



MOM/OSHD/2025-02

10 January 2025

**To: Approved Scaffold Contractors
Contractors, Building Owners
Management Corporation Strata Titles
Professional Engineers
Authorised Examiners
All Other Interested Parties**

Safe Design and Installation of Outriggers or Overhead Supports for Suspended Scaffolds

Suspended scaffolds (also known as “Gondolas”) are commonly used as temporary work platforms to carry out work on building façades. To prevent falls from heights, suspended scaffolds must be designed, installed and maintained by competent persons.

- 2 The measures necessary for the safe use of suspended scaffolds include:
- i) Safe design – a structurally and functionally sound design;
 - ii) Proper planning – a plan to execute the installation and use of suspended scaffolds with respect to site conditions; and
 - iii) Safe installation.

Safe Design

3 All outriggers or other overhead supports for suspended scaffolds shall be designed by a Professional Engineer (PE). The design and construction shall comply with the Workplace Safety and Health (Scaffolds) Regulations and take guidance from:

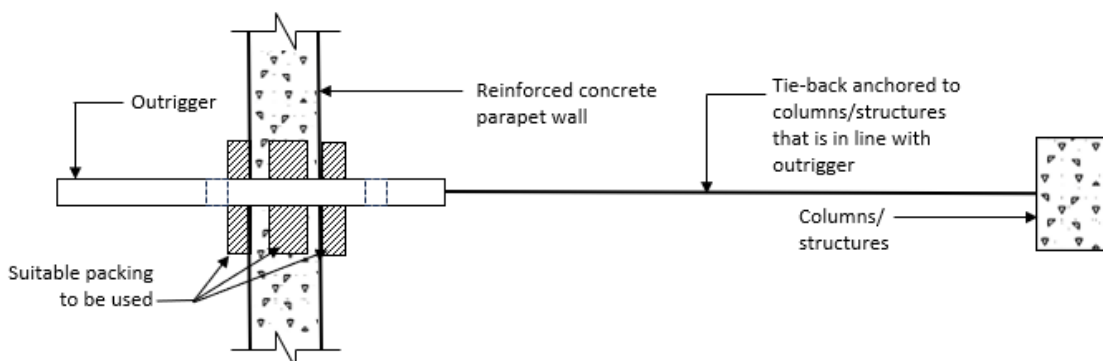
- i) Singapore Standard 598: 2014 Code of practice for suspended scaffolds;
- ii) Other applicable standards and codes acceptable by MOM;
- iii) Relevant guidelines issued by MOM or the Workplace Safety and Health Council (WSHC); and
- iv) the Eurocodes for design of structures.

4 The PE design shall include drawings detailed drawings of the components, connections and terminations, attachment methods, and calculations showing that the outriggers or other overhead supports for the suspended scaffolds have sufficient strength for the intended loading. Calculations should clearly indicate the design code, assumptions, permissible stress, safety factors etc.

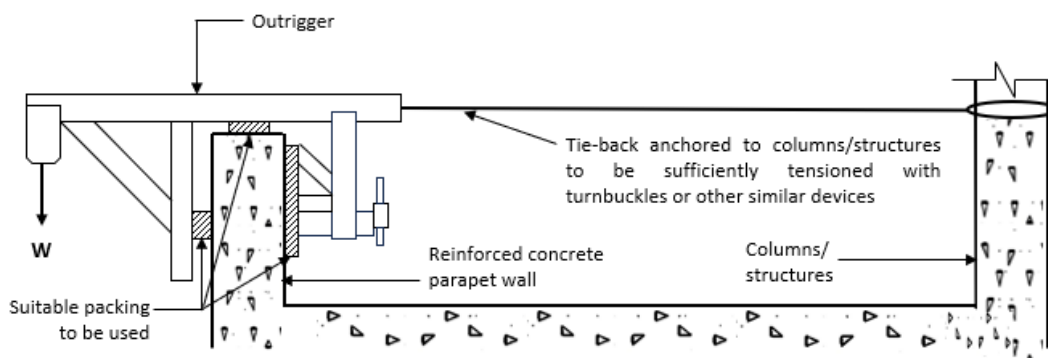
- 5 In addition, the design of the outriggers or other overhead supports shall consider:
- i) The structure(s) they are installed on is of sufficient strength to withstand any additional loading imposed.

