

# VFT

VFT Engineering Surveyors Pty Ltd  
"your partner in engineering"



Transport for NSW  
Authorised Engineering  
Organisation



# About us

VFT Engineering Surveyors (VFT) provide a comprehensive range of engineering surveying services to projects in the construction and mining industries throughout Australia. We use high precision Leica Instruments, 3D Laser Scanners, GPS, UAV's, and digital levelling equipment. Survey calculations and reductions are carried out using 12d Model, Leica Cyclone, AutoCAD and other survey software packages.

## Authorised Engineering Organisation - (AEO)

VFT have successfully satisfied the requirements of Transport for NSW & the Asset Standards Authority to become an authorised AEO for surveying works to tender on and work directly for TfNSW.



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## Quality

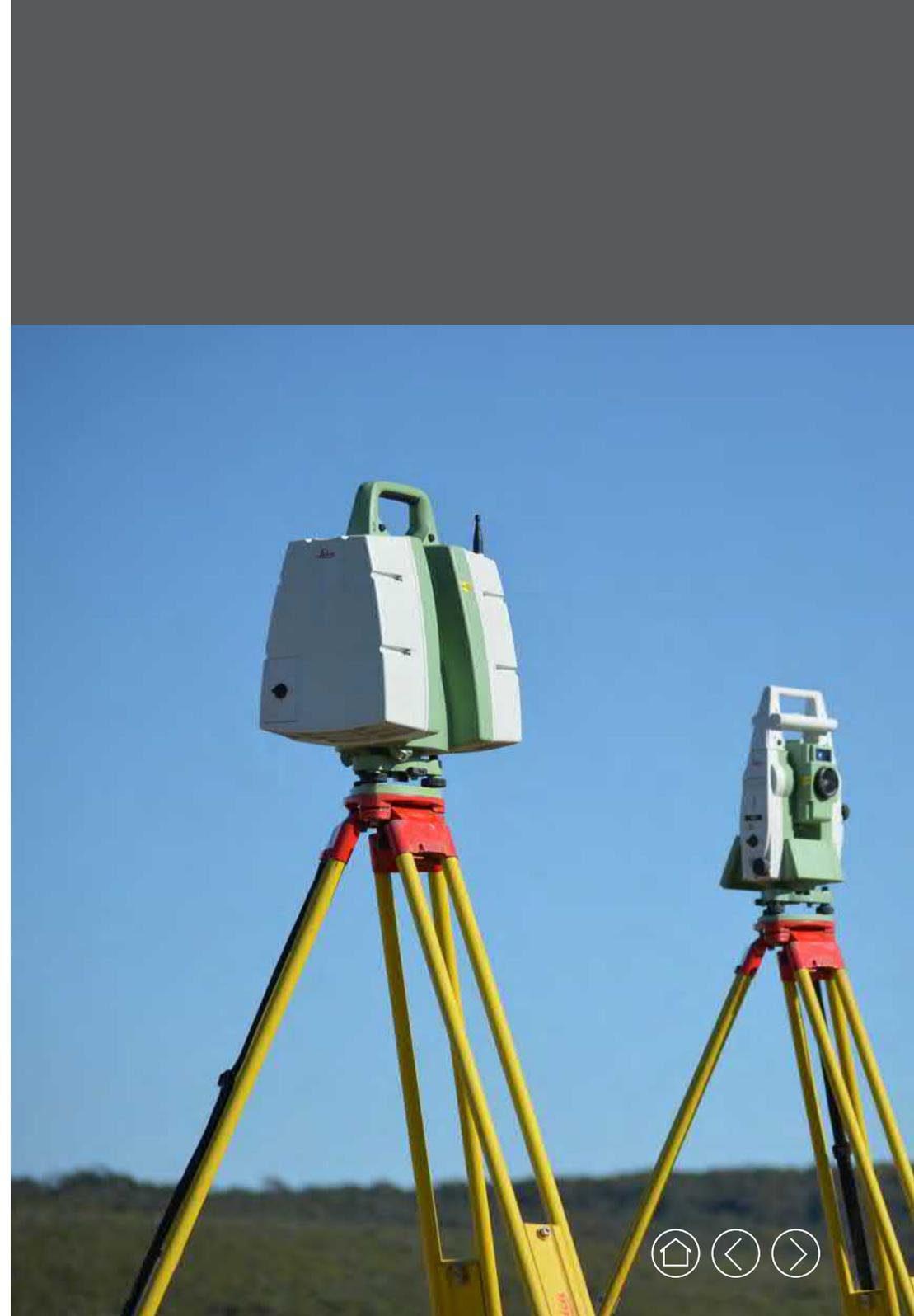
VFT are currently self-certified in ISO 9001:2015 Quality Management Systems, ISO 45001, ISO 14000 & ISO 50001 with the view to be certified by BSI Group in Q2 2021.

