintenance services," Raymond said.

EMS assists companies reach their social procurement goals set by the Victorian Government for the employment of people with disability. Marriott Support Services also offers work to people with disability within their further social enterprise Marriott Industries (MI).

MI offers 3PL warehousing, pick & pack, packaging, light assembly, event show bags, dried food packing and bonded warehouse services. Both EMS and MI are making a significant contribution to the objectives of Marriott Support Services, assisting people with a disability to lead a connected, healthy and independent life. Presently 104 people with disability are successfully employed by both social enterprises.

For more information contact Enviro Management Services, 15a/56 Keys Road, Cheltenham VIC 3192, phone 03 9947 1123, email Ray.Lee@marriott.org.au, website www.marriott.org.au

Large road and rail infrastructure projects require detailed information on the condition of homes, buildings and council assets adjacent to the construction activity. This essential service has been delivered during the Melbourne Level Crossing Removals Project (LXRP) by SPI Property Inspections, an independent building inspection company specialising in dilapidation reports on residential and commercial properties for large government infrastructure projects.

The Southern Program Alliance (SPA) is managing the removal of level crossings on the Frankston line and SPI Property Inspections prepared dilapidation reports and street surveys including a geolocation inspection and video survey. Projects Coordinator, Samantha Bilton said that the reports were prepared on both a pre and post construction basis. "We worked on the crossing removals at Seaford, Carrum, Cheltenham and Mentone."

SPI Property Inspections also covers building condition reports on all non-residential properties, including structural and building services. "We can provide an accurate assessment of the structure and overall condition of the building before a decision is made about buying, leasing or general maintenance," Samantha said. "Our sister company, The Home Inspection Hub, focuses on a wide range of residential

inspections including pre-purchase, owner builder defects reports and new home construction inspections."

SPI Property Inspections has been in operation since 2002 and has 17 employees, 11 of whom worked on the LXRP as well as six contract inspectors.

Samantha said that working with SPA was a pleasure as there was always great teamwork and a willingness to support SPI in developing new procedures to suit the project, like the notification documentation and distribution processes to ensure homeowners were sufficiently informed. "This assisted in gaining consents to undertake surveys."

SPI Property Inspections is currently working on a further nine Level Crossing Removals across Melbourne, as well as the Mordialloc Freeway, the Rail Infrastructure Alliance sections of the Metro Tunnel and Tram Route 96 upgrade.

For more information contact SPI Property Inspections, 4/164 Boronia Road, Boronia VIC 3155, phone 1300 721 032, email info@spipropertyinspections.com.au, website www.spipropertyinspections.com.au

Below Manco Rail specialises in overhead wiring electrification, supplying tensioning equipment, elevated work platforms, wire recovery equipment and cranes.



Manco Rail specialises in the supply of customised equipment specifically for overhead wiring electrification, from construction through to maintenance programs. The range includes such items as tensioning equipment, mobile and truck mounted elevated work platforms, wire recovery equipment, cranes, wiring masts and state of the art pantographs.

As a supplier of such specialised equipment, Manco Rail's capabilities not only cover 24/7 product support, but comprehensive operator training programs.

As a subsidiary of the Manco Engineering Group of companies, the group has been designing and manufacturing products that have been part of the evolution of productive hi-rail electrification construction and maintenance since 1973, Manco Rail has been a principal equipment supplier for many prestigious projects in the rail industry throughout Australia, Malaysia, Hong Kong and New Zealand, including the recent Melbourne Level Crossing Removal Project (LXRP).

National Operations Manager, Rob Di Naccio, stated the company has been engaged in supplying a wide range of equipment on the

Caulfield to Dandenong project which has seen the removal of nine crossings. "Along with work on the Southern Program Alliance (SPA), we have also been engaged by the Western Program Alliance on the western line programme. We are now starting work with NEPA (North/East Program Alliance) and SEPA (South/East Program Alliance) on their Level Crossing Removal Projects."

