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NSW 2307**

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11 May 2017

Our Ref: 2017-12-01

KDC Newcastle
Suite 2B
125 Bull Street
Newcastle West
NSW 2302

Attention: **Mr. P Quinlan**

Re:- Proposed development at 990 Hunter Street Newcastle for Brancourt Nominees Pty Ltd

Dear sir,

We have been requested to review the drawings and layout of the proposed building and provide feedback on external construction access to the north elevation of the proposed building - where that access is limited to 900mm between the proposed face of the building and the existing title boundary with the rail corridor.

This document is intended to demonstrate to Sydney Trains that the development can be constructed and maintained without use of, or access to the rail corridor land.

Assumptions re construction to north elevation

- That methods of demolition, excavation, retaining walls / shoring, walls, slabs, connection details etc are designed and constructed in accordance with the structural report to be endorsed by Sydney Trains.
- That upper walls to this elevation will be constructed from precast concrete panels and installed such that the top of each panel is no less than 1100mm above the finished floor abutting floor level to provide a safety barrier for the perimeter of the building.
- That the tower crane is programmed, within the crane data systems restrictor base, to prevent loads being lifted over the rail corridor – obviously the jib of the tower crane will weather vane and slew over the rail corridor for safety reasons.
- Any openings in the north elevation wall are designed to satisfy Sydney Trains requirements to prevent objects falling onto the rail corridor.

Works to be undertaken within 900mm working space

The following trade works are required to be undertaken within the 900mm working space adjacent to the rail corridor either during construction or as part of regular maintenance regime established and endorsed by Sydney Trains:-

- installing windows
- painting (assuming precast panels need to be painted)
- window cleaning – at completion of works and during programmed maintenance

- pressure washing building - during programmed maintenance
- engineering inspections – as required
- general maintenance
- install jointing to precast panels
- replacing jointing to precast panels
- installation of signage
- building inspection – as required

Access alternatives

1. Scaffold

We have investigated the use of 3 board scaffold to allow more deck space and the capacity for trades to pass each other but found that the majority of systems have transom widths, which when one takes into account the standard/leg diameter, kickboard, rosette diameter and baseplate dimensions, exceed 900mm.

We have therefore used a 2 board steel scaffold design with access stair tower on NE end of façade (where we have additional working space) and 2 other ladder access decks at middle and NW end of façade. The attached design details tie off points at each standard at 2 bay vertical intervals for every 2nd standard across the façade – we propose staggered stainless steel fixings cast into wall panels.

The 2 board scaffold allows the face of the scaffold (rosette) to be located 100mm from face of proposed wall to allow painting of the surface of the wall or pressure cleaning. The face and ends of the scaffold should be covered with mesh and shade cloth to minimise dust and prevent objects falling onto rail corridor.

Find attached plan and elevation of proposed scaffold designed by Layher Pty Ltd in accordance with AS1576.1 and AS1577.

The advantage of using scaffold is that the scaffold is erected ahead of construction and installation of wall panels and allows lower floors to be completed externally as construction team moves vertically. Scaffold also allows a number of trades to work on that elevation at the same time.

The disadvantage of using scaffold is the cost of installation and removal – especially for use in maintenance.

2. Swinging stage

A swinging stage is a suspended platform swung from roof mounted beams operated from inside the swinging stage using motorised cables to gain safe access to a work area designed and constructed in accordance with AS1576.4 : 2010.

A swinging stage can be assembled allowing for the support system on the roof to be on wheels so that the swinging stage can be moved along the face of the building as work progresses.

The attached documents from Instant Access detail that swinging stages can be constructed from 3m to 12m long. Other systems allow for double height stages allowing work to proceed on 2 levels at one time.

We propose that two swinging stages be used – one from roof level on the eastern end of the façade and another at Level 10 from the western end of the façade.

We propose a 600-750mm deep stage with 100mm roller in front to prevent damage to walls designed in accordance with the requirements of AS1576.4. The swinging stage should be used with all tools connected to workers by lanyards or tethers to prevent any tools falling onto the rail corridor.

The advantage of using swinging stages to complete external work on this façade is that workers have relatively fast access to the full height of the façade and can programme completion of all tasks prior to moving the support structure horizontally to the next drop position – stages can be constructed from 3m long to 12m and can be installed on a mono rail system so can be relocated horizontally.

The cost of installing a swinging stage is much less than installing a scaffold as installation will take hours rather than weeks installing a full scaffold and workers spend less time climbing to their point of work than in scaffold use.