## Our Services include:

- › Authorised Engineering Organisation (AEO) Surveying Requirements
- › Structural, concrete and steel surveying
- › Bridge surveys
- › Rail formations and track surveys
- › Building and infrastructure surveys
- › Drainage and underground services (Including Sydney Trains DSS)
- › Road works and earthworks surveys
- › Machine control and management
- › UAV Photogrammetry, video surveys & aerial quantity surveys
- › 3D Lasers Scanning and data reductions
- › Quantity surveys & calculations
- › Concrete or asphalt paving surveys
- › Dam construction surveys
- › Primary & Secondary control surveys
- › Survey management plan development
- › As-Constructed surveys and reports



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# Our portfolio

The following pages list a few of our most recent projects.



Over the last 10 years across a number of projects VFT have shown a high level of class and professionalism. It's great being able to work with a sub-contractor where nothing is ever a problem. As a company they are always focused on meeting the client's needs and expectations. Speaking from first-hand experience VFT are a pleasure to work with, always providing a professional service as well as using the latest survey equipment and software. I would have no hesitation in recommending VFT for any future projects.

**JASON TURNBULL**, Laing O'Rourke  
Site Superintendent

Having efficient professional surveyors is fundamental to the success of any project. VFT has provided this service on a number of civil and mine site infrastructure projects I've been involved with over the last ten years. Their surveyors have the combination of technical experience, work ethic and positive attitude to offer any client value for money. VFT management really listen to the client and are able to respond quickly to meet changing requirements. I would recommend them to any prospective client because the survey company you choose can make a real difference to the bottom line.

**MARK PULHAM**, CPB Contractors  
Construction Manager

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LAING O'ROURKE

# Central Station Metro

## Sydney Metro City & Southwest

### Sydney NSW, Australia

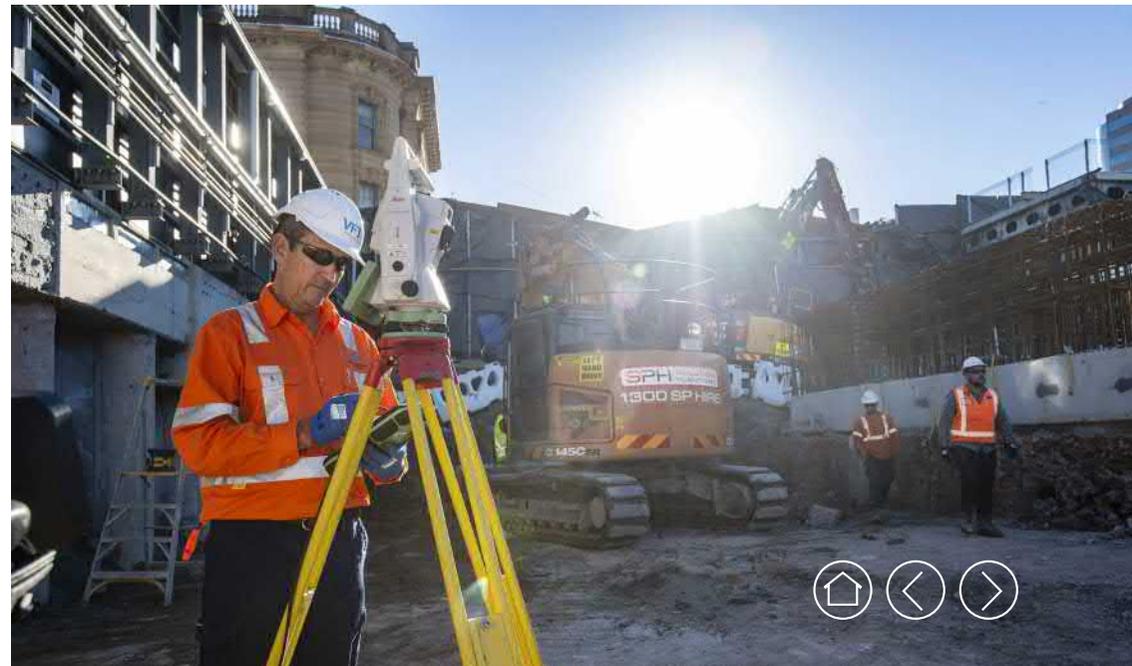
VFT was contracted by Laing O'Rourke for preliminary works and retained for the construction phase surveying of the Sydney Metro works at Central Station from 2018. Adopting the existing 3D survey control network, VFT extended this throughout the entire station and adjacent work sites.