In addition to outright sales, a substantial range of equipment under short and long term leasing options is available including specialised items manufactured under joint collaboration with overseas partners like the Italian company, OMAC the overhead line stringing equipment specialist. Manco Rail is able to supply both wet and dry hire options.

"We have world class equipment that is regularly inspected and serviced. All our equipment complies with Australian rail safety standards, Workcover, design regulations, and State and Territory statutory requirements."

"Our strong service support team has a wealth of knowledge and experience with many team members having more than 20 years with the company," said Rob. "We provide our customers with

comprehensive, ongoing training and fast solutions in the case of unexpected challenges. Manco Rail Hire customers have access to our round-the-clock network located in Melbourne, Sydney and Brisbane."

Innovation is a key driver at Manco Rail. As an example, they are introducing a hi-rail volumetric concrete mixer with a 6m conveyor belt which can move by rail to locations not accessible by trucks to provide "Mix as Required" volume of concrete.

Ryan Black, General Manager of Manco Engineering in Australia, said that Manco Rail is fully supported by their parent company in equipment design and supply, team training on servicing and operating equipment and the supply of spare parts from their Wetherill Park facilities in Sydney.

"Manco Engineering is committed to growing the Manco Rail Hire business through the provision of innovative equipment with high quality engineering and service. Manco Rail can always call on the technical expertise of their parent company's 100 person strong team," said Ryan.

Manco Rail team, under the leadership of Rob Di Naccio, continue to win major rail infrastructure contracts due to their commitment



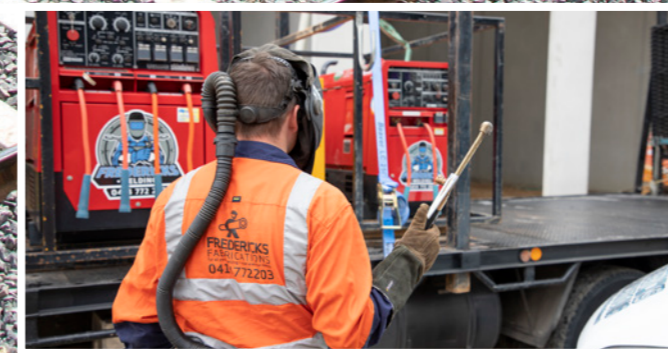
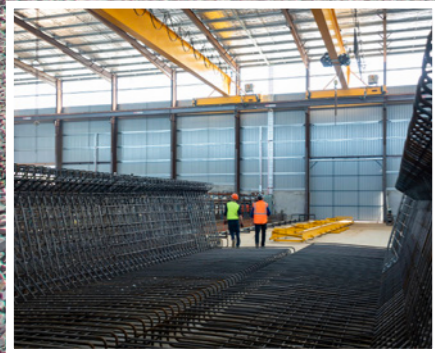
to first class customer service, training and high quality equipment. Manco Rail now offer long term and project equipment in Queensland, New South Wales, Victoria, South Australia and Western Australia will be by 3rd quarter of 2020.

For more information contact Manco Rail Hire, AU enquiries: Ryan Black, email rblack@mancoeng.com.au, phone +61 401 748 873, NZ enquiries Bryan Black, email bryan@manco.co.nz, phone +64 21 960069, website www.mancorailhire.com.au

Below NVC Precast manufactured 66 L-Beams measuring between 27m and 30m long for the elevated rail structure at Carrum Station.



Below Fredericks Fabrications welded the 12m high urban marker at Carrum station and 3 million shear studs onto pilings at Ormond Road.



Located just north of Melbourne on 60,000m² of hard stand, NVC Precast is one of Australia's leading suppliers of large prestressed concrete elements to the civil construction industry.

The company prides themselves on their relationships, customer focus and industry expertise.

The NVC Precast management team leads the industry by applying their many years of knowledge and expertise in precast manufacturing and in situ construction. "Our strength in providing high quality service and a great result for our customers lies in the strong relationships we have built with them, our supply chain and other stakeholders," said Dan Kleinitz.

