



An Introductory Guide To The SPANZ™ System

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THIS IS WHAT WE DO

We save our clients money by designing and supplying efficient, economical temporary structures for a variety of construction related situations.

What does that mean?

It means we use our vast depth of knowledge and experience to establish what our clients' needs are and then configure a solution for that problem. Although this can be a balancing act between competing methods, we have the experience to model different schemes until the best solution is produced.

**OUR PHILOSOPHY IS BASED
ON THE EFFICIENT AND
ECONOMICAL USE
OF EQUIPMENT**

Efficiency means designing intelligent structures that require the least amount of equipment while providing the maximum amount of strength.

Economical means that what we design and supply has to be at the best price for both the short and long term. For example, proposals that initially appear to be the cheapest always end up that way. We believe that it is better to spend more time and effort on the design up front in order to save time and money as the job progresses.

We look at factors that include site conditions, vehicle access, stability of the structure, constructability, maintenance and up keep, alterations and an array of other details. We ask questions like what is the structure for? What is safest method for carrying out the work? What cranes or other forms of lifting equipment can be used? Can the structure be moved if needed? Does it require access? What is the length of the project?

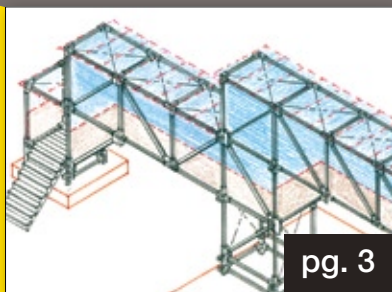
We take all of these components into account and provide the best solution based on the conditions at the time and the expected conditions in the future.

THIS IS WHAT WE HAVE WORKED ON

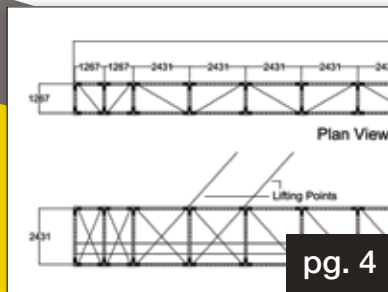
LONG SPAN ACCESS PLATFORMS

Used for access over difficult areas such as road ways, void areas, swimming pools, rivers or situations where conventional access would prove difficult.

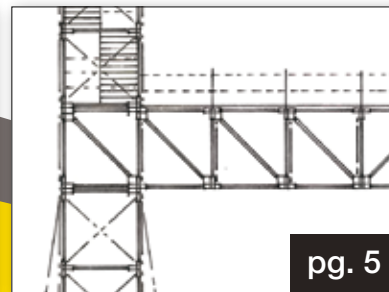
All of our proposals are fully engineered and most are designed to be assembled on the ground and then moved by crane or other mechanical methods into the required work position. The following drawings show some examples.



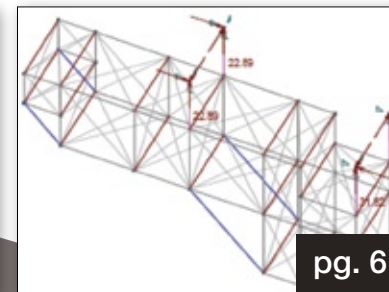
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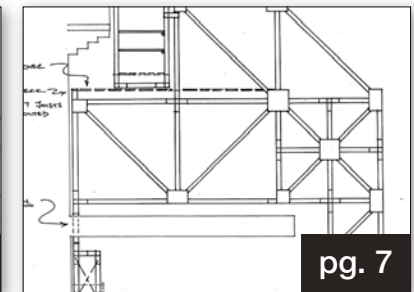
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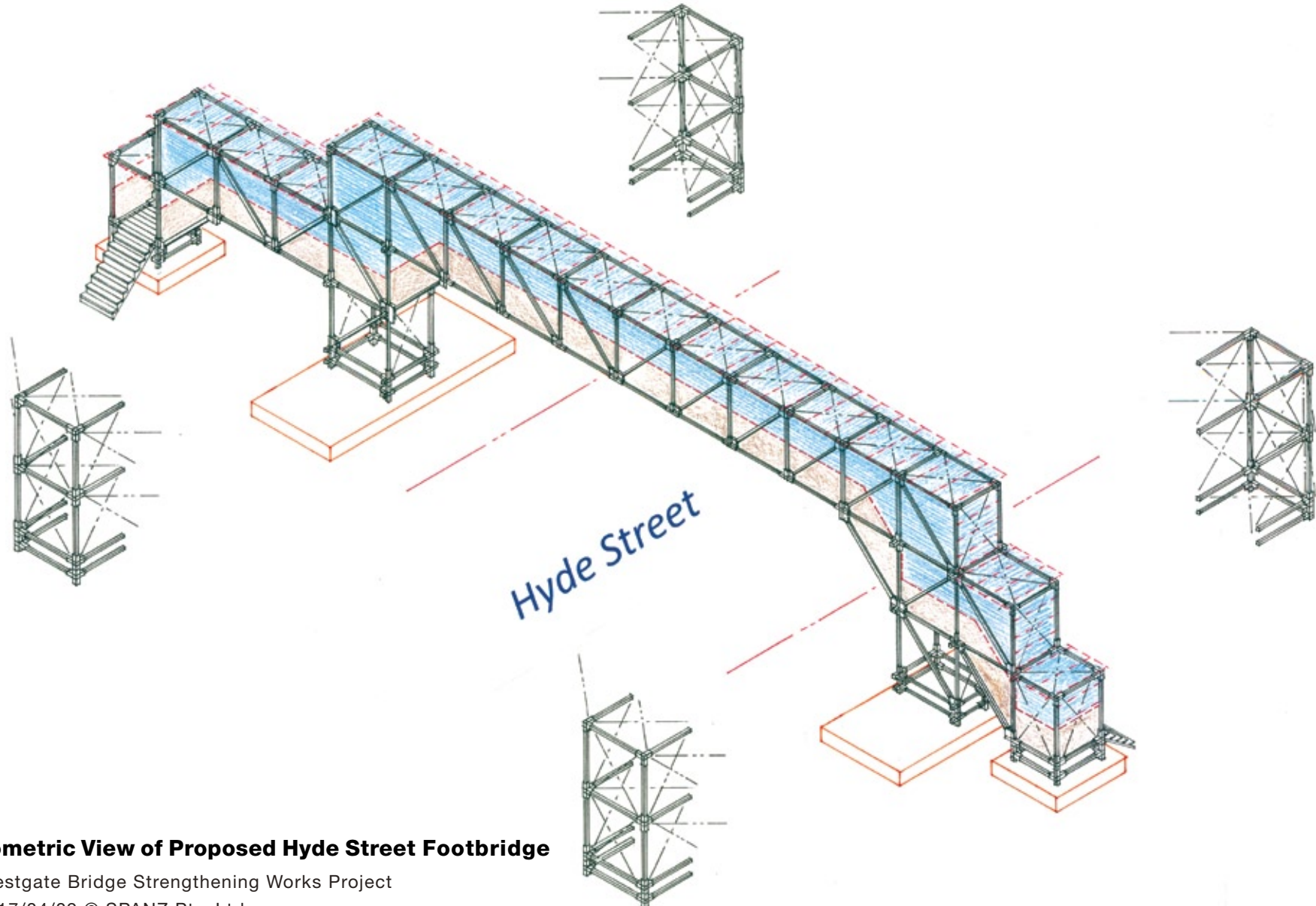
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THIS IS WHAT WE HAVE WORKED ON



