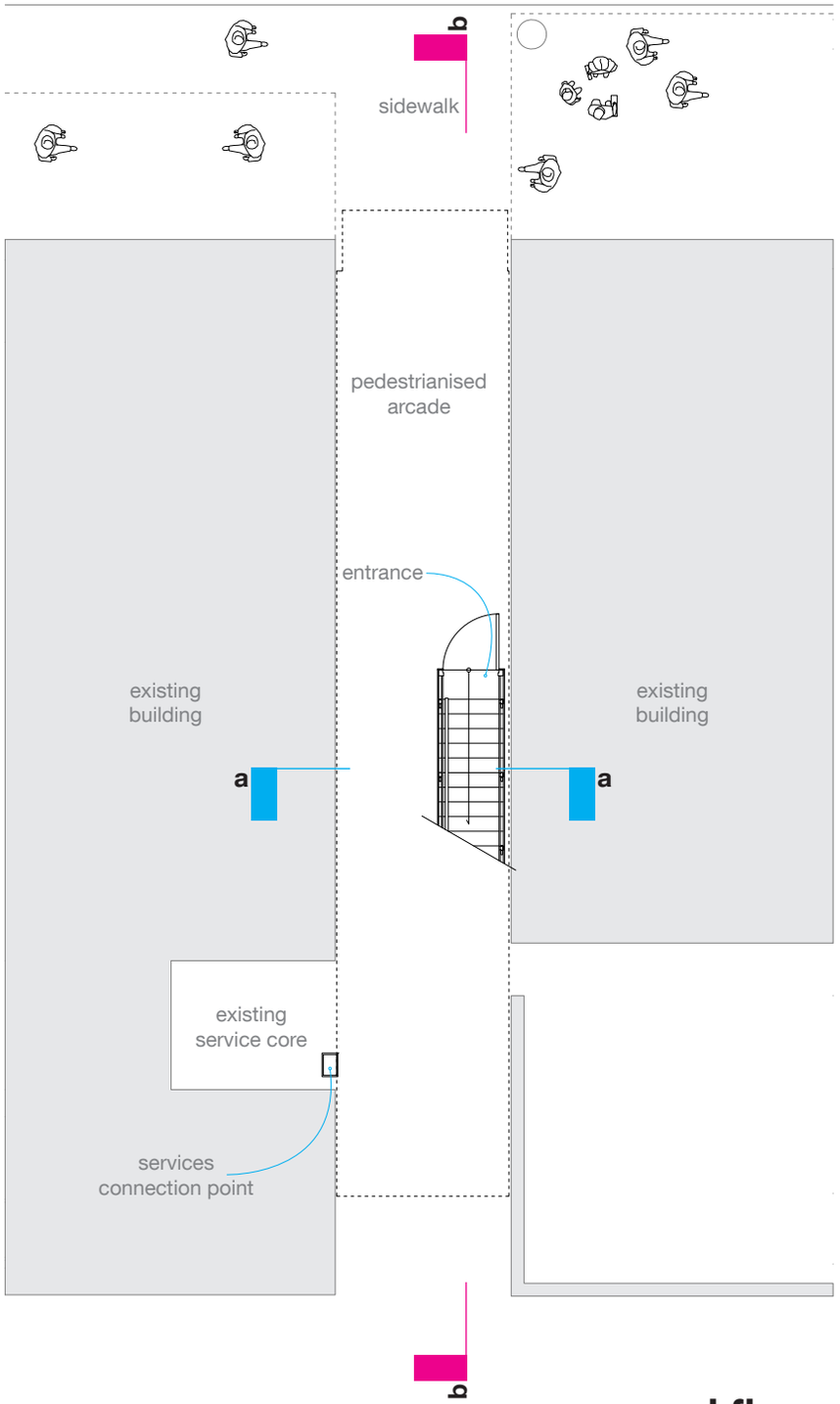
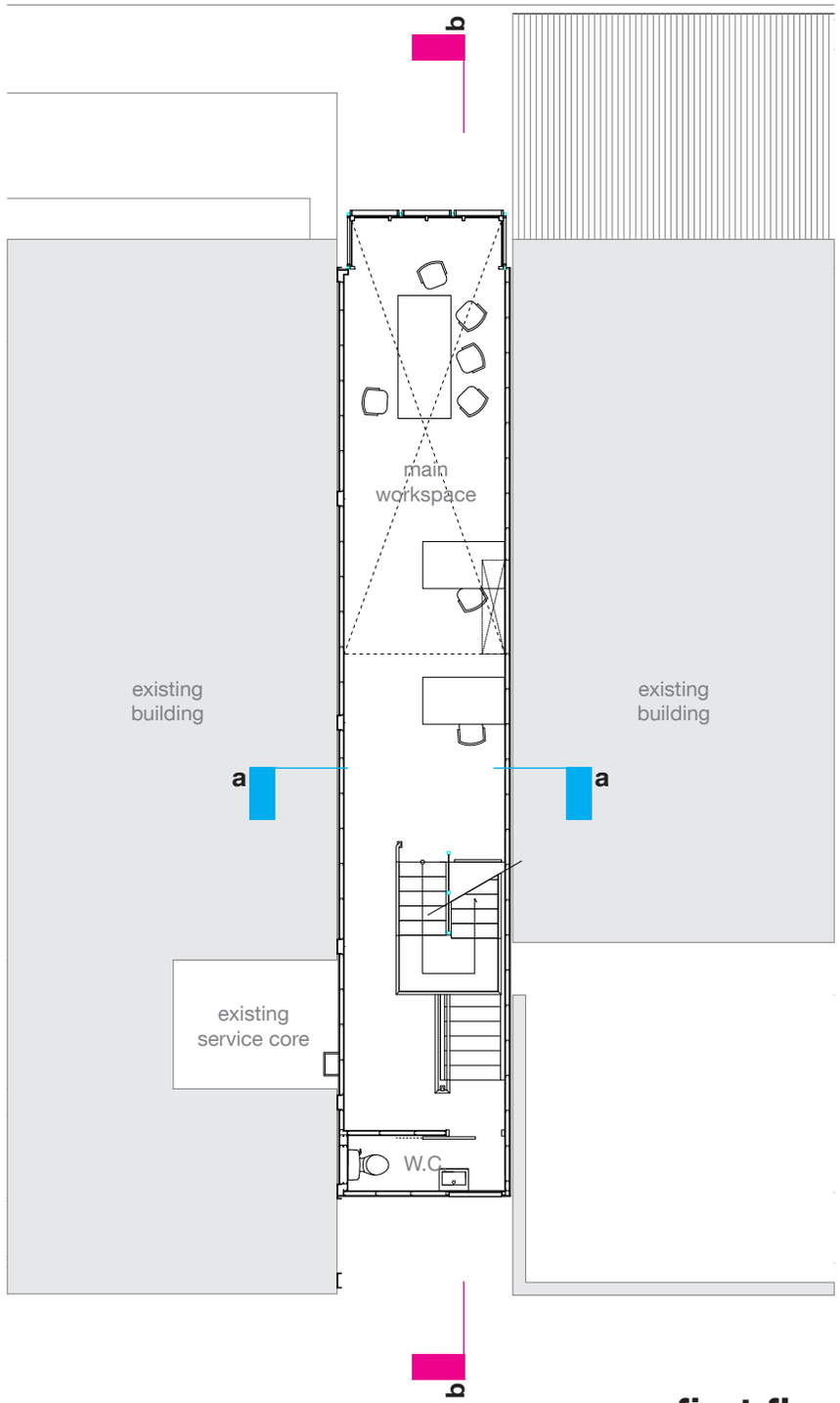
