

# GOODS SHED NORTH

MAIN CONSTRUCTION COMPANY : Equiset - Grollo Group  
PROJECT VALUE \$63 Million  
TOTAL SITE AREA : 8,600m<sup>2</sup>  
AREA: Melbourne Docklands, Vic  
DEVELOPER : Equiset - Grollo Group  
STRUCTURAL ENGINEER : Winward  
BUILDING SURVEYOR : Gardner Group  
HERITAGE ARCHITECT : Lovell Chen  
ARCHITECTS : Elenberg Fraser

## EQUISET REALISE VISIONS: GOODS SHED NORTH

As developer, project manager, builder and owner, Equiset was in a unique and enviable position to realise their vision on the \$63 million development of the Goods Shed North project in Melbourne Docklands Batman Hill precinct.

The Goods Shed North (the northern half of the former Railway Goods Shed no.2) is a heritage railway shed circa late 1800s with frontages to both Bourke and Collins Street. The project involves the complete restoration of the original fabric to its original grandeur, the integration of prominent new entrances and the conversion of the vast interior to an innovative, contemporary and ecologically sustainable environment.

The building's original floor area was expanded through the introduction of a mezzanine floor to provide over 10,000 square metres of lettable office and retail space. Achieving this vision did not come without its challenges with the Goods Shed North presenting Equiset with a number of unique construction obstacles, predominantly stemming from the building's original late 1800's construction and its original usage as a train freight outwards terminal.

The defining elements of this ecological sustainable development (ESD) which set it apart from the standard core-based office building, is the lantern building, mezzanine floors and central galleria. With soft, natural light flooding through clerestory windows, the vast central galleria with its soaring 12 metre ceilings and intimate, semi-enclosed side bays creates an amazing working environment.

The integration of the new Lantern building with the existing heritage structure is testament to Equiset's success in delivering innovative construction outcomes on unique and challenging sites.

Equiset, part of the Grollo Group, is continually searching for ways to deliver positive sustainable outcomes and this has been clearly demonstrated with the Goods Shed North achieving a 5 Star Green Star design rating. This makes the Goods Shed the first Heritage building in Victoria and only the second in Australia to achieve this feat.

Unlike typical design and construction protocols the design of the project was driven primarily by understanding the existing structure and subsequently determining the most effective means in which to co-ordinate the required services to achieve the desired Green Star rated office environment.

To achieve the rating, a gas fired tri-generation plant, a chilled beam system, an underfloor displacement system, rainwater collection and treatment system and a greywater collection and treatment system were included as ESD initiatives.

A key feature of the services design is the creation of the central services trench which acts as an underfloor displacement system and is used as a horizontal distribution spine for services. The HVAC in the central area is via floor outlets located throughout the tenant space which assists in maintaining a comfortable temperature throughout the entire building.



A mostly active chilled beam system, located at both the mezzanine level and ground floor, provides the cooling and heating.

An extensive review of the existing piles, steelwork and roof structure revealed that, for the most part, the shed was not suitable for any habitable use in its pre-development state.

This was rectified by firstly excavating the entire ground floor to make way for the new suspended ground floor slab and central services trench as well as removing all existing roof slates to make way for a new heritage approved slate roof and guttering system. The new lowered ground floor structure allowed the creation of the mezzanine level.

The creation of the Lantern Building evolved from the need to connect the existing shed to the Collins Street bridge. The existing shed was beneath the Collins Street bridge so the four level Lantern Building was created to provide a connection between Collins Street and the shed, and the main entry to the VicUrban offices.

In addition, a complete section of the north east corner of the shed was deemed to be structurally inadequate and the walls had to be dismantled and re-constructed brick by brick to reflect the original building envelope. With all works complying with the stringent requirements of Heritage Victoria.

Equiset's approach and vision will deliver a design outcome not seen before in Melbourne. The creation of the first alfresco dining street

within the Batman's Hill precinct, is also part of the development by way of Village Street.

This development highlights Equiset's ability to work collaboratively with its tenants, namely VicUrban, Building Commission and Plumbing Industry Commission, to deliver a workplace environment which meets the needs and demands of both business operation and staff.