The disadvantage of using a swinging stage is that it can only be installed once the roof level is available for support systems to be installed and therefore external work to that façade is programmed later in construction phase. There are also limits on weight of materials and how many people can work from the platform.

3. Abseiling and rope access

Increasingly, for maintenance work on inaccessible facades, abseiling and rope access is being used to cover remedial repairs, window cleaning, painting, waterproofing and joint repair and inspections.

As this façade has limited access, but is vertical without overhangs, it is suitable for maintenance using rope access. Production rates when abseiling can be half of that achieved using scaffold or swinging stage but this is offset by having lower access costs.

Summary

Each access system needs to be considered with regards to onsite safety, project timeframe and cost effectiveness for each job and there are different considerations depending on new construction or maintenance work.

All 3 access systems are suitable for use on this building façade and should clearly demonstrate to Sydney Trains that the development can be constructed and maintained without use of, or access to the rail corridor land using the available 900mm wide workspace between the proposed façade wall and the title boundary with the rail corridor.

If you require further information, please contact the undersigned.

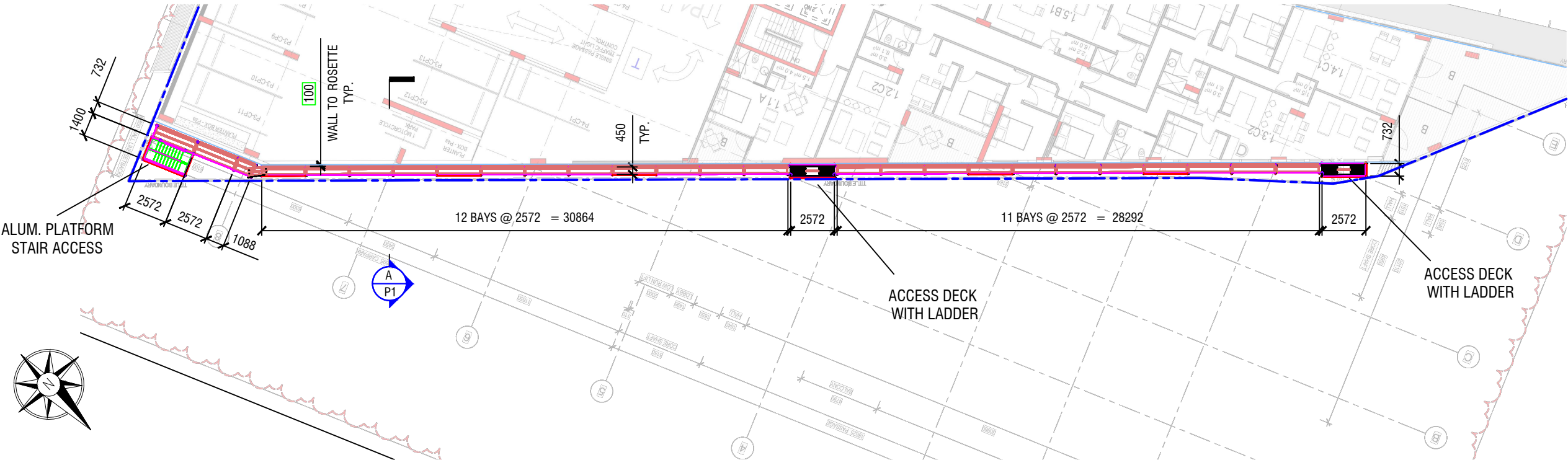
STERLINGS PTY LIMITED



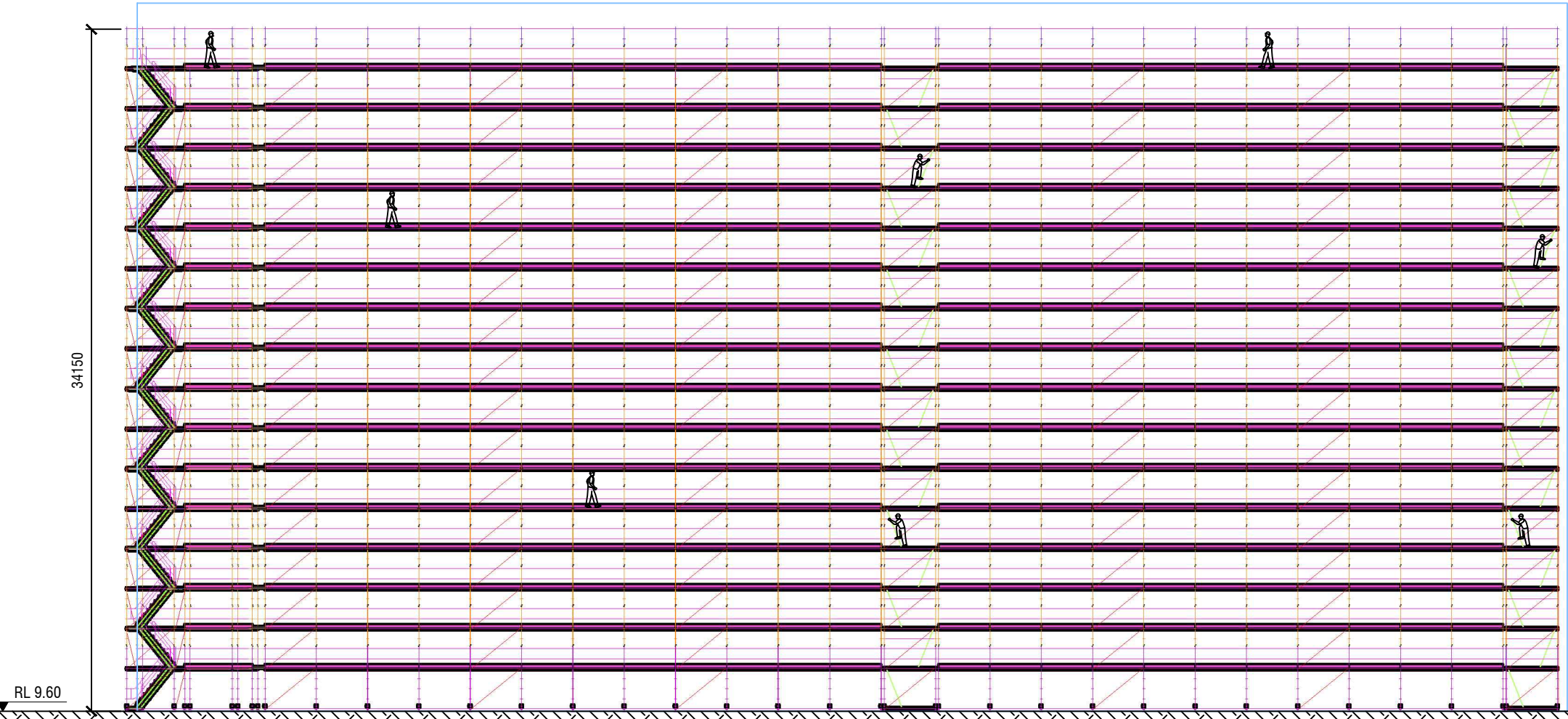
Terry Roche
Director

990 HUNTER STREET - NEWCASTLE WEST - FACADE ACCESS SCAFFOLD

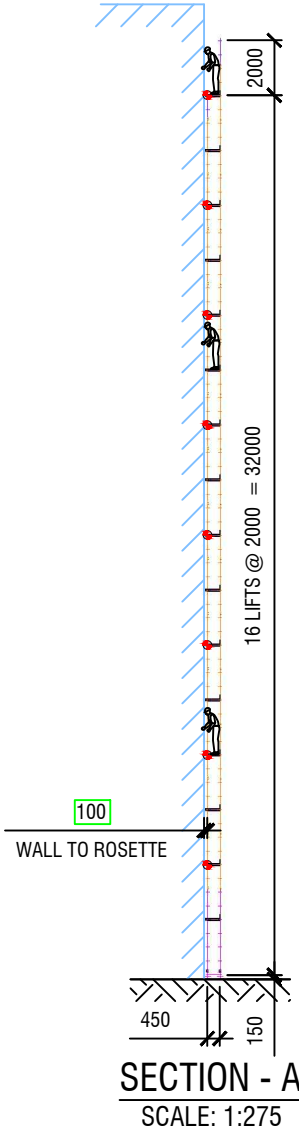
NOT FOR CONSTRUCTION



PLAN VIEW SCALE 1:275



ELEVATION SCALE 1:275



- General notes:
1. Independent verification by a qualified engineer may be required for final approval.
 2. The drawing is based on empirical values and does not include a static verification.
 3. Design is based on information provided by the customer.
 4. Adequate stability measures are required to ensure overall structural integrity of the scaffold.
 5. All connections to existing structures - by others.
 6. Potential encapsulation - by others.
 7. Client's responsibility to ensure the drawing is in accordance with dimensions and local conditions on site.
 8. Imposed load re-distribution on craned scaffolds must be analysed independently from static scaffold application.
 9. Lifting and craning operations must be supervised by a qualified person.
 10. All footings/foundations must be independently verified for adequate load bearing capacity.
 11. On site design changes should be approved by the certifying engineer or referred to the engineering department for approval.

