EHS QUALITY ALERT

MORGAN SINDALL CONSTRUCTION

LOVELL

Entrance canopy failure

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Summary

- Fully tiled, timber entrance canopy failed on a Friday evening falling to the ground at the front door of an occupied property. (Image 1)
- The timber gallows brackets and wall plate had been fixed using only 100mm woodscrews and brown rawl plugs instead of M10 bolts as specified in an engineer's design. (Image 2)
- The construction of the canopy was not wholly in accordance with the architect's design. (Image 3)
- The construction of the gallows brackets was not in accordance with the engineer's design. (Image 4)
- No injuries sustained however potentially far more serious consequences.

Image 1 - fallen canopy

Image 2 – gallows bracket

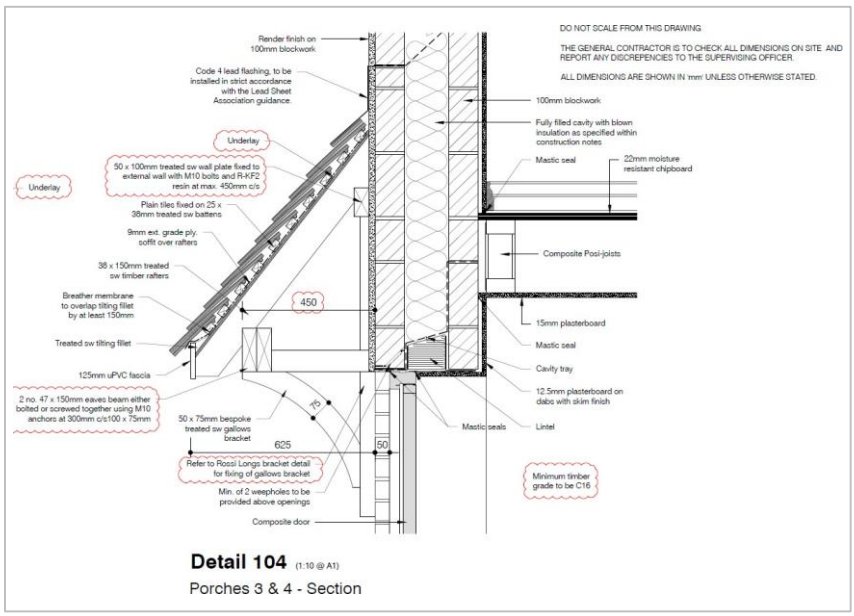

Image 3 – architects design

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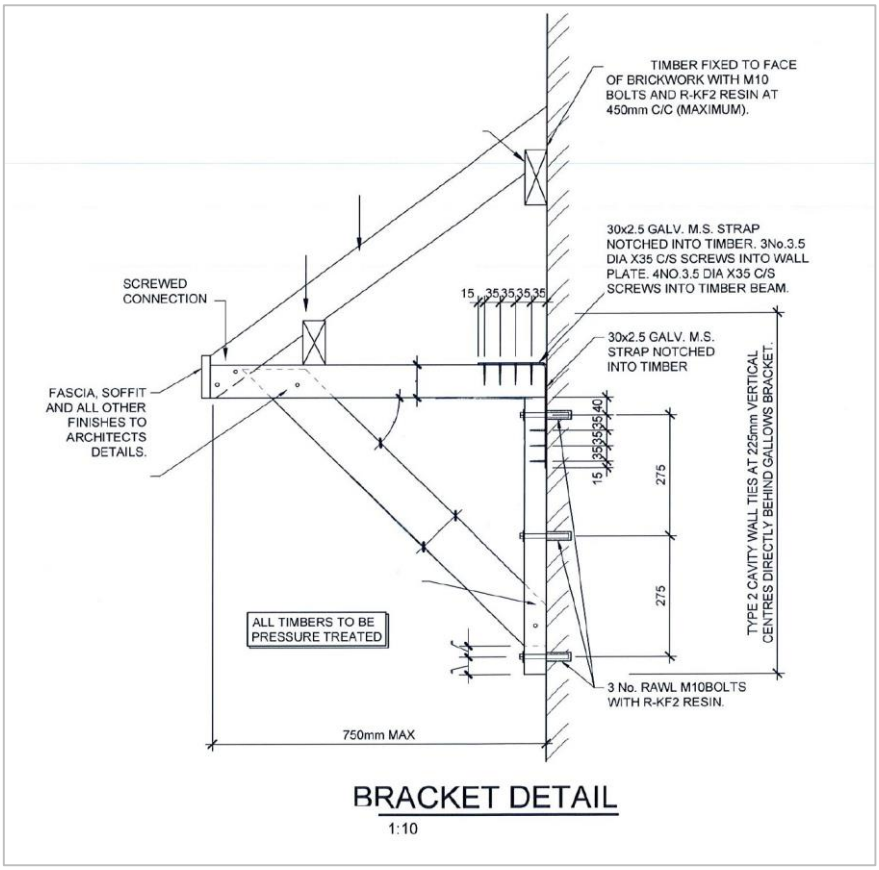