Accurate as-built surveys of existing structures and rail infrastructure, including sub-surface and above ground utilities, are routinely delivered to enable temporary works and the final project designs. Supporting the Sydney Metro work at Central Station, VFT has used innovative and cost-effective solutions, including intricate traditional surveying and extensive 3D laser scanning for both rail and engineering requirements.

A significant achievement was the off-site fabrication of the new Northern Concourse roof. The roof structure was preassembled at Kurri Kurri in the Hunter Valley, as-built surveyed and referenced, then dismantled, transported to site and accurately reassembled using the survey reference marks to position each roof component.

### How VFT contributed

By providing combined rail and engineering surveying expertise to the project, the client was able to reduce expenditure and avoid on-boarding two separate surveying SME's to service both sectors. VFT continue to provide a dedicated team to the project, retaining critical staff to manage the ongoing surveying requirements.



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GARTNERROSE

# Transport Access Program (TAP)

## Sydney NSW, Australia

The Transport Access Program (TAP) includes the design, procurement, construction, commission and integration of existing stations within the NSW rail network.

The works to the stations include, but are not limited to;

- Design and construction of new lifts or new footbridges
- Civil works to existing transport interchange and parking; this includes to kiss and ride, bus stops and surrounding footpaths;
- Upgrades or installation of new ambulant toilets
- Ancillary works required to achieve full compliance

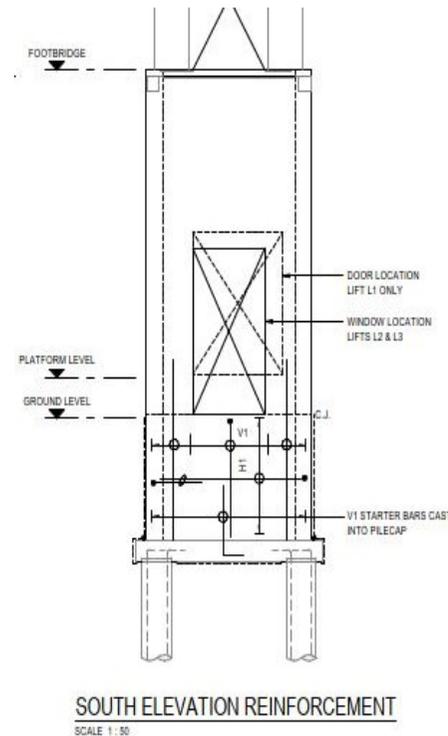
## How VFT contributed

VFT have led the surveying requirements on numerous (TAP) upgrade projects throughout greater Sydney and the Central Coast. From providing initial topographical & detailed information at the design phase through to As-Constructed plan preparations & project delivery.

On TAP projects VFT have carried out:

- Survey control verification & project control installation
- Boundary definition, pegging & easement identifications
- Detailed Site Surveys (DSS) & topographic surveys for design use
- Model management and data delivery on behalf of the client
- Construction Set-outs, lifts, stairs, road works (kiss and drop zones)
- Volume, quantities and contractor variation assistance