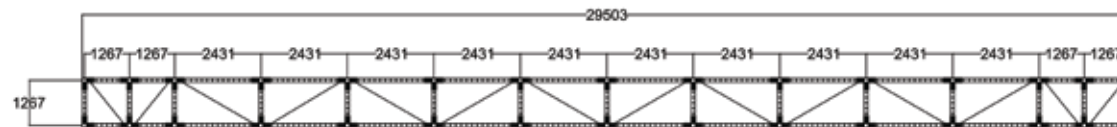
Exploded Isometric View of Proposed Hyde Street Footbridge

W.G.B.S.A. - Westgate Bridge Strengthening Works Project

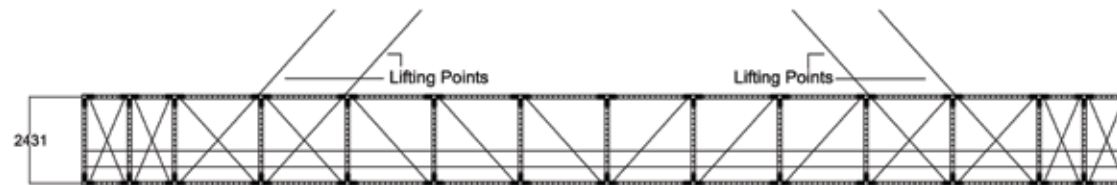
Drawn: G. Wall 17/04/09 © SPANZ Pty. Ltd.

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THIS IS WHAT WE HAVE WORKED ON



Plan View 29.5m Walkway



Side Elevation 29.5m Walkway



Plan View 34.5m Walkway



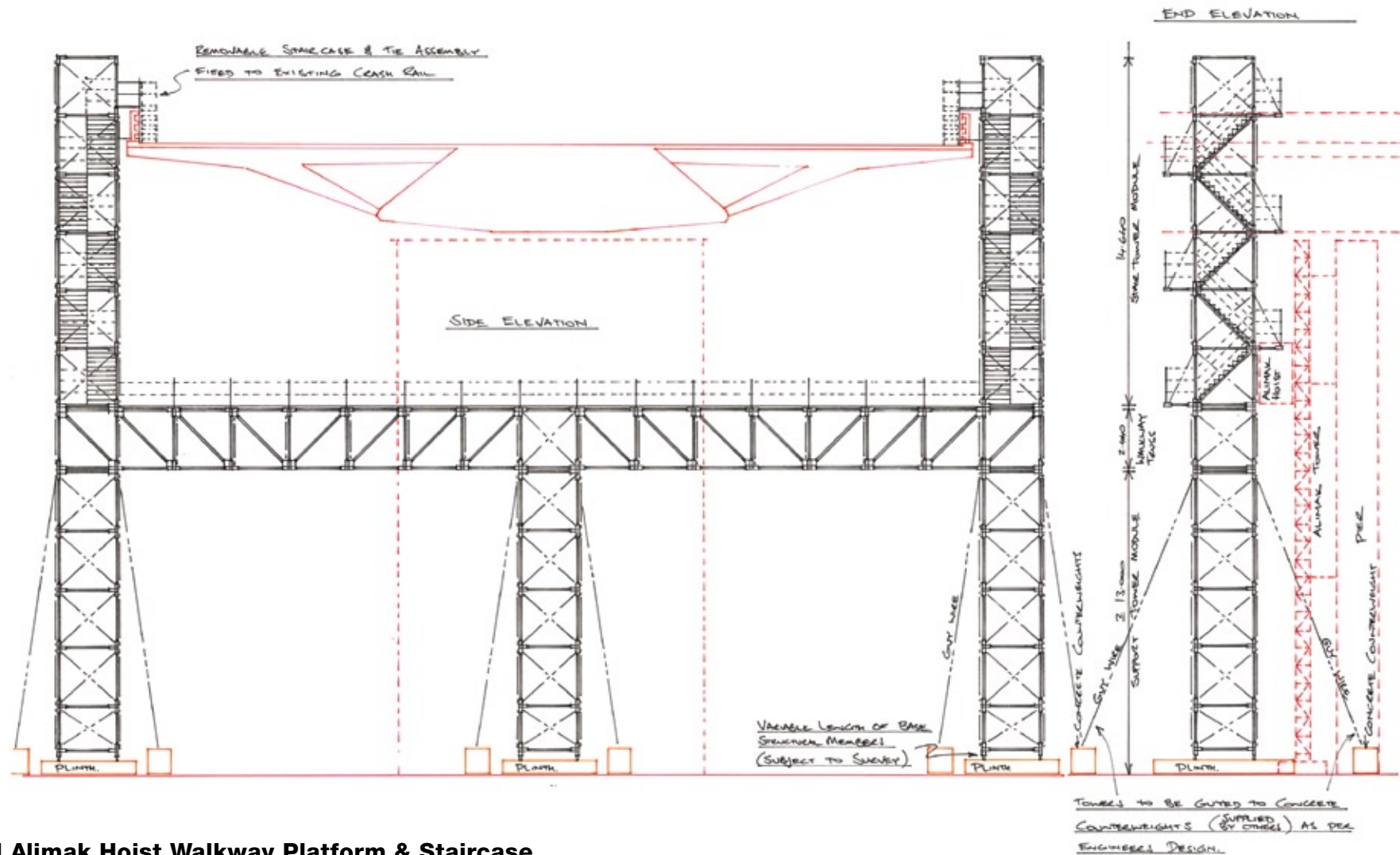
Side Elevation 34.5m Walkway

Proposed Walkway Layouts For Arenco (N.S.W) Pty. Ltd.