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- The existing structural drawings (approved and as-built) of the building should be referenced and verified on-site. The verified details must be included in the calculations.
 - Should information about the existing structure be unavailable or incomplete, a PE shall conduct checks on the existing structure to verify its strength and integrity (such as concrete core tests and/or appropriate non-destructive tests), as part of the suspended scaffold design.
 - Outriggers or other overhead supports for the suspended scaffolds shall not be designed to be installed on any parapet wall constructed of bricks or other block masonry, any thin wall (wall with 1 layer of reinforcement only) or sloping parapet wall, unless the PE is able to, and has, verified its strength and integrity.
- ii) Sufficient and suitable tie-backs anchored to roof beams or internal columns of the building can be provided.
- The anchorage points for the tie-backs shall as far as possible be in line with the outriggers or overhead supports (*Fig 1a and 1b*), and the tie-backs sufficiently tensioned with turnbuckles or other similar devices.
 - If the anchorage points for the tie-backs cannot be in line with the outrigger or overhead support, the PE must consider and provide for the additional forces that will be introduced through such arrangements in the design of the outriggers or overhead supports.
 - Tie-backs shall be anchored independently of the suspended scaffold's suspension or safety rope. The suspension rope and safety rope shall also be anchored independently of each other.



*Fig 1a. Plan view showing outrigger, tie-back and anchorage point in line.
Suspension and safety rope not shown.*



*Fig 1b. Side section view showing outrigger, tie-back and anchorage point in line.
Suspension and safety rope not shown.*

6 If there are any installations on the roof such as solar panels systems, M&E services or decorative features, the tie-backs of the outriggers or other overhead supports of the suspended scaffolds shall not be in contact with or anchored onto these installations.

7 The design and siting of the outriggers or overhead supports shall allow the cradle to rest stably on the ground or at other levels which affords a safe means of access into or egress from the cradle.

Proper Planning

8 The PE who has designed the outriggers or other overhead supports for the suspended scaffolds shall also check and endorse on the site-specific layout plan, indicating clearly the:

- i) Locations and corresponding types of suspended scaffold that are to be installed;
- ii) Size and span of the cradle (in the suspended scaffold drawings), the corresponding types of outriggers or other overhead supports and the tie-back to be used for the different types of suspended scaffolds; and
- ii) As far as possible, locations where suspended scaffolds, outriggers, overhead supports and tie-backs cannot be installed (e.g. presence of non-load bearing structures such as brickwall, canopy etc).

9 Following the design of the overhead supports for suspended scaffolds, a PE is required to inspect the outriggers or other overhead supports that have been installed (for each worksite - once for each design of outriggers or other overhead supports) and issue a Certificate of Inspection ("COI") for them, verifying that the outriggers or other overhead supports are in accordance with PE design and drawings. The PE shall indicate clearly on the layout plan, the location of the outriggers or other overhead supports that have been inspected.

10 The Authorised Examiner (AE) who eventually tests and examines the suspended scaffold shall check that the outriggers and other supports are:

- i) Issued with PE's COIs; and
- ii) Deployed only at locations where the PE has designed for.

The AE shall not certify any suspended scaffold for which there is no PE design.

11 The AE shall indicate clearly on the layout plan the:

- i) Location of the suspended scaffold that has been tested and examined; and
- ii) Locations where the suspended scaffold is allowed to be used.

12 Approved Scaffold Contractors (ASCs) are to ensure that the PE and AE certified layout plans are updated and kept available at the workplace. A sample layout plan is shown in Fig 2.