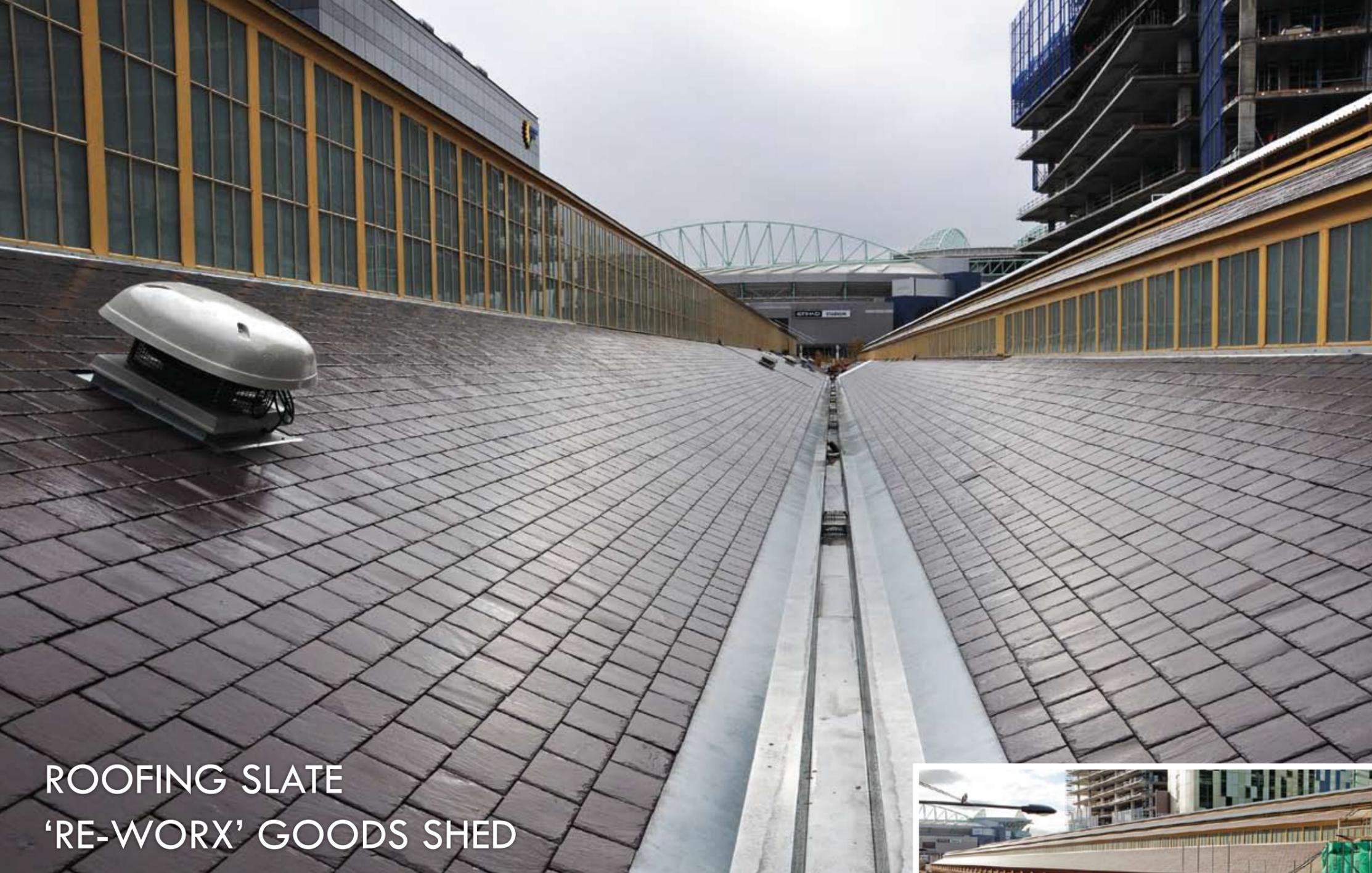
The company's key focus has been to deliver on the Docklands master plan by providing a quality amenity, and a landmark building in an efficient and responsible manner.

With Goods Shed North, Equiset has delivered on their vision.

goods shed ↑

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## ROOFING SLATE 'RE-WORX' GOODS SHED

With over 100,000 individual pieces of slate, the roof on the re-furbished Goods Shed North project in Melbourne's Batman Hill precinct is now the largest replaced roof of its kind in Australia. Roofing Slate Worx, the Australian and New Zealand agents and stockists for Hurley Slate Works the Newfoundland producers of Trinity Slates, were commissioned to complete the project with a roof that replicated the original.

The Goods Shed North was a heritage railway shed constructed in the late 1800s with the original roof of Welsh slate as was common for this period. The ships coming to Australia in the 1800's brought the slate in as ballast in their ships, then sold it on arrival and replaced it with cargo of agricultural produce, wheat and wool for the return trip.