Bridge Over Hunter River At Tourle Street.

Drawn: G. Wall © SPANZ Pty. Ltd.

THIS IS WHAT WE HAVE WORKED ON



Proposed Alimak Hoist Walkway Platform & Staircase

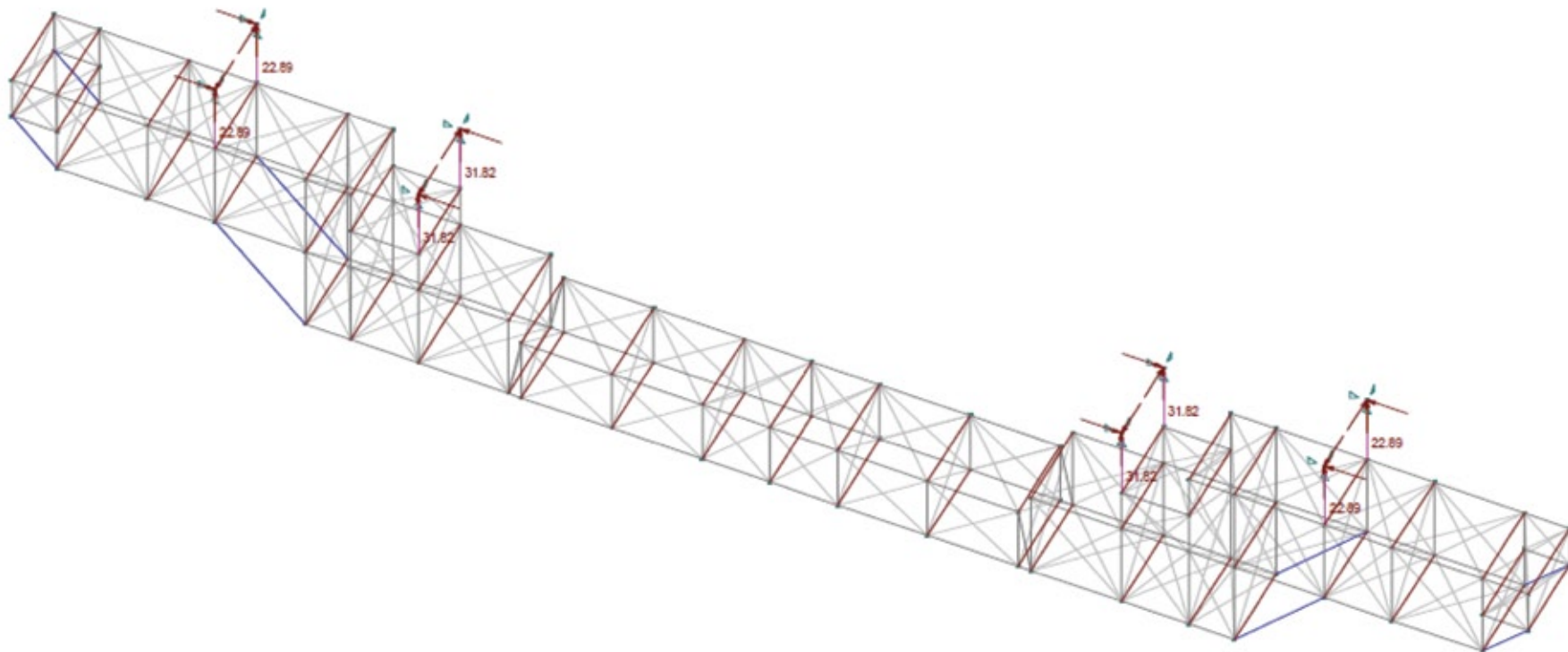
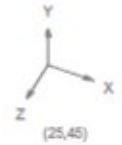
Access to Bridge Deck - Piers 5 & 21 - W.G.B.S.A

Concrete Viaduct Sections.

Drawn: G. Wall 08/05/09 © SPANZ Pty. Ltd.

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THIS IS WHAT WE HAVE WORKED ON



Truss Hanging From Spines

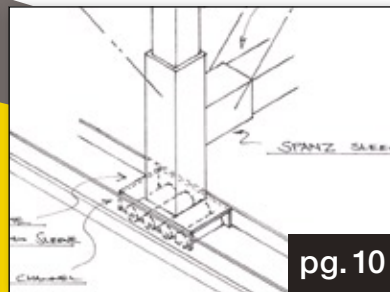
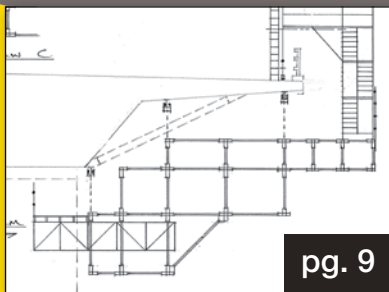
Drawn: G. Wall 16/02/09 © SPANZ Pty. Ltd.



Drawn: G. Wall © SPANZ Pty. Ltd.