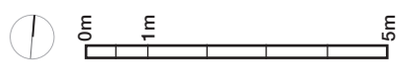
Technical Documentation

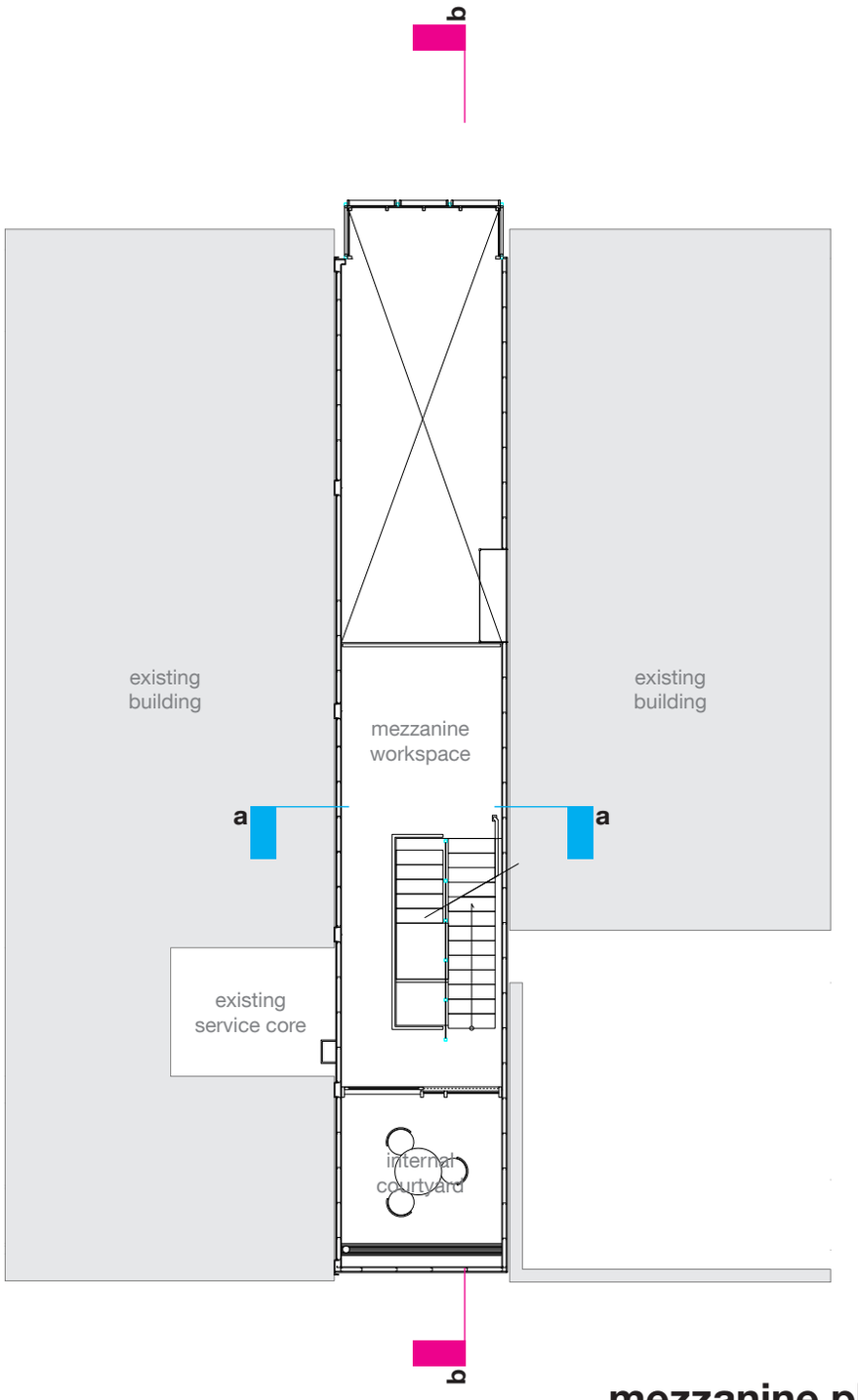