Image 4 - engineer's generic gallows bracket design and fixing detail

Description

- Entrance canopy collapsed on a Friday evening although the exact time is unclear. The project itself was completed and occupied in 2019.
- There had been strong winds in the area days before the incident although it was not particularly windy at the time it failed.
- As a precautionary measure, a scaffolder was deployed to erect temporary tube and fitting propping to six identical canopies on the development.
- The carpentry contractor involved had no specific risk assessment or associated method statement for the works and stated they were never issued with any drawings for the canopy. The two operatives who installed the canopies no longer work for the contractor so could not be directly questioned for their version of events.
- Carpentry contractor did not price using a detailed Bill of Quantities, instead package was awarded on a 'ball park' figure so specific pricing of this item was missed.
- Engineer's gallows bracket detail was a generic design which details use of a galvanised mild steel strap notched and securely fixed into the back of the timber (Image 4). The design shows the brackets are to be fixed using 3no. RAWL M10 bolts with R-KF2 resin although bolt length was not stated or requested. The gallows brackets were fixed using 100mm woodscrews with brown rawl plugs (Image 2).
- The joinery company who constructed the gallows brackets were issued the architect's drawing but not the engineer's design, subsequently the brackets were not constructed in accordance with the structural design.
- The architect's design shows the 50mm x 100mm wall plate is to be fixed using M10 bolts with R-KF2 resin at 450mm centres, again bolt length was not detailed (Image 3). The wall plate was fixed using 100mm woodscrews with brown rawl plugs.

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- The canopy was not constructed in accordance with the architect's drawing with regard to the eaves beam detail. 2no. 47mm x 150mm timbers bolted or screwed together using M10 anchors at 300mm centres were detailed (image 3), however only a single 50mm x 100mm was used (Image 5).
- No records of build stage quality checking are available for this plot's canopy installation, or for any other.

Image 5 - neighbour's entrance canopy in situ

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Learning points and reminder of existing requirements

- Suitable and sufficient risk assessments and associated method statements (where appropriate) must be provided for all significant works by our supply chain which must undergo our RAMS review process prior to commencement. A method statement may have detailed the intended fixings.
- A dedicated structural design which clearly details fixing requirements must be prepared for any independent fitting fixed to the building fabric, such as entrance canopies or porch roofs etc.
- The structural design must be co-ordinated with architects' drawings to ensure compatibility.
- Where porches, canopies and other such additions are specified on national house type designs, they must include standard co-ordinated construction and fixing details for each and every type to be used.
- The approved, current construction issue drawing must be distributed to all involved parties, especially the manufacturing/joinery company and contractor involved in constructing and fixing the item.
- Fixings must be exactly as specified within the approved design and fitted at the correct centres. It is strongly recommended that Lovell supply all structural fixings of this nature thus providing additional control to ensure correct fixings are used.
- Build stage checking/QMS monitoring must include checking the construction and installation has been completed in accordance with the approved design.

Urgent checks must be made to ensure similar installations are securely fitted in accordance with the above practices, including completed properties on live projects.

A regional decision is to be made regarding undertaking structural integrity checks on previously completed developments.