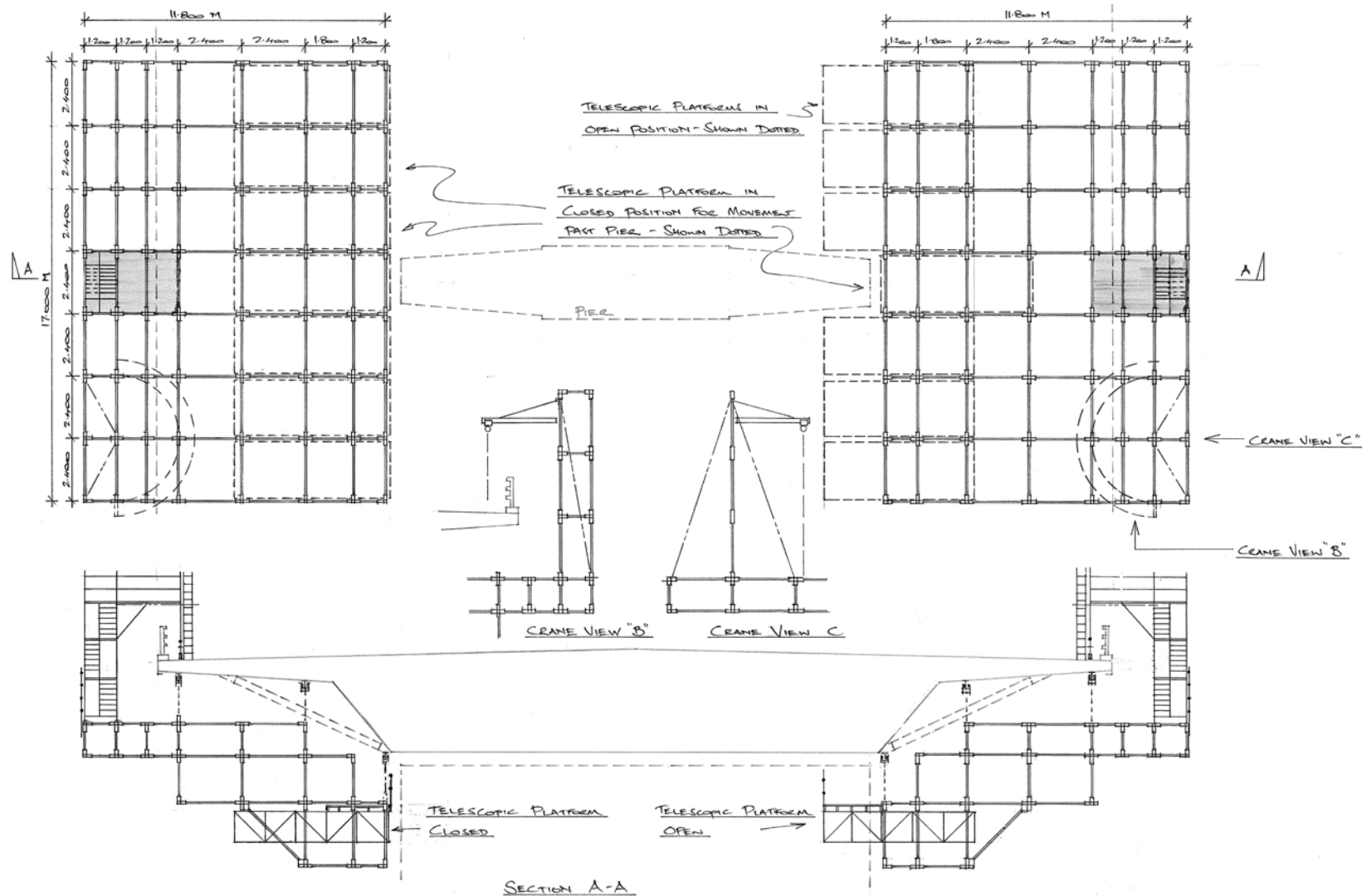
LONG SPAN BIRDCAGE ACCESS PLATFORMS

This application is an extension of the long span access platform in both the length and width of the platforms. The following drawings show some examples of what can be done.



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THIS IS WHAT WE HAVE WORKED ON

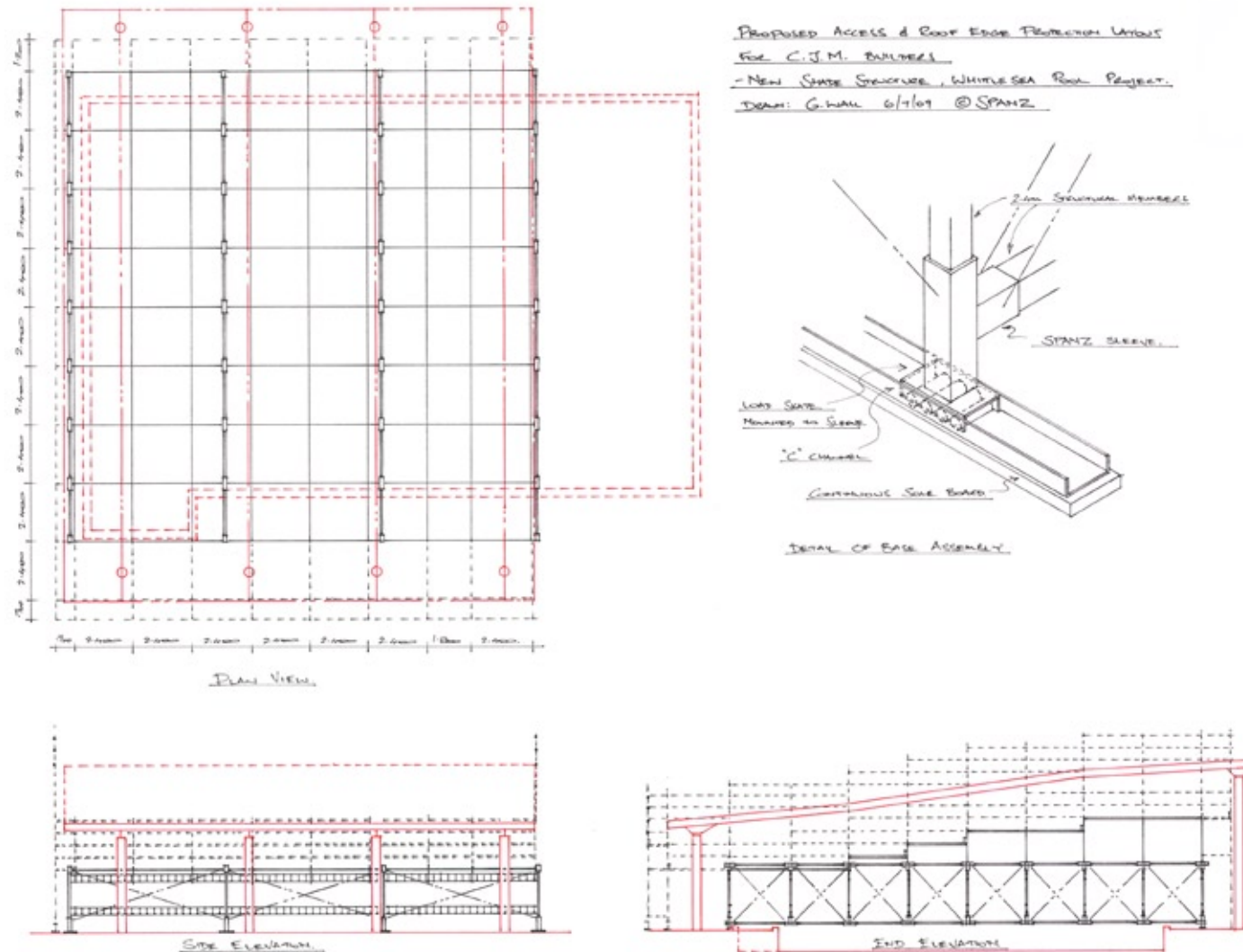


Proposed Access System Platforms For W.G.B.S.A

Underside of the Steel Spans (ITT - 163/1502)

Drawn: G. Wall 16/02/09 © SPANZ Pty. Ltd.