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# Woolgoolga to Ballina

## Pacific Highway Upgrade

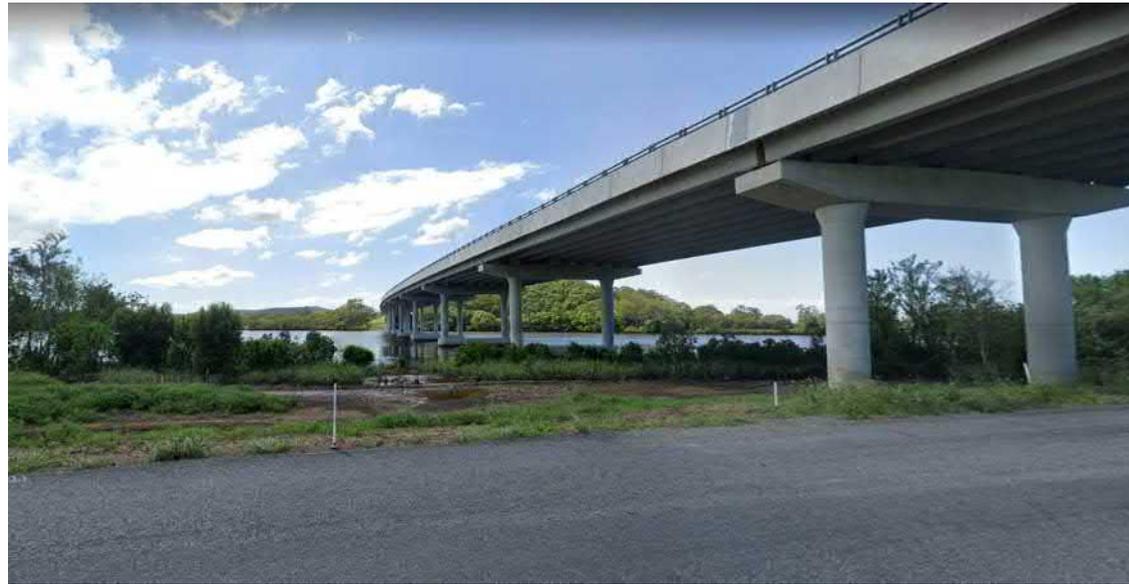
### Mid North Coast NSW, Australia

VFT provided highly skilled auditing surveyors for Laing O'Rourke and TfNSW/RMS.

Pacific Complete was engaged by TfNSW to deliver the Woolgoolga to Ballina Pacific Highway upgrade project which duplicated around 55 kilometres of existing highway into the now four lane divided road from Woolgoolga (North of Coffs Harbour) to Ballina.

The now complete project:

- Saves 13 kilometres in travel distance by reducing overall length from 180 kilometres to 167 kilometres
- Reduces travel time from 130 minutes to around 105 minutes saving 25 minutes
- Allows a higher posted speed limit of up to 110km/h
- Improves travel reliability through better flood immunity, fewer incidents and more readily available alternative routes
- Reduces crash rates by up to 27 per cent due to divided lanes



# WestConnex

## Haberfield to St Peters Interchange

### Sydney NSW, Australia

The M4-M5 Link Tunnels project is the final and most critical component of WestConnex & VFT were called upon due to a vast RMS/ TfNSW road and pavement surveying experience to help steer the surveying requirements and close out the project's back-end works.

The M4-M5 Link Tunnels consists of twin 7.5-kilometre four-lane tunnels linking the New M4 tunnels at Haberfield to the New M5 motorway at St Peters. This link will create a western bypass of the CBD which will allow the full benefits of WestConnex to be realised.



WestConnex M4-M5 Link Tunnels



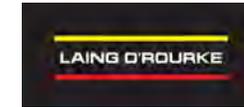
# Sydney Yard Access Bridge

## Sydney NSW, Australia

Laing O'Rourke was responsible for the design and construction of a bridge for controlled heavy vehicle access for construction and operational maintenance from Regent Street into the rail corridor (Sydney Yard) at Central Station to facilitate the construction of the Sydney Metro works.

Construction of the Sydney Yard Access Bridge involved the use of sites on Regent Street alongside Mortuary Station, and within the rail corridor in Sydney Yard.

VFT were engaged to set-out & survey the new overhead bridge structure and adjoining infrastructure while maintaining a critical arterial commute into Sydney's busiest railway station.



# Western Sydney Waste Water Treatment Plants

## Riverstone, St Marys & Quakers Hill

### Western Sydney NSW, Australia

The scope of the projects involved doubling and tripling the size of the existing waste water treatment plants to allow for the growing population in Western Sydney.

VFT provided the setout for the provision of formwork, reinforcement and concrete pouring (FRP) for the construction of a Biological Reactor, Biological Reactor Distribution Chamber, Secondary Flow Distribution, and Secondary Clarifiers, three off RAS Pump Stations, Tertiary Flow Distribution Chamber, and Tertiary Clarifier.