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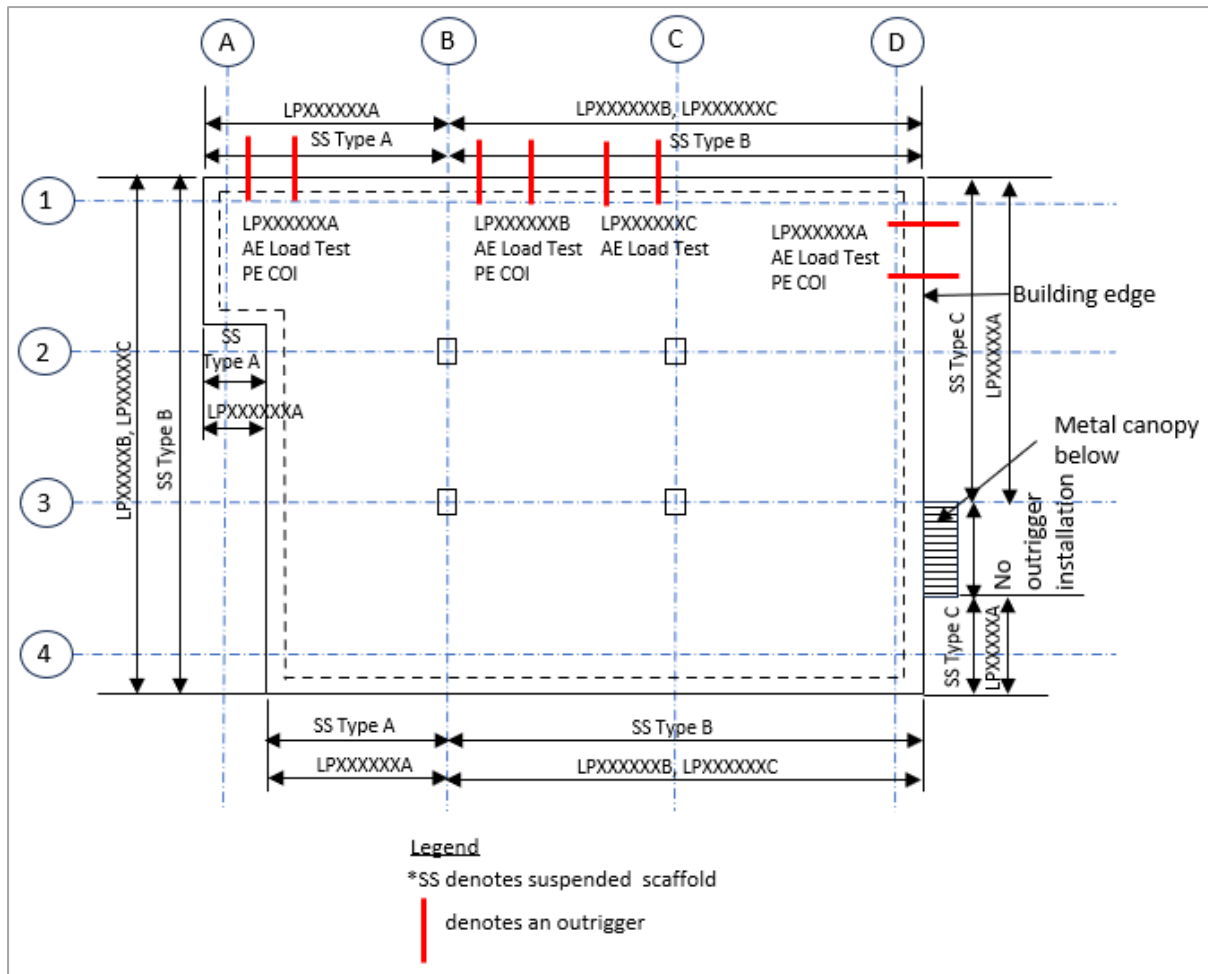


Fig 2. Sample of Suspended Scaffold Layout Plan

Safe Installation

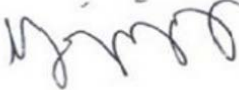

13 The safety of a suspended scaffold also rests upon the proper installation of its outriggers or other overhead supports. The suspended scaffold, its outriggers and other overhead supports shall be assembled, installed, altered, re-positioned, maintained, repaired or dismantled only by an ASC (by competent erectors under the supervision of a qualified supervisor).

14 The requirements in the Workplace Safety and Health (Scaffolds) Regulations shall be complied with, and guidance from the Singapore Standard 598: 2014 Code of practice for suspended scaffolds shall be taken.