THIS IS WHAT WE HAVE WORKED ON



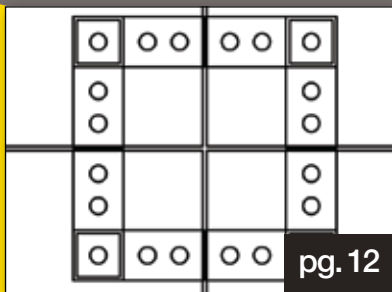
Proposed Access and Roof Edge Protection for the New Whittlesea Pool Shade Structure

Drawn: G. Wall 16/02/09 © SPANZ Pty. Ltd.

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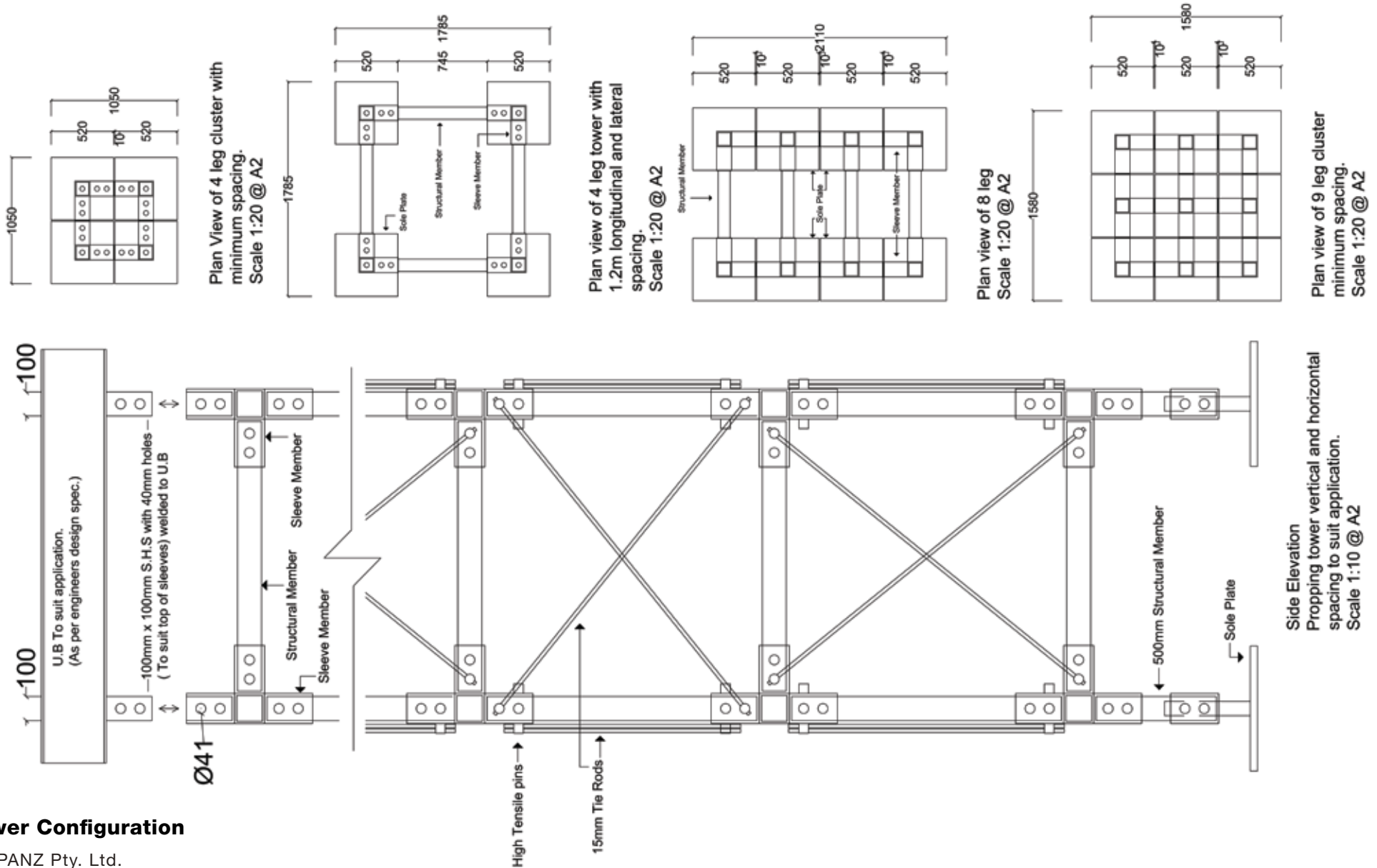
HEAVY DUTY PROPPING

The SPANZ System is designed for heavy duty propping or shoring applications. Each leg can be loaded to take over 30 tonnes and the legs can be bundled together to provide greater strength. The following sketch shows some possible layouts.



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THIS IS WHAT WE HAVE WORKED ON



Tower Configuration

© SPANZ Pty. Ltd.

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THIS IS WHAT WE HAVE WORKED ON

SPANZ SYSTEM UNDERGOING TESTING

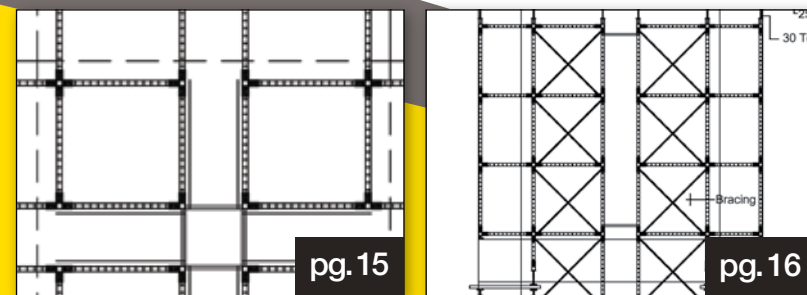
Heavy Duty Support Tower Configuration
1.2m x 1.2m x 1.2m

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THIS IS WHAT WE HAVE WORKED ON

HEAVY DUTY FALSEWORK AND FORMWORK

The advantage the SPANZ system has over other support methods is that it is easier to handle and faster to assemble. The system can also be fitted with built in access platforms. This provides a two-for-one solution.



The SPANZ system can also be used in form work situations, as per the following comparison study carried out on a project in Singapore.