VFT were employed as the main survey firm for the project and as a result were contracted by all the main civil contractors and subcontractors, Sydney Water (direct) UGL, Quay Civil, AJM, Christie Civil, Diona, Pructon, Williams River Steel, Guidera O'Connor

VFT remain the lead surveyors for the projects and are now involved with the final civil works.



# NorthConnex

## Sydney, NSW

Sydney's NorthConnex is a nine kilometre tunnel that links the M1 Pacific Motorway at Wahroonga to the Hills M2 Motorway at West Pennant Hills, the newly built connection tunnels remove around 5,000 trucks from Pennant Hills Road each day. NorthConnex is currently the longest road tunnel in Australia.

VFT were engaged to carry out both tunnel and surface surveying for the NorthConnex project.

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NorthConnex



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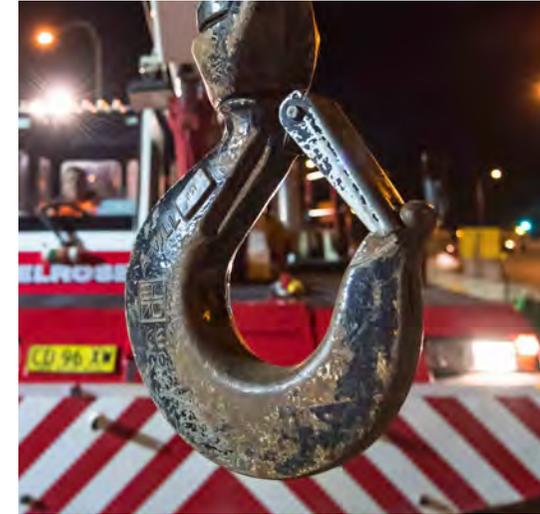
# Narellan Rd

## Narellan Road Upgrade – Stage B

Seymour Whyte Constructions were awarded the second stage of the works which involved the upgrade and widening of approximately 8 kilometres of Narellan Road between the M31 Hume Motorway and Camden Valley Way and from the access road to the TAFE & University of Western Sydney at Campbelltown to the Blaxland Road Gilchrist Drive intersection.

VFT were engaged on reputations and past performances to carry out the following:

- Establish Survey control network
- Quantity calculations for the end of month payments
- Site set out conformance and reporting
- Assist Seymour White staff with planning requirements
- Utilities pick up and depth requirement checks



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# Roy Hill Mine Infrastructure

## Contract 1

Roy Hill was an \$8bn project based in the Pilbara region of Western Australia. VFT were contracted to deliver all survey resources for the Civil and SMP components of the mine infrastructure. Our role included working with the design review team in Perth and then providing all facets of surveying for the construction teams.

VFT surveyors installed the new survey control network for the 10km of overland conveyors and the interlinked mine structures. VFT then provided set out and as-built surveys of the mine structures. The Roy Hill Mine Infrastructure project was the biggest development VFT had been engaged on at the time.

## Contract 2

VFT provided the auditing surveyors for Samsung C&T for the Roy Hill Infrastructure Project.

The role included:

- Joint audit surveys
- Maintaining the control network and installing new control
- Per-pour survey checks
- As-built survey checks
- Design reviews
- Volumes calculations, pre and post-build
- Quality validation