ground floor plan



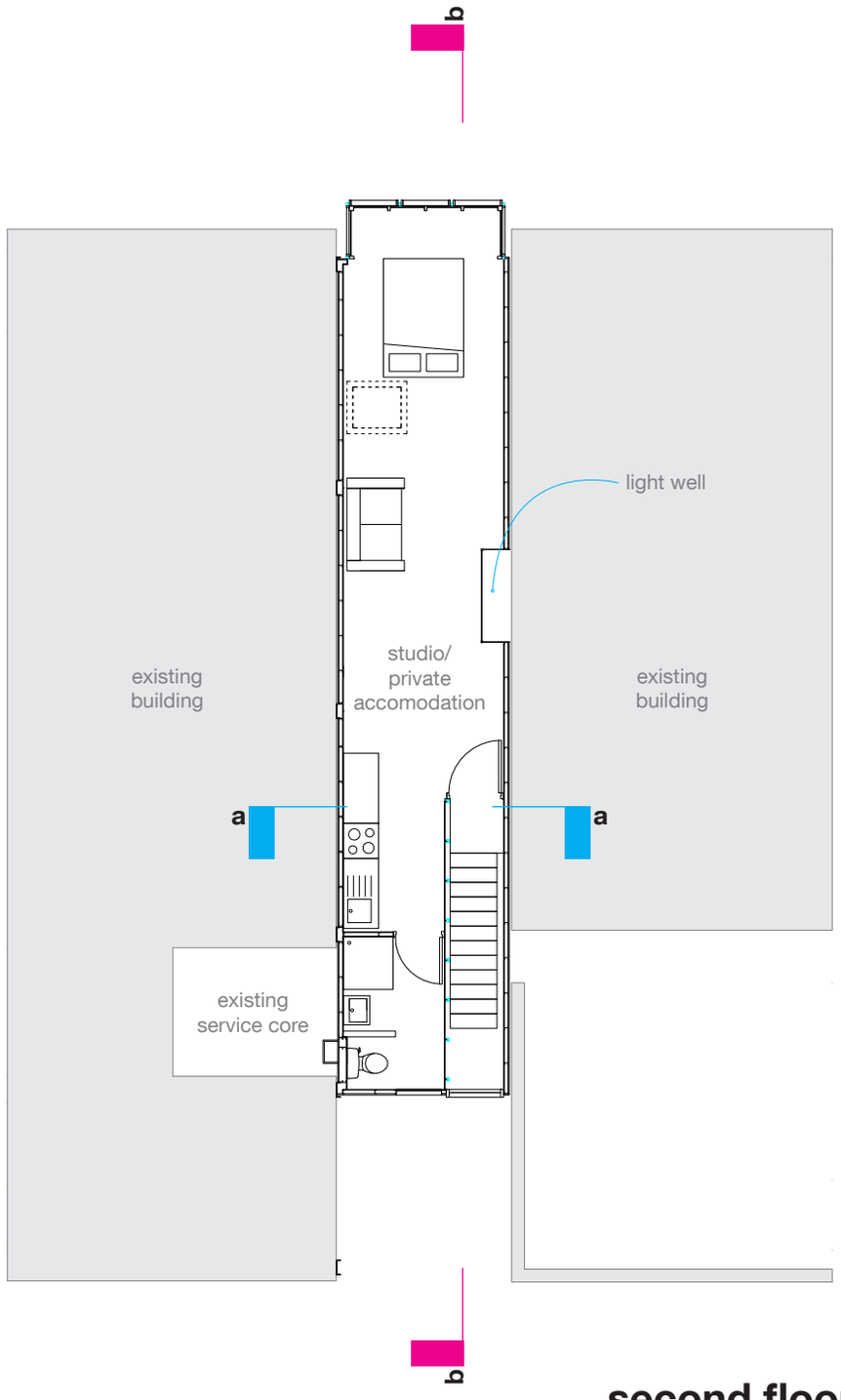
first floor plan