AS/NZS 1576.1:2010 DUTY RATING: LIGHT

LEGEND:

- Building Boundary Line
- Denotes suggested Tying locations

Rev.2	12.05.17	Drawn A.M
TENDER ONLY		Checked J.M
Revisions		By

WARNING

Assembly, alteration and dismantling of scaffolding involves a risk of falls. Perform scaffolding assembly alteration and dismantling work in such a way that the risk of falls is avoided as far as possible and that the residual risk is minimized.

The product user bears the responsibility for compliance with all local regulations.

The stability of the scaffolding must be verified and assured at all times, including the assembly, modification and dismantling state. Layher Allround scaffolding may only be assembled, modified and dismantled under the supervision of a qualified scaffolder and by technically trained employees.

Layher accepts no responsibility for the suitability of their technical drawings in relation to the construction, alteration and dismantling of any scaffolding equipment on site.

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TENDER ONLY
FOR DISCUSSION PURPOSES

Layher 
More Possibilities. The Scaffolding System.

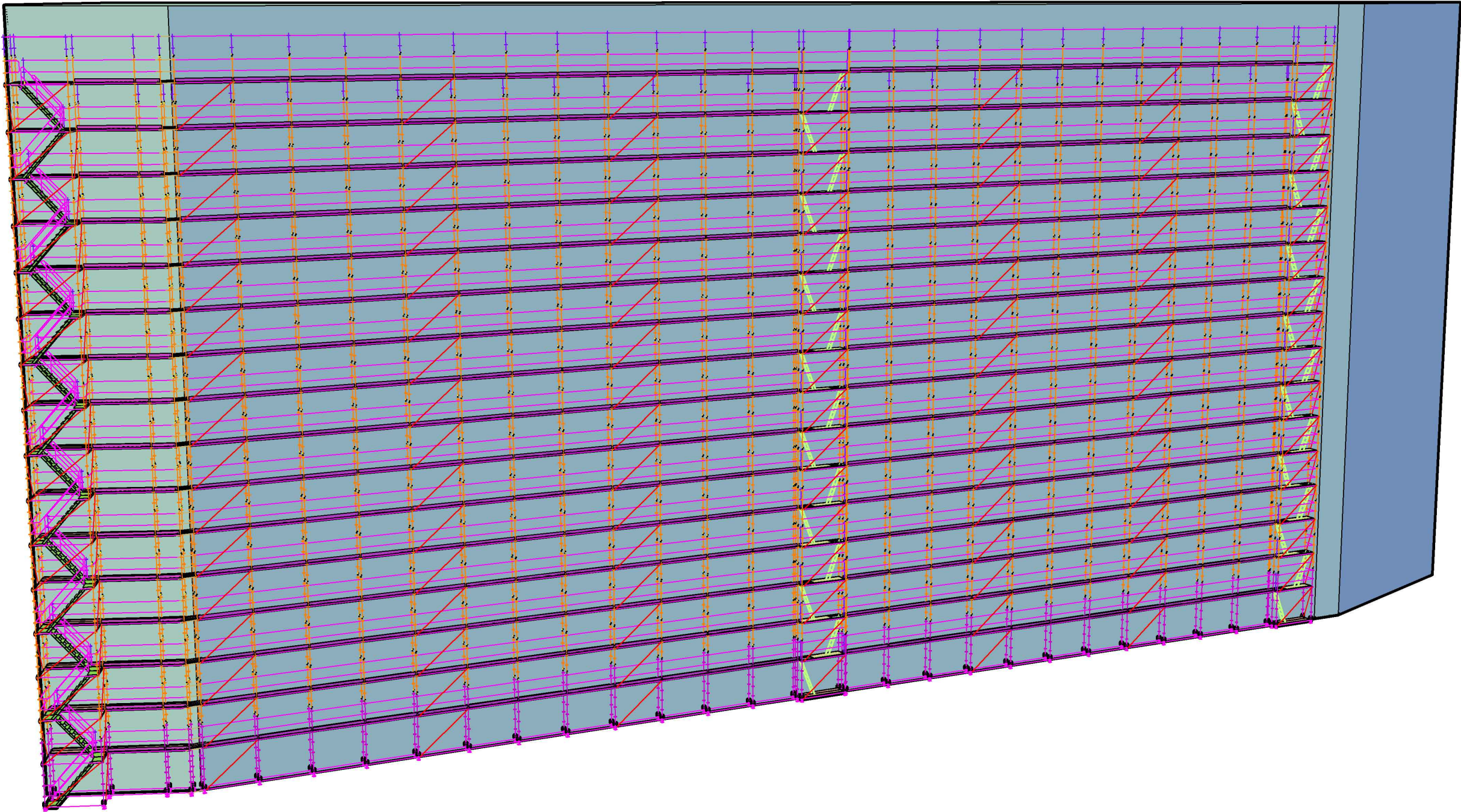
Drawing reference Details: Ref. Design Brief email dated 8.5.17 TMD