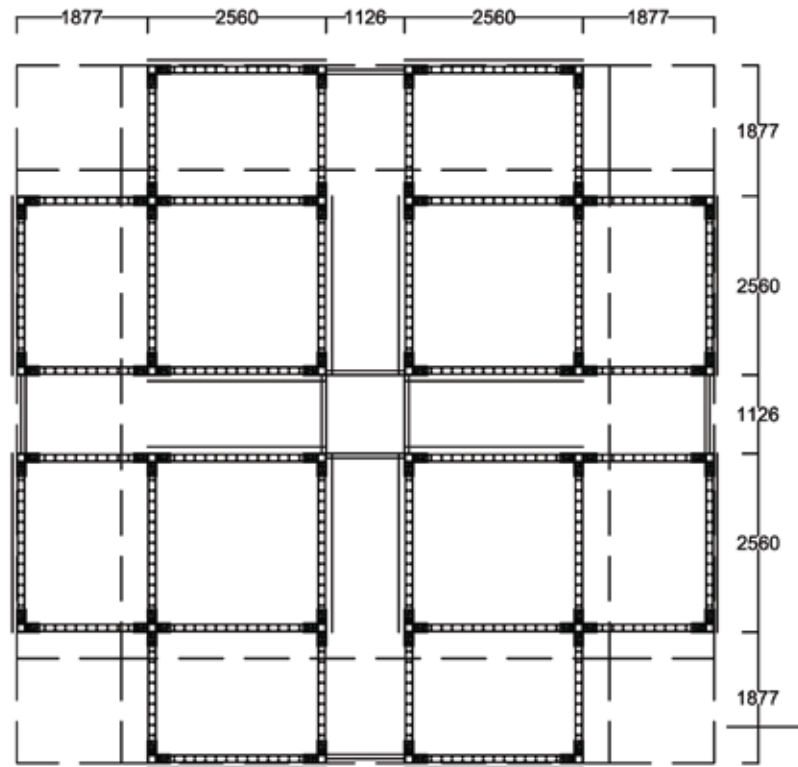
This study is based on a project that used Kwikstage type scaffolding to provide support for a large scale formwork contract and compares a theoretical method that would have been employed if the SPANZ system had been used.

The study showed the SPANZ system was 30% more economical than using conventional scaffolding.

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THIS IS WHAT WE HAVE WORKED ON

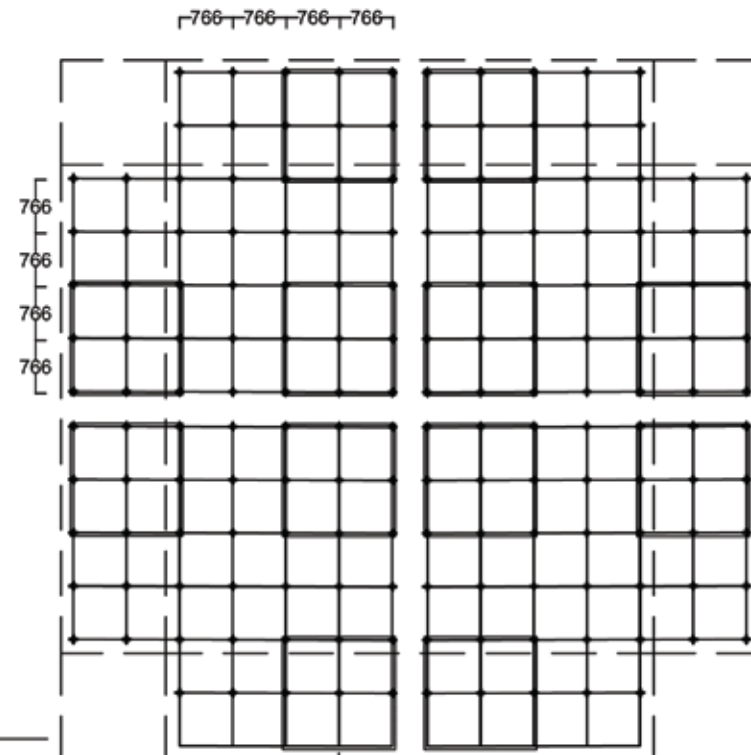
Plan (Spanz)



Cracker Base shown dotted

Stress bars bracing
show as a continues line
around Spanz System

Plan (Scaffold)



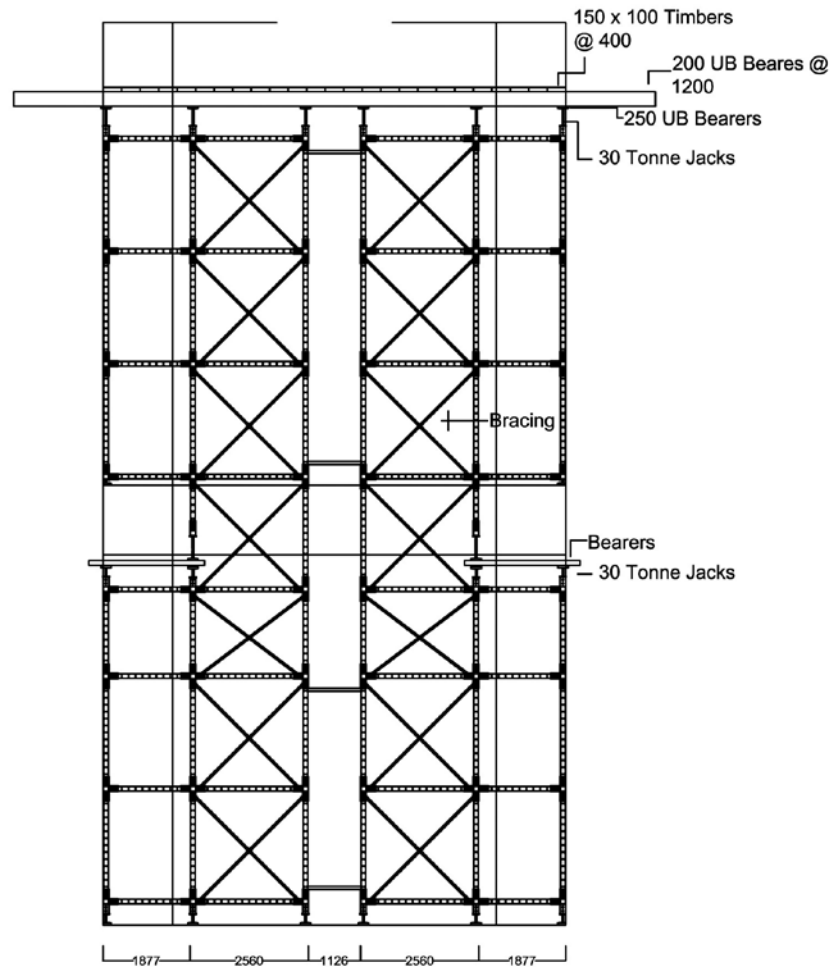
Tube and Clip bracing
show as a continues
line around scaffold.