In recent years the company's growth has led to significant investment in the precast facilities. Their purpose built 10,000m² building complete with gantry cranes from 20 tonnes to 50 tonnes allows NVC Precast to offer their clients: a wide range of casting beds to provide a higher level of production capacity and flexibility; high volume production efficiencies across short to medium production runs; exceptional product quality and compliance to specification and strict tolerances; and inhouse mould design and fabrication.

"Our team of engineers and technical specialists, with our inhouse drafting and steel fabrication, specialise in quick response and mould change overs to provide the rapid turn arounds necessary to meet the demands of today's construction deadlines," said Dan.

NVC Precast have recently completed their second project for the Southern Program Alliance which involved the precasting of 66 L-Beams that were between 27m and 30m long for the elevated rail structure at Carrum. The first project completed for the Alliance saw 16 L-Beams, with length variations of 25m, 30m and 31m, cast and delivered for the Seaford Level Crossing Removal.

The cooperation and communication within the Alliance teams, NVC Precast and all of the supply chain entities, paved the way for very smooth well managed projects. "The success of these projects can be attributed to the strong relationships that our team has developed with each Alliance, where we both worked towards the shared goal of meeting the strict project deadlines. We look forward to the opportunity to work with such great teams again in the near future," explained Dan.

For more information contact NVC Precast, website www.nvcprecast.com.au

One of the outstanding features of the new Carrum Station on Port Phillip Bay in Melbourne is the 12m high 'urban marker' which recognises the Bunurong Indigenous Owners. The marker has an aluminium frame with wedge-tailed eagle design, or Bunjil, the symbol of the creator of the Bay in Indigenous tradition. Building the marker was a major task undertaken by Fredericks Fabrication, a family owned steel construction business which commenced operations in Melbourne in 2006.

"The Carrum Station marker required four months of welding work, with a section at a time being fabricated on the ground then craned into place for installation," said Director Brenden Fredericks. Specialising in welding, both onsite or in the company's workshop, the team negotiated the added challenge of a busy and confined working space. This was not a new experience for Fredericks Fabrications as the company has been engaged on many projects for the LXP, including on the Frankston line for the Southern Programme Alliance (SPA).

Another project for the SPA was at the Ormond Road rail and road separation where Fredericks welded 3 million shear studs onto pilings to anchor the shotcrete in the underground section of the project. "The size of the job required us to have 40 staff involved, 20 on the

day shift and 20 working at night," Brenden said. "All our people are highly experienced and besides our welders we have all trades covered, including carpenters, crane drivers, riggers and dogmen. We put a high priority on safety as well as attention to detail and quality work."

Fredericks Fabrications has also worked on the SkyRail project at Clayton where over-size steel girders traversing eight lanes of traffic required NATA approved test welds. Fredericks is currently working on the Metro Tunnel and Westgate Freeway tunnel.



For more information contact Fredericks Fabrications, 230 Telegraph Road, Upper Beaconsfield VIC 3808, phone 0438 770 528, email info@fredfab.com.au, website www.fredfab.com.au

Below ONIT Group provided independent construction, infrastructure and property consultation for the project.



Below Victoria Asphalt completed the surfacing of the new Reservoir Station platform and Carrum Station Platform.

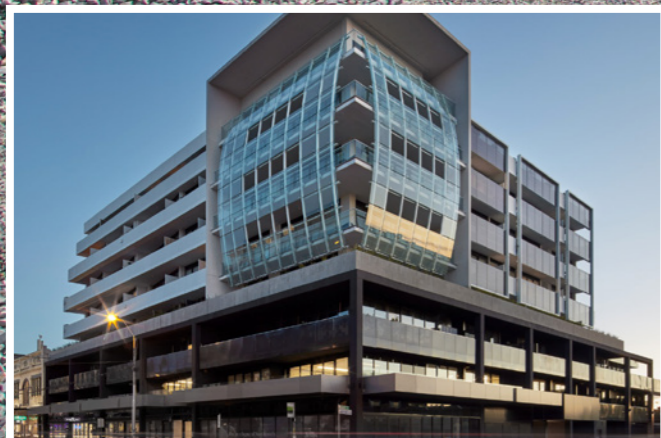
Below Trio Plumbing (Australia) completed a range of services including roofing, soffit lining and the installation of perforated metal screens.