## Contract 3

Finishing works – Rail calculations & Setout



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LAING O'ROURKE

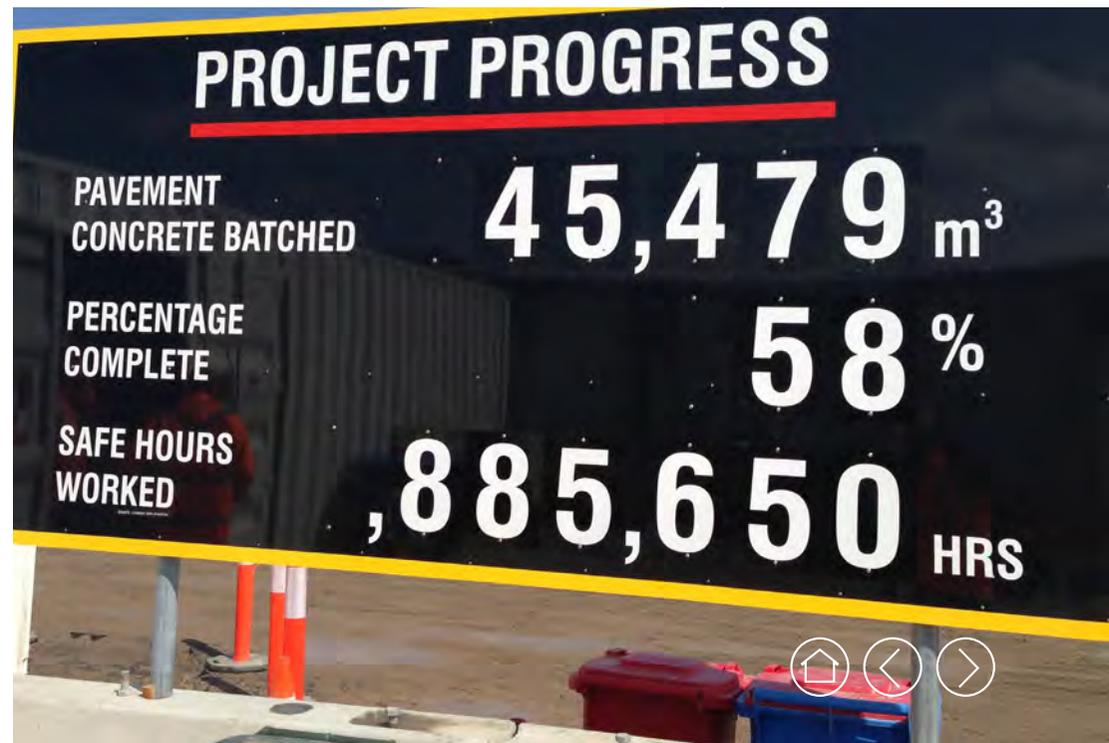
# Port Botany Expansion

## Port Botany, Sydney NSW

VFT supplied the total survey service to Laing O'Rourke for the Port Botany Expansion (Terminal 3 project). With over ten surveyors contributing to the construction of the new section of the Sydney International Container Terminal. This parcel of 46Ha of reclaimed land consisted of:

- 100,000m<sup>3</sup> of concrete paving (built to Roads & Maritime Services – specifications)
- Rail and associated structures to support a rail stacking crane system
- 42km underground services (high and low voltage, communications, fire, sewer and water)
- 11 km of underground drainage
- 200,000m<sup>3</sup> of rigid pavements
- Rail siding and rail tie-in works

VFT were engaged based on skills required, past performances & consistent quality deliverable's.



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# Kundabung to Kempsey Upgrade

The Roads and Maritime Services (RMS) were tasked in upgrading the Pacific Highway from north of Barry's Creek near Kundabung to the Southern end of the Kempsey bypass. The project was jointly funded by both Federal and State Governments.

The \$165 million upgrade went on to provide 13.7 km of upgraded highway that consists of:

- Twin bridges over Smiths Creek, twin bridges over Pipers Creek, an overbridge at Kundabung Road and a northbound bridge over Stumpy Creek
- A grade separated interchange at Kundabung Road
- Approx six kilometres of local service roads
- Northbound and southbound rest areas at Mingaletta
- A heavy vehicle inspection bay

The RMS contracted McConnell Dowell-OHL JV to construct the Kundabung to Kempsey upgrade. Construction began in September 2014 with project completion in 2017.

VFT were engaged for a vast RMS road work experience in both G71 & G73.



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# NCIG Coal Export Terminal

## NCIG Coal Export Terminal, Newcastle NSW

Laing O'Rourke was engaged by Newcastle Coal Infrastructure Group (NCIG) to build a new Coal Export Terminal.

The project primarily involved constructing a 450m long coal loading berth. Project components included temporary and permanent piling, marine and land structures, earthworks and steelworks.

VFT provided complete survey management of this flagship project for Laing O'Rourke.



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**RioTinto**

# West Angeles Fuel Hub

## West Angeles Fuel Hub, WA

VFT were engaged to provide surveying resources to install structural steel and concrete fuel cells for Rio Tinto.

The fuel cells hold up to 4.5 million litres of diesel, the project includes safety bunkers and associated structures.

VFT's knowledge and experience in bulk excavations and quantities along with detailed MEP & services set out/capture gained VFT the role as lead surveyors for the project.