Scaff or Spanz - Plan

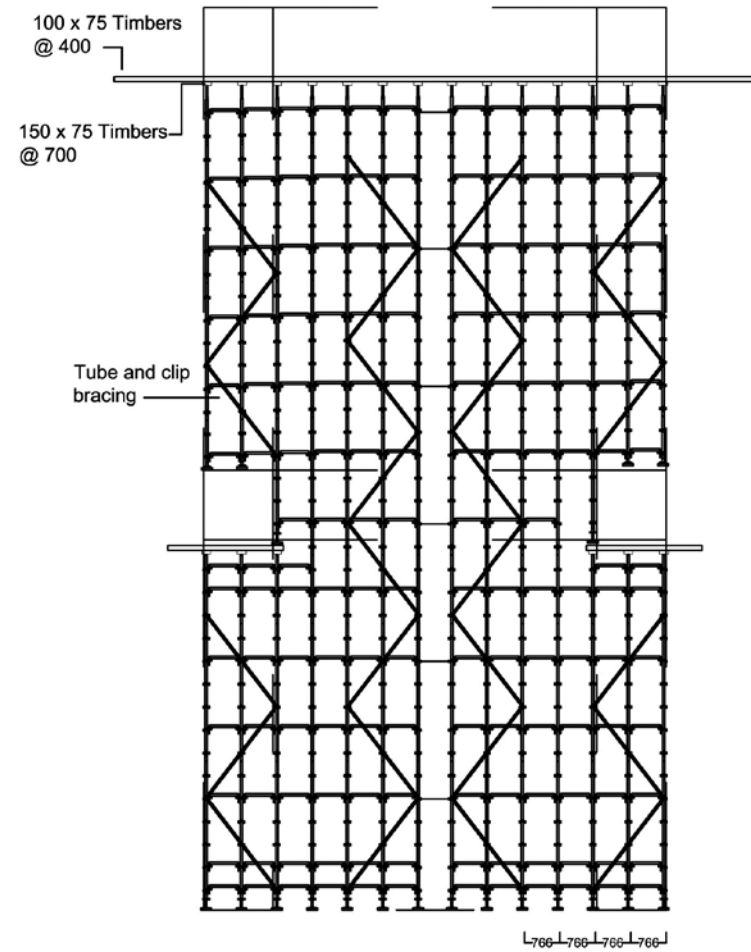
© SPANZ Pty. Ltd.

THIS IS WHAT WE HAVE WORKED ON

Section (Spanz)



Section (Scaffold)



Scaff or Spanz - Elevation

© SPANZ Pty. Ltd.

THIS IS WHERE WE ARE

SPANZ Pty. Ltd. is based in Melbourne, Victoria, Australia but we will go anywhere and do anything.

The SPANZ system is easily stacked and containerised for transporting to any location. We work on Construction Sites, Civil Engineering Sites, Heavy Engineering Sites, Industrial Plants, Ship Building Yards, Bridges, Dams and Refineries or wherever we are needed.



Factory Assembly

Generic process for assembly

The SPANZ™ system has been designed around four main components with a complimentary range of accessories.

The first main component is the structural member, which is used in the longitudinal, transverse and vertical positions. These are fabricated using 100mm galvanised S.H.S. (square hollow section) steel members. These structural members are cut in lengths of 760mm, 1.2m, 1.8m and 2.4m.

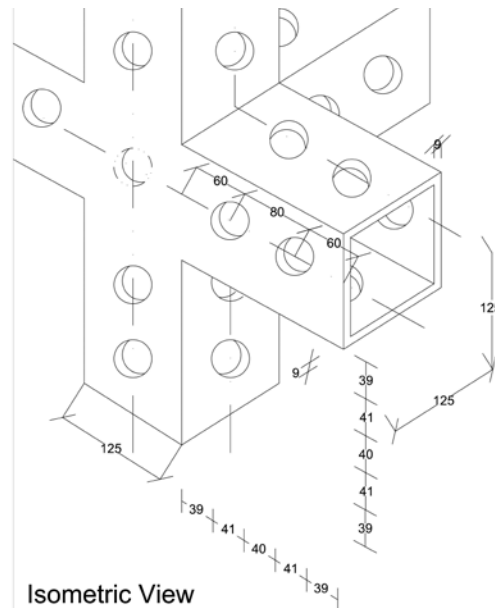
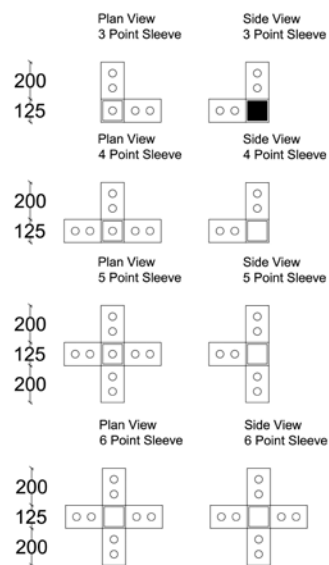
The structural members have large holes drilled into each end to allow the placement of high tensile pins through the section. The remainder of the piece has small holes to allow the attachment of the accessory range.



2.4m Structural Member

THIS IS HOW WE DO IT

The next component is the sleeve, which is fabricated from 125mm S.H.S. The structural members fit into the sleeve. The sleeve also has large holes to allow the fitting of high tensile pins that hold the structural member and the sleeve together. The sleeve range consists of 2 point, 3 point, 4 point, 5 point and 6 point sleeves.



4 Point Sleeve

Sleeve Assembly

© SPANZ Pty. Ltd.

The drawing consists of two views: an Elevation View and an End View.

Elevation View: Shows a central square structural member with a hatched sleeve cover. The sleeve cover has a thickness of 3.5. The structural member has a width of 125. The sleeve cover is divided into four sections, each with a width of 10. The total width of the sleeve cover is 40. The sleeve cover is divided into four sections, each with a width of 10. The total width of the sleeve cover is 40. The sleeve cover is divided into four sections, each with a width of 10. The total width of the sleeve cover is 40.

End View: Shows a circular cross-section of the sleeve cover with a diameter of $\varnothing 39$. The sleeve cover is divided into two sections, A and B, each with a width of 17. The total width of the sleeve cover is 34.