Carrum Station Platform
Image supplied by Level Crossing Removal Project



Reservoir Station
Image supplied by Level Crossing Removal Project



Reservoir Station Platform
Image supplied by Level Crossing Removal Project



Frankston Station



Frankston Station

ONIT Group is a Melbourne based, independent construction, infrastructure and property advisory group. Through their cohesive, expert team of project managers, cost managers, strategic advisors and construction planners, ONIT provide services to a diverse client group.

The company's projects range in scale from under \$1 million to ventures costing \$100s millions. ONIT provides services to a range of clients – major infrastructure projects (bid and construction phases) including engagement on the Melbourne Metro Tunnel (bid), Frankston and Ballarat Line upgrades (bid & construction), level crossing removals & rail maintenance facilities, road infrastructure, hotel, education (primary to tertiary), residential and community projects.

ONIT comprises a highly skilled team with domestic and international knowledge and experience. "ONIT is flexible and adaptive in our approach, we listen to our client's needs, and work collaboratively with them to provide a customised outcome. We are committed to sustainable and ethical long term relationships with each client."

For more information contact ONIT Group, Suite 306, 63 Stead Street, South Melbourne VIC 3205, phone 0407 105 191, website www.onitgroup.com.au

Victoria Asphalt is a specialist in the asphalt business, delivering high quality surfaces for local councils, private corporations and major rail projects in the greater Melbourne area. Established by Claudio Centofanti in 1985, Victoria Asphalt has a long list of accomplishments, including working for the various consortia involved in the Melbourne Level Crossing Removal projects.

Victoria Asphalt has completed the surfacing of the new Reservoir Station platform and has been working on the Carrum Station Redevelopment for the Southern Program Alliance. Carrum Station had some extra challenges with the tight logistics requiring the asphalt to be craned onto the platform, with strong sea breezes adding an extra dimension of difficulty.

"We have a flexible Asphalt Crew along with Management which is available 24/7 to get the job done. Our focus as always was on quality workmanship and safety," explained General Manager, Ivan Fong.

For more information contact Victoria Asphalt Pty Ltd, 62 Chifley Drive, Preston VIC 3072, phone 03 9480 1199, fax 03 9480 3721, email info@victoriaasphalt.com.au

In 25 years of successful operation, Trio Plumbing (Australia) has grown to become a dynamic and unique business employing 140 people with four divisions covering construction plumbing, roofing, architectural cladding and maintenance.

Based in Tullamarine with both an office and warehouse facility, Trio Plumbing services an extensive range of medium to large companies Australia wide, on a number of projects including the Melbourne Level Crossing Removals Project (LXRP).

Director of Trio Plumbing, Peter Lord said that at the Carrum and Kananook Stations, Trio carried out all the plumbing and drainage works, and at Frankston, Reservoir and Rosanna Stations, Trio Plumbing installed a range of roofing, architectural screening and cladding products. "At Frankston Station we undertook roofing, soffit lining and the installation of perforated metal screens which provide shelter and passenger comfort by allowing natural ventilation and sunlight to reach the platform," said Peter.

Perforated screens were installed at Reservoir Station, while at Rosanna Station, the company installed the roofing and metal wall cladding. "These projects involved considerable night work and had a very

tight time schedule so we allocated our senior project managers and key experienced employees to complete these contracts," Peter said. "Our clients were very happy with the results and we are proud to have played a role in building these important public projects which will be used by thousands of people every day."