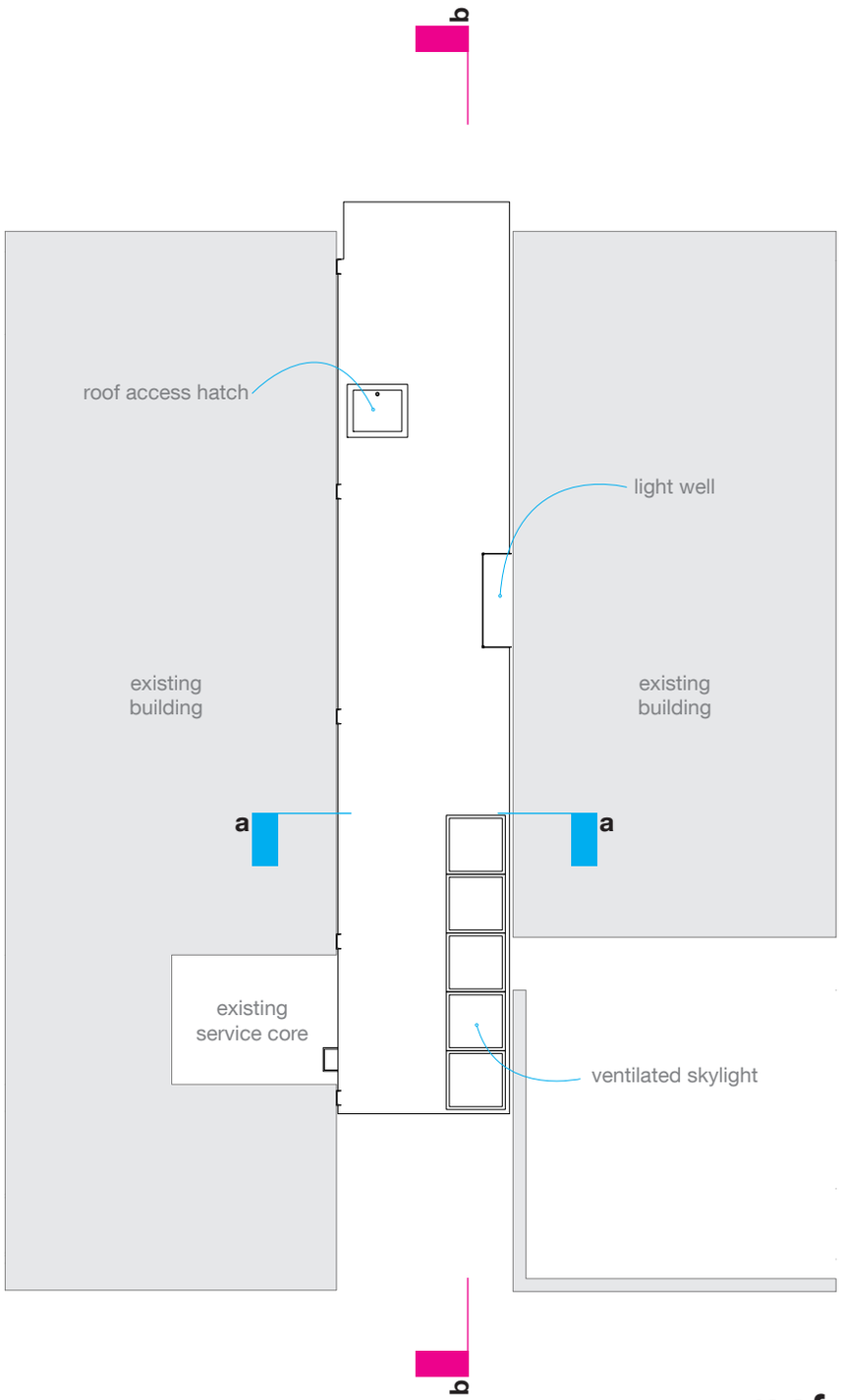
mezzanine plan