15 ASCs are reminded to install suspended scaffolds according to the site-specific layout plan, and are not to proceed with any installation if there is no PE design for it.

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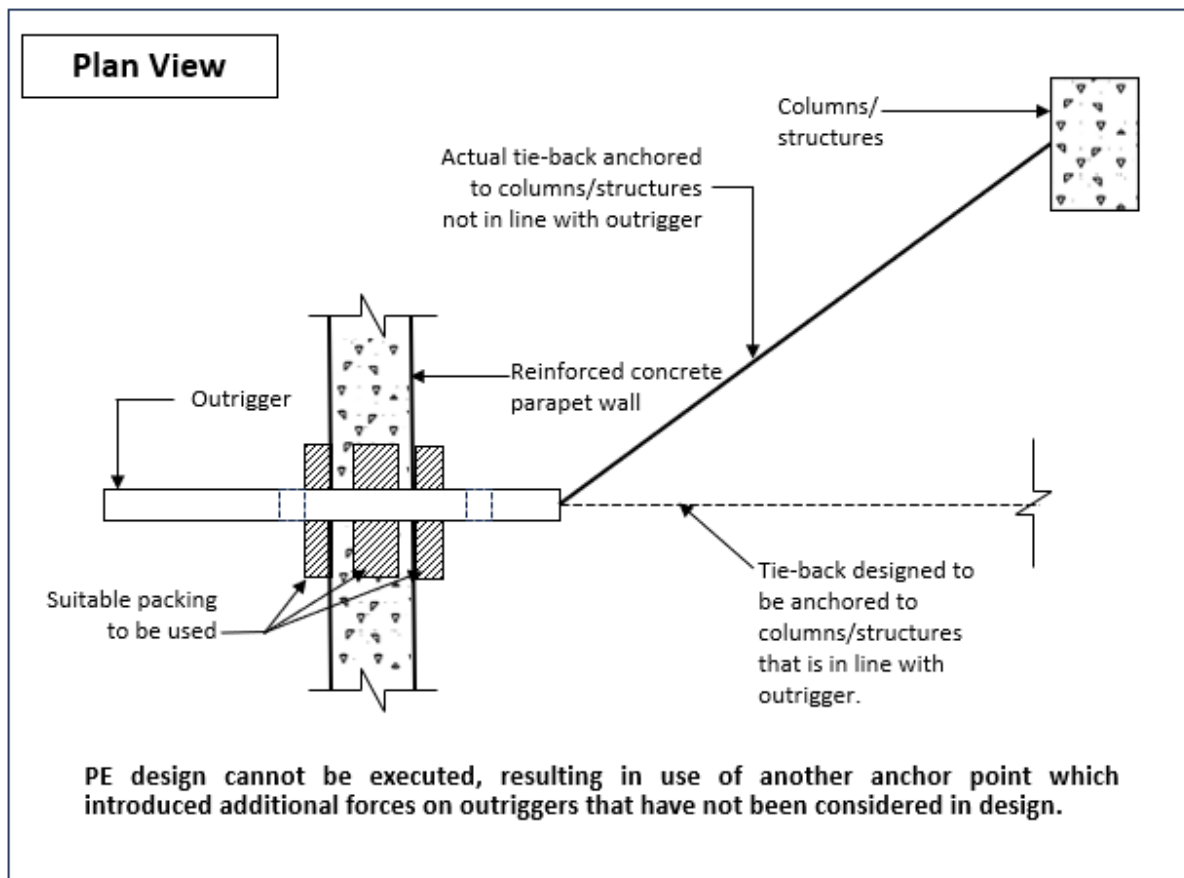
16 Annex A illustrates some examples of i) inadequate PE design, ii) non-adherence to the plan and iii) unsafe installation of suspended scaffolds.