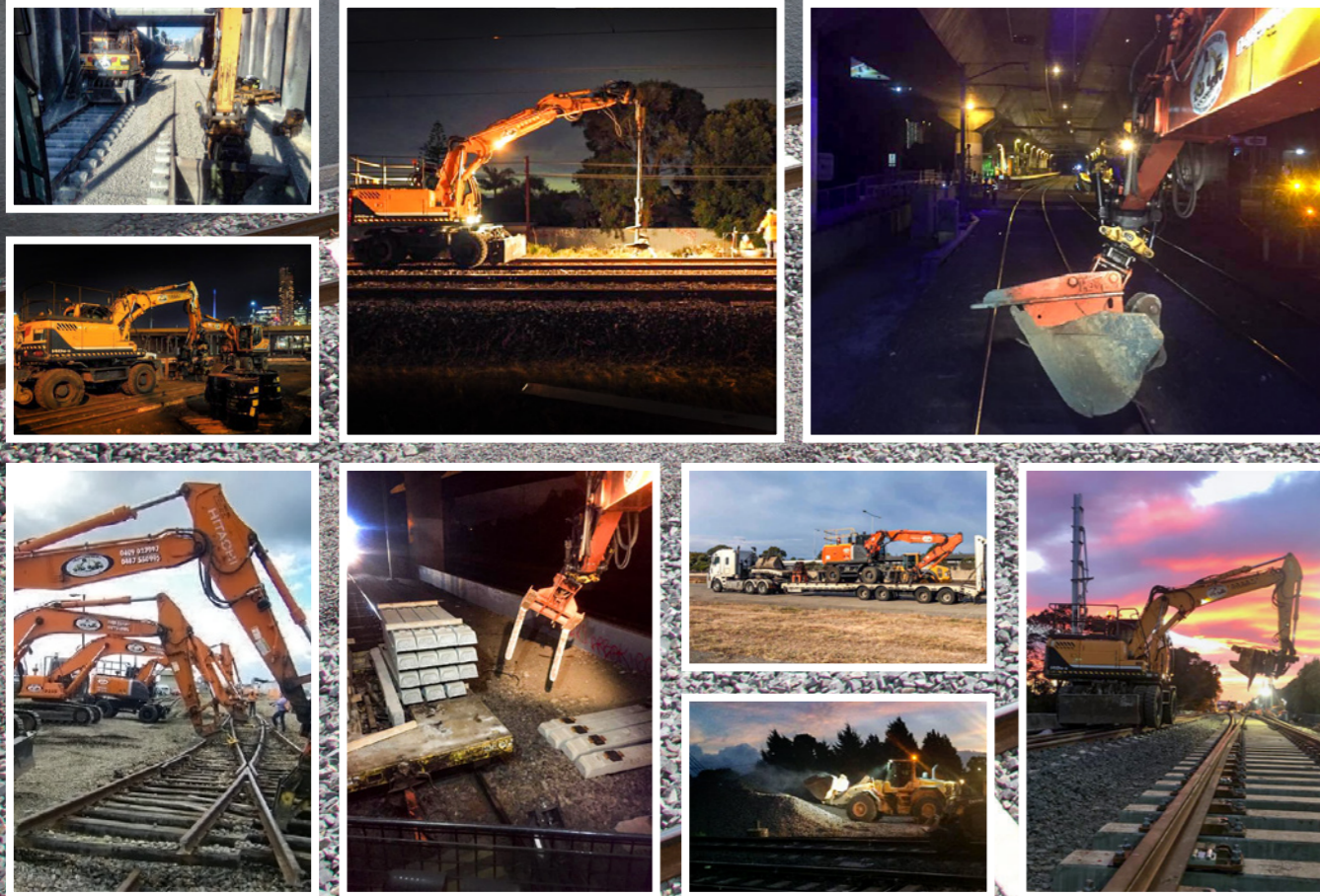
Trio Plumbing continues to work on rail infrastructure at Mentone Station, West Footscray Station and Kananook Stabling Yard where all facets of the business are undertaken.

"Over the years we have been involved in a number of state and federally funded projects that we have been able to deliver on time and on budget. Our portfolio also includes airport developments, hospitals, schools, high rise apartments, shopping centres, aquatic centres, large scale car parks and industrial facilities," said Peter.