0m 1m 5m

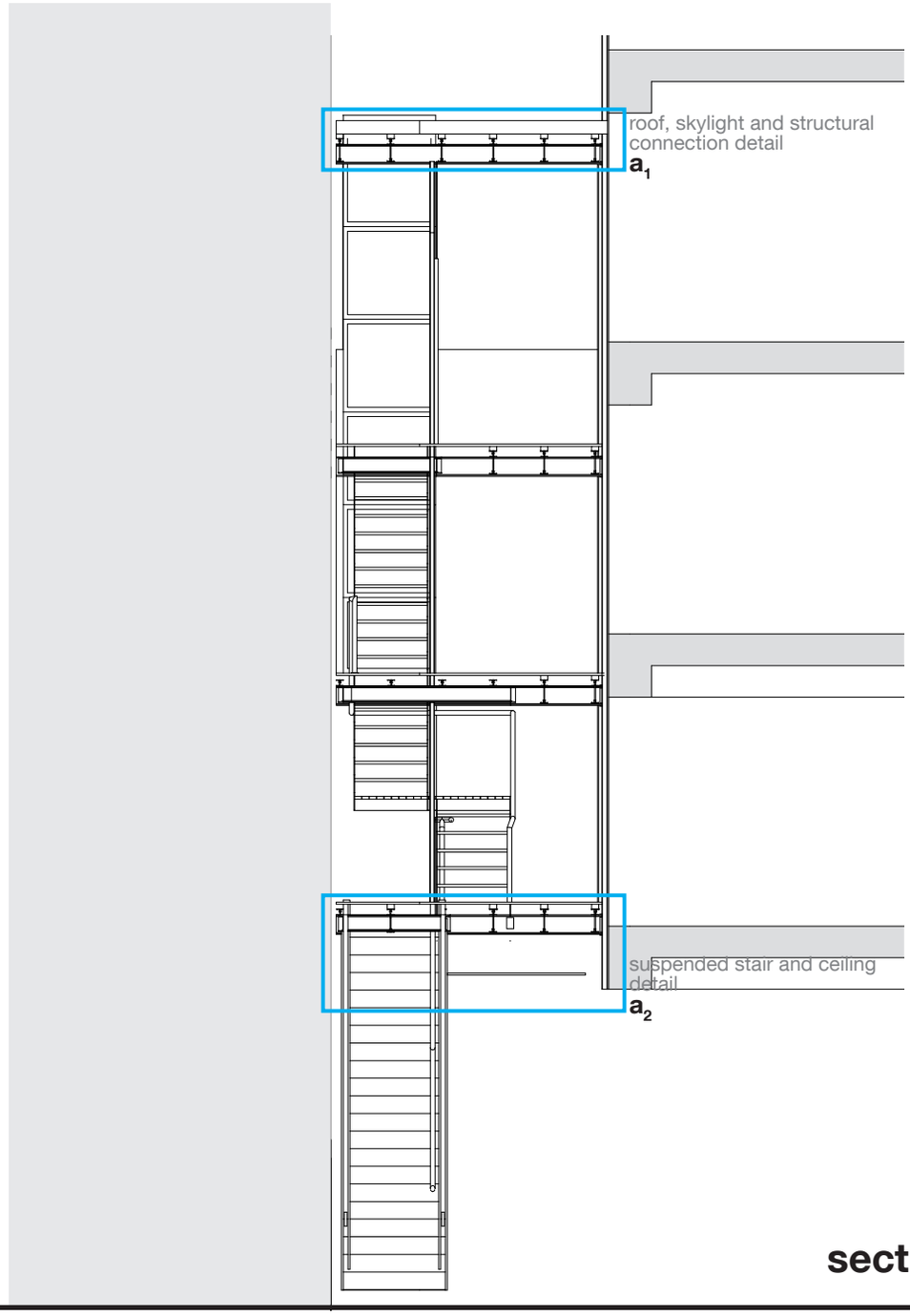


second floor plan