Scale: AS SHOWN Paper Size: A3

Project:
FACADE ACCESS SCAFFOLD
990 HUNTER ST - NEWCASTLE WEST
STERLINGS

Drawing No. LAY-3379-01-0517-AU	Page No. 1 of 2	Rev No. 2
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990 HUNTER STREET - NEWCASTLE WEST - FACADE ACCESS SCAFFOLD



PERSPECTIVE VIEW SCALE: NTS

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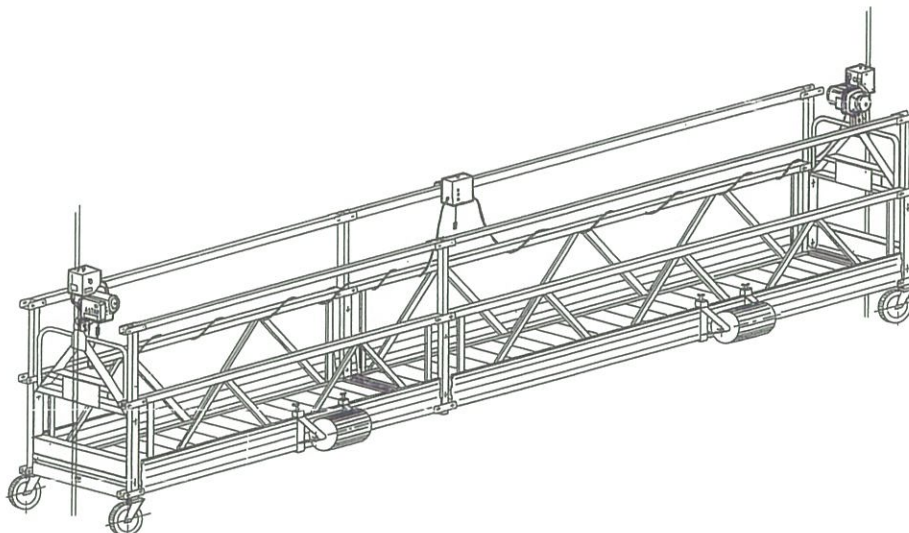
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Drawing No. LAY-3379-01-0517-AU	Page No. 2 of 2	Rev No. 2
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MODULAR PLATFORM SYSTEM

WITH 'END'-STIRRUP



REFERENCE No.	PLATFORM LENGTH M	MODULAR ELEMENTS	SELFWEIGHT PLATFORM ONLY (see 1.) kg	TOTAL WEIGHT (see 2.) kg	MAX. LOAD CONCENTRATED (see 3.) kg	MAX. LOAD DISTRIBUTED kg
E02	2	2	125	300		
E03	3	3	139	325		
E04	4	2 + 2	165	345		
E05	5	2 + 3	179	365		
E06	6	3 + 3	193	385		
E07	7	2 + 3 + 2	219	405		
E08	8	3 + 2 + 3	233	425		
E09	9	3 + 3 + 3	247	450		
E10	10	2 + 3 + 3 + 2	273	470		
E11	11	3 + 3 + 3 + 2	292	490		
E12	12	3 + 3 + 3 + 3	311	510		