Laid down over five hundred million years ago in the Cambrian Era, slates found in Newfoundland and Wales are superior to any other roofing slates from any other source. The benefits of Trinity Slate derives from a number of highly practical properties. It is exceptionally

durable, unaffected by extremes of temperature, is highly resistant to acids, alkalis and all air and water borne pollutants and has a 150 year life expectancy.

Geological studies have found that there are no significant differences between Newfoundland slate and Welsh slate as in their formative stages, the deposits were part of the same formation. However, in the current era, Newfoundland slate, while equal to, is significantly less expensive than the Welsh equivalent.

Roofing Slate Worx was able to meet the strict heritage requirements of the architects on the Goods Shed project with the supply of Trinity Slate from Newfoundland in Canada:

- The colour of the slate matched the original
- The sizes were imperial
- The thicknesses were '¼" bests' as were the originals
- The mineralogy and petrology were the same as the original.

Overall, Canadian slate retains its colour even in UV light, is impermeable to water, is non-combustible and compatible with all other building materials. Trinity Slate is a maintenance free natural stone material unaffected by climate or environment. At a time of global warming Trinity Slate truly is the premium green building material. It is also extremely competitively priced, compared with Welsh slate as the number of quarries in Wales has diminished significantly while the Newfoundland industry is continuing to expand with massive deposits under quarry.

In addition the slates were supplied in imperial measures of 20" x 10" and 18" x 10" which matched the original roof specifications.

Roofing Slate Worx has been supplying roof slate throughout Australasia for over 30 years and has sourced and evaluated slate from around the world to find the most appropriate product for Australian conditions.

Company founder and principal, Kevin Boundy, is regarded as one of the most experienced specialists in roofing slate in the region and a highly reliable source of information which allows builders and developers to make informed decisions on their prestige and heritage projects.

In addition to Trinity Slate from the Hurley Slate Works in Newfoundland, Roofing Slate Worx also supplies Bathurst Blue slate along with a range of ASTM S1 rated slate in other colours.

With the combination of premium product and extensive experience, Roofing Slate Worx is uniquely positioned to provide the ideal solution for construction maintenance and refurbishment of slate roofing for a range of budgets. A solution which will last another 150 years.

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## RAILWAY RESTORATION

The No.2 Good Shed is located in Melbourne's newest suburb Docklands. The No.2 Good Shed was constructed in the late 1880's to accommodate the increased movement of goods into Victoria; a consequence of the rise in population and growth in economic development. The Shed has long been regarded as a place of heritage significance and is listed in both the Victorian Heritage Register and the National Trust Database. It is the largest railway structure in Victoria, spanning over two city blocks, and the shed is over half of a kilometre in length. In early 2000 the expansion of the Docklands precinct and the necessity to link it back the city grid saw the removal of the central seven bays of the shed to make way for the extension of Collins Street, thus splitting the shed in two.

In 2007 redevelopment work began on the northern most half of the Goods Shed to conserve and restore the existing building fabric and to construct a new entry building. Lovell Chen Pty Ltd, Heritage Consultants and Architects, were commissioned to undertake the conservation and restoration works.

Large sections of the slate roofing were missing and the roof had been partially re-clad to the inner slopes with corrugated galvanised metal sheets. The remainder of the roof was clad in two different sized Welsh slates. Larger slates were on the tops of the lanterns and smaller slates in the valleys and outer slopes. The valley gutters were rusted through, as were the down pipes and eaves gutters. Due to the expanse of the roof it was not possible to get the quantities of Welsh slates required for roof replacement, into Australia at the time and so alternatives were investigated. The replacement of the roof was executed in Trinity New Foundland Canadian Blue Heather riven slates, which in geology and

appearance relate closely to the Welsh slate originally used on the roof, sound slates were salvaged and reused on the inner slopes, with new slates used in other areas.

Internally the ceilings are lined with Baltic Pine tongue and groove boards which are over an inch thick, many of which were decayed and damaged beyond reuse. As a result the boards were selectedly stripped and sound boards retained for reuse at the south end of the shed. New Clear Pine tongue and groove boards were installed at the northern end to complete the internal ceiling. To improve the performance of the roof the boarding was overlaid with plywood sheeting and insulation.

Part of the conservation works involved the careful demolition of the brickwork to three bays of the northeast corner of the shed. The bricks were labelled and set aside. A new reinforced concrete beam was installed over the cracked footings and the brickwork was rebuilt, ensuring bricks were returned to their original location.

Paint sample analysis was undertaken on external surfaces such as the cast iron awning brackets, timber work and cast iron windows to determine and reinstate the original colour scheme. The original colour scheme found from paint sample analysis was typical and consistent with many of the Victorian Railway buildings of the 1800's.

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