For more information contact Trio Plumbing (Australia), 13 Dib Court, Tullamarine VIC 3043, phone 03 9338 5225, email info@trioaust.com.au, website www.trioplumbing.com.au

Below Montgomery Constructions & Rail specialises in the rail and construction industries and their fleet worked extensively on the Level Crossings Removals.

Below Systemix Group helped the project succeed at a high level by maximising the performance and collaboration of all participants.



With a skilled, fully trained team and a fleet of modern plant and equipment, Montgomery Constructions & Rail has the capacity to take on any major project, and specialises in the rail and construction industries. Montgomery was engaged on the Melbourne Level Crossing Removals (LXRP), working at several locations including Heidelberg, Reservoir and Seaford.

“We undertook drilling and piling, laying sleepers and rail track as well as other general track work. We have the capacity to supply all rail-related plant and equipment on a hire basis or with our skilled operators,” said General Manager, Teena Montgomery. “In these locations we used our team members to operate the equipment, often up to 10 at a time depending on the activity level.”

Safety is always a high priority for Montgomery and the LXRP required extra care as concrete sleepers were being lifted and craned from height. “We always had someone making sure that no one was underneath the sleepers during the craning process,” Teena said.

Montgomery have their own transport capability to ensure efficient, on time delivery. They also have their own maintenance facilities in Melbourne with the ability to fabricate their own equipment including

trolleys and special attachments. Montgomery’s wide range of equipment and attachments is available for wet or dry hire and includes Volvo loaders with buckets, forks and jib, hi-rail excavators with the options of tampers, platypus, octopus and rail grabs, backhoes, graders and a multiple range of different truck combinations.

The company has worked on numerous rail and tram projects across Australia for all the major construction companies including John Holland, Fulton Hogan, Downer, ARTC and BHP. They are currently performing work for Laing O’Rourke at Metro Trains Melbourne.

Montgomery has also been working for 14 months at the large Stockyard Hill windfarm project west of Ballarat doing road construction and maintenance and building pads for the turbines.

For more information contact Montgomery Construction & Rail, 51 Eucumbene Drive, Ravenhall VIC 3023, phone 03 8390 6390, email info@mcar.com.au, website www.mcar.com.au

Delivering success in complex infrastructure projects involving multiple participants is the driving force behind the work of Systemix Group. The Group has been engaged in many significant projects including the Melbourne Level Crossing Removal project (LXRP).

The LXRP was very dynamic with high visibility and many participants, requiring a significant level of organisation and collaboration. “For the companies involved, the margins are not great so any loss of efficiency can be costly. The stakes are also high for the government which is seeking to achieve positive community outcomes whilst getting maximum value for taxpayer dollars. The aim of Systemix is to have each project succeed at a high level by maximising the performance and collaboration of all participants,” said Managing Director, Ken Lowe.

Audits of infrastructure projects indicate that most operate at about 50-60% of efficiency. Systemix works with participants to lift that level of efficiency towards 80-90%. The first goal is to gain core alignment by all the leaders and shapers on the common purpose of the project and the essential strategies for success. The second step is to promote the engagement of the wider team on the core purpose and behaviours

that will be required to achieve success. Then these aspirations need to be translated into tangible plans and metrics. Finally, there is the need to sustain the momentum through leadership and open dialogue, dealing with any breakdown quickly and promoting a spirit of continuous improvement.

“Buying into the Systemix process takes real leadership at a company level as there are many competing pressures for people’s time and attention,” Ken said. “We recognise that as a challenge, together with the legacy of past practices which often have to be overcome. On lengthy projects, sustaining the commitment to the initial agreed aspiration can also be challenging.”

The measure of the success of Systemix’s processes can be judged by the ongoing relationship they have on many of the large infrastructure projects for the Victorian Government.

For more information contact Systemix Group, Unit 301, 15-87 Gladstone Street, South Melbourne VIC 3205, phone 1300 551 835, email admin@systemix.com.au, website www.systemix.com.au