Legend:

- Sleeve Cover Area (Hatched pattern)
- Structural Member (Dotted pattern)



© SPANZ Pty. Ltd.

THIS IS HOW WE DO IT

The construction of a SPANZ™ structure is a series of boxes put together in whatever configuration is required. A box consists of 4 sleeves, 4 structural members and 4 sets of pins. Once this box has been assembled, a stress rod is placed through the pins in the adjacent corners and then tensioned using hexagonal nuts. The boxes can be braced in any direction by alternating the pin placement.

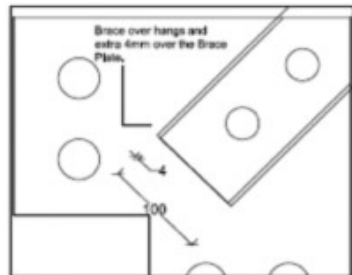
Throughout the structure assembly, a wide range of accessories can be fitted to provide additional access platforms, stairs, additional bracing, safety platforms, and handrails and edge protection.



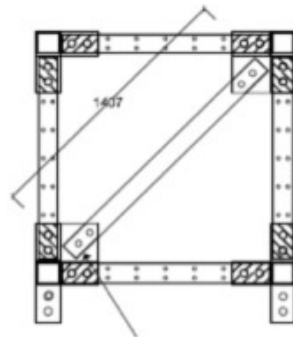
Typical Box Assembly

THIS IS HOW WE DO IT

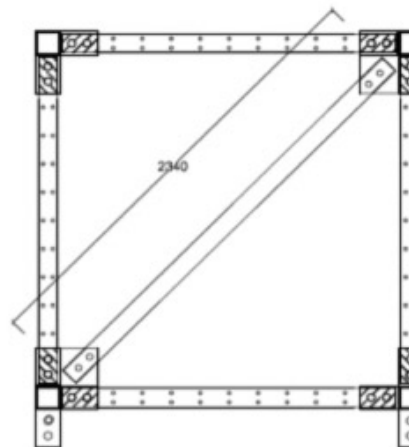
There are applications where a longer span is required for a project or a heavier load is required to be supported or carried. When a configuration such as this is needed, the boxes can be fitted with a heavy-duty brace. The brace is manufactured from 100mm S.H.S. (Square hollow section) steel cut to length and then drilled to allow 2 high tensile bolts to be placed through the brace and through special brace plates. The brace plates are manufactured from 10mm thick plate steel.



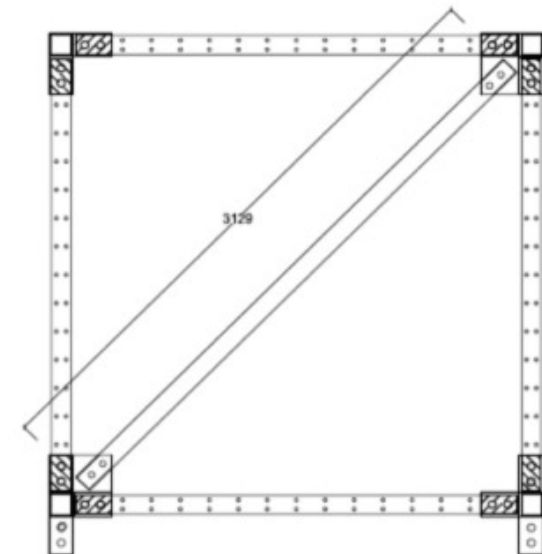
1.2m x 1.2m Box Section



1.8m x 1.8m Box Section



2.4m x 2.4m Box Section



Heavy Duty Bracing Configurations

Elevations Showing 90 Degree Bracing

© SPANZ Pty. Ltd.

THIS IS HOW WE DO IT

If the structure is being used as an access platform, a transom component can be bolted on top of some of the members (0.760m, 1.200m, 1.800m and 2.400m) and then conventional steel scaffolding boards can be placed to form a deck. The transom units have been designed to allow continuous decking on one level with no gaps when used in a birdcage platform.

Alternatively a timber cleat can be bolted onto the member and then timber joists can be attached and covered with plywood or other decking material. The timber cleat can be used to fit timber in any direction.

Similarly, conventional scaffolding tube or Kwikstage type scaffolding equipment can be attached to the structure using either of 2 types of tube connectors.



1.2m Transom Unit

The system can also be fitted with adjustable 30 tonne jacks in either the base or the top to allow for base levelling or falsework adjustment as needed.



THIS IS WHAT THE SPANZ SYSTEM LOOKS LIKE

SPANZ SYSTEM UNDERGOING TESTING

2 Tonne Test Load Applied To Centre of 29m
Clear Span - Max deflection = 27mm

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THIS IS WHAT THE SPANZ SYSTEM LOOKS LIKE

SPANZ SYSTEM UNDERGOING TESTING

View of Node Detail

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THIS IS WHAT THE SPANZ SYSTEM LOOKS LIKE

SPANZ SYSTEM UNDERGOING TESTING

Heavy Duty Support Tower Configuration

1.2m x 1.2m x 1.2m

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THIS IS WHERE WE GET TECHNICAL

The SPANZ system has been rigorously tested by our engineers under a variety of conditions.

The following calculations show the structural capacity of the structural components.

FINE DESIGN ENGINEERS Pty Ltd

CONSULTING STRUCTURAL ENGINEERS ABN 68 074 513 143
262 High Street, Ashburton VIC 3147. Ph: 03 9886 9544 Fax: 03 9886 9644

Project Name: SPANZ Structural Truss System

Client:Garry Wall.....

Computations Sheet

Sheet15 of15

Designed by: .Upul.

Project Number..08/063

Date:19 Dec.2008

Summary Of Design Capacity of Structural members (All Values are in Ultimate Limit State)

1. Heavy Duty Bracing members (100x6 SHS Grade 350):

Tension Capacity:	467 kN
Compression Capacity:	400 kN (3.13 m Long)
Compression Capacity:	525 kN (2.34 m Long)

2. Structural members (100x6 SHS Grade 350):

Tension Capacity:	360 kN
Compression Capacity:	455 kN (2.4 m Long)

3. 15 dia. Z- bar:

Tension Capacity:	188 kN/ per bar
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NOTE: The above value is limited considering 26 mm eccentricity of Z- bars. If there is a possibility of sliding 39 dia. Pin to one side and create Z- bars more eccentric than assumed value (26 mm), the capacity should be further reduced.