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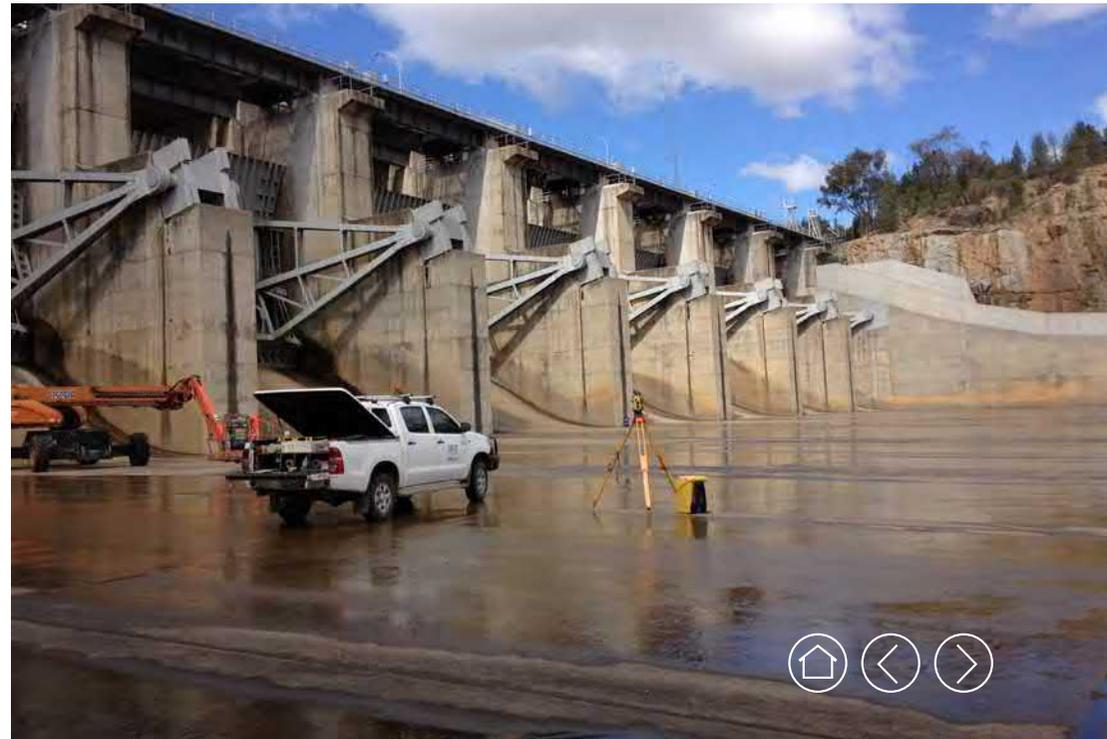


# Wyangala Dam

## Wyangala Dam Safety Upgrade, Cowra NSW

Consisting of mechanical, structural and earthworks components, John Holland Group were tasked to upgrade the Wyangala Dam & went on to engage VFT to provide the lead surveying services to install the new spillway gates, breaking mechanisms, bridge crossing and a new Dam access road.

VFT were engaged due to a vast knowledge of Dam construction and Dam wall rising upgrades.