0m 1m 5m

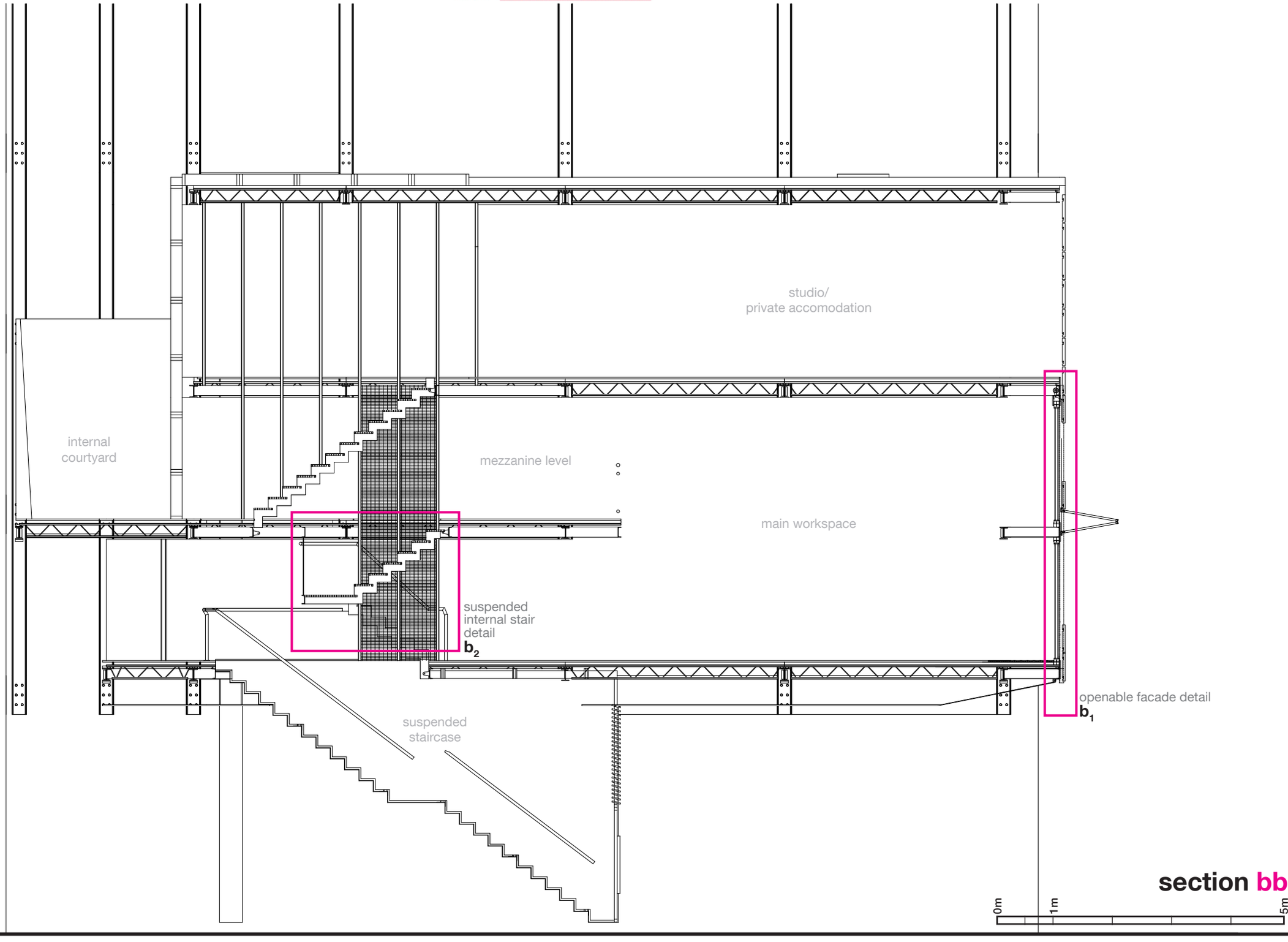


roof plan