 JAIME LIM for Commissioner for Workplace Safety and Health Ministry of Manpower	 PUNITHAN SHANMUGAM for Commissioner of Building Control Building and Construction Authority
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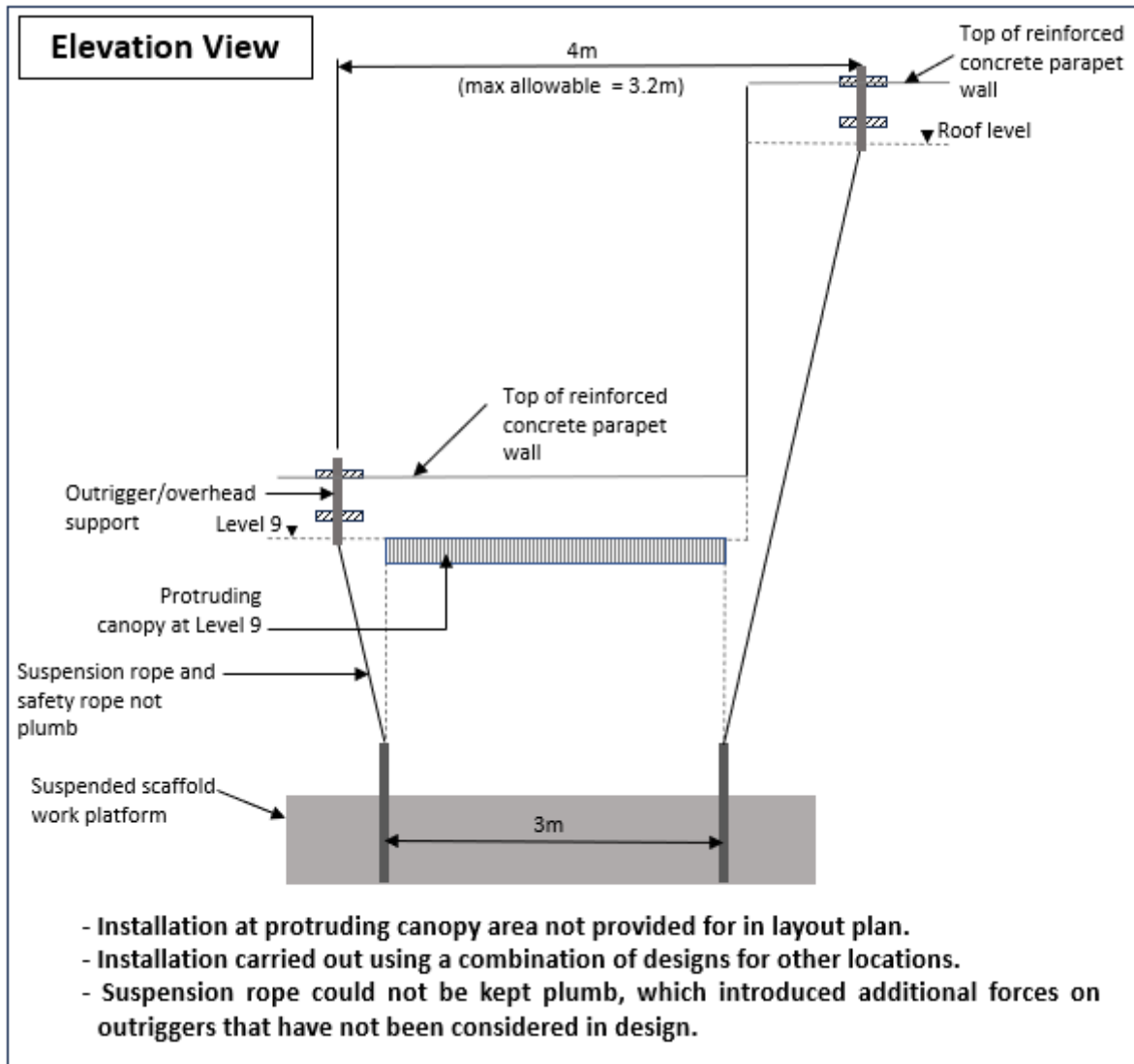
Additional references on suspended scaffolds:

- i) [20091120-37 Accidents involving use of gondolas](#)
- ii) [OSHD/Scaffold Suspended Scaffolding Requirements](#)
- iii) [MOM/OSHD/2020-01 Examination and testing requirements for statutory Lifting Equipment](#)

Example 1. Inadequate PE design



Example 2. Not adhering to layout plan



Example 3. Unsafe installation