# Elizabeth Quay Pedestrian Bridge

## Elizabeth Quay Pedestrian Bridge – Perth WA

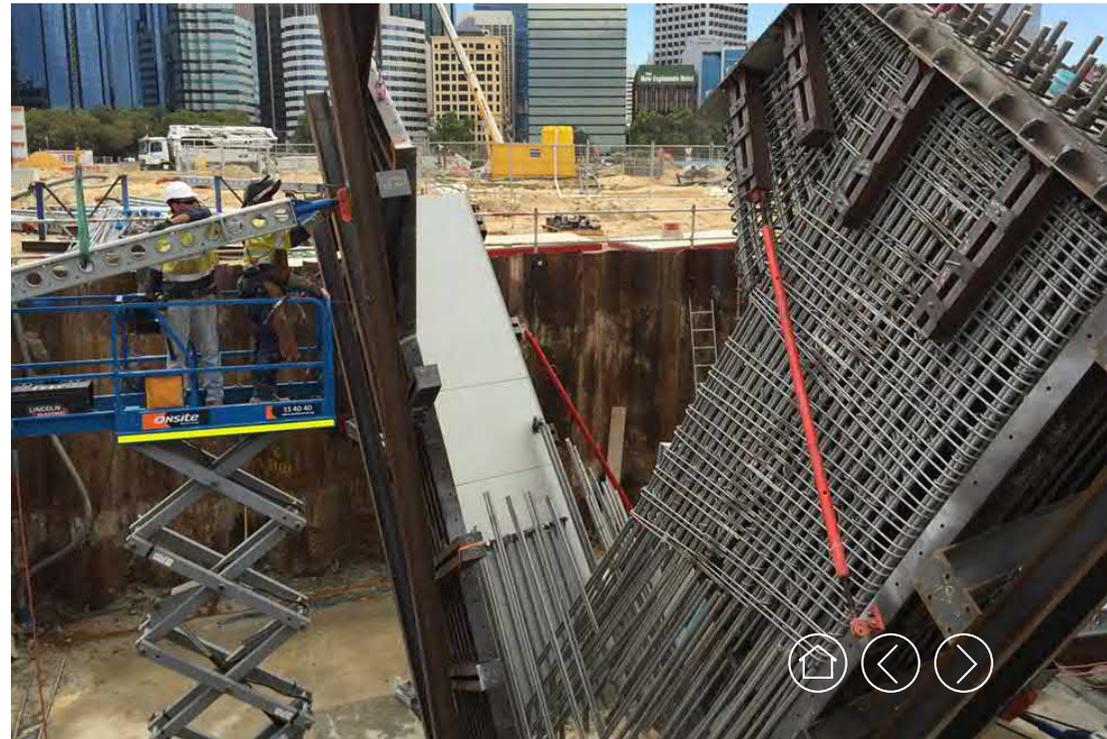
The EQPB featured arch and suspension bridge of the is 20m high, 5m wide and suspended over the inlet with a clearance of 5.2m from the waters surface at high tide.

The EQPB includes distinctive architecture and curvature which posed difficult to engineer and build but with VFT's strong survey guidance the project was complete without a hitch. The construction of the EQPB allows cyclists and pedestrians alike to enjoy the view of the city and Quay while allowing recreational vessels to pass underneath.

The intricacies involved with the project and the tight project constraints saw VFT awarded with the survey contract and in-turn becoming responsible for all survey works on the concrete substructure.

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**DECMIL**  
CONSTRUCTION & ENGINEERING



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# Horizon Power Station

## South Hedland, WA

Due to the rapid growth in the Pilbara & Port Hedland region, Horizon Power were tasked in constructing a 60 megawatt power station in South Hedland.

VFT were engaged due to previous experience and detailed set-outs for large scale infrastructure projects.

VFT delivered all critical surveying services required for the earthworks and structures.



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# Copeton Dam Upgrade Stage 1

## Inverell, NSW

The Copeton Dam upgrade included bulk excavation of a fuse plug auxiliary spillway channel & the significant drilling and blasting of approximately 1,200,000m<sup>3</sup>.

The structures built consisted of a four-bay concrete fuse plug and multiple layered clay core embankments.

VFT were engaged due to previous dam surveying upgrade knowledge and specialities in machine guidance, bulk excavation surveys and detailed structures surveying.



# OB24 Iron Ore Mine

## Newman, WA

VFT were the sole suppliers of survey resources and for the management required for the earthworks, road, rail and rail loading facility (TLO) at BHP's OB24 Iron Ore mine.

VFT were engaged due to their great structures and civil surveying experience and were responsible for the initial surface excavation surveys and volumes surveys through to as-built handover, monthly volumes for schedule payments and machine control management.

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# Chatswood Transport Interchange

Chatswood, NSW

Structures, earthworks, road works, rail and associated services.

# NGNH

Kimberly, WA

Structures and road works.

# Maitland to Whittingham

Hunter Valley, NSW

Bridge structures, earthworks and rail.

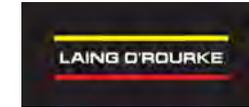
# Berth 7 Marine Structure

Geraldton, WA

Contract 1: Earthworks and concrete works for Dual Wagon Tipper (top down construction), 300mx90m shed, conveyor and transfer tower foundations and earthing grid.

Contract 2: Construction of new berth for Karara Iron Ore Project at the Geraldton Port. Comprising of temporary and permanent piling, marine structures, earthworks and concrete structures.

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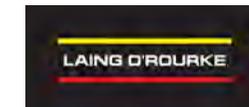
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# Company References

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