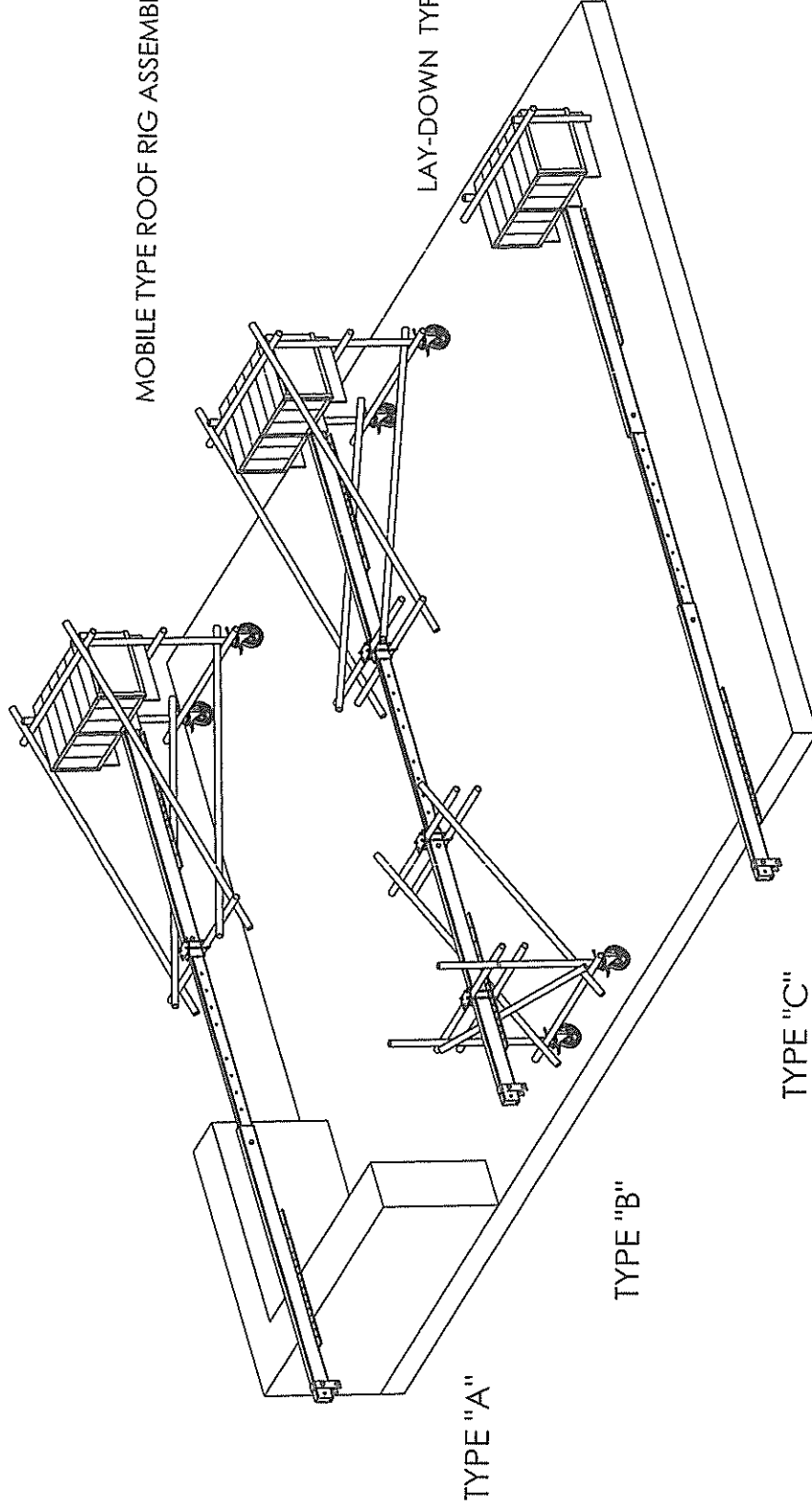
1. SELFWEIGHT incl. set of "end"-stirrups, wall rollers and castor wheels, but excl. ASTRO hoists, power supply cables and steel wire ropes.
2. TOTAL WEIGHT incl. platforms, two ASTRO's, central control box, supply cables and steel wire ropes for 70 mtr.
3. MAXIMUM CONCENTRATED LOADS not to exceed 300 kg/m² for platforms up to 6 metres in length and 200 kg/m² for platforms over 6 metres.

Safe working loads calculated in accordance with German Safety Standards and Platform approved by safety authorities in: Austria, Denmark, Germany, The Netherlands, Sweden, Switzerland, a.o.

BUILT-UP TYPE ROOF RIG ASSEMBLY

MOBILE TYPE ROOF RIG ASSEMBLY

LAY-DOWN TYPE ROOF RIG ASSEMBLY



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DEBUR AND
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EDGES

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TITLE
BASIC ROOF RIG - GENERAL ASSEMBLY
THREE TYPICAL APPLICATIONS

A3

DWG NO

MATERIAL

PTY LIMITED A.C.N. 001 872 500

1

2

3

4

WEIGHT

SCALE: 1:100

SHEET 1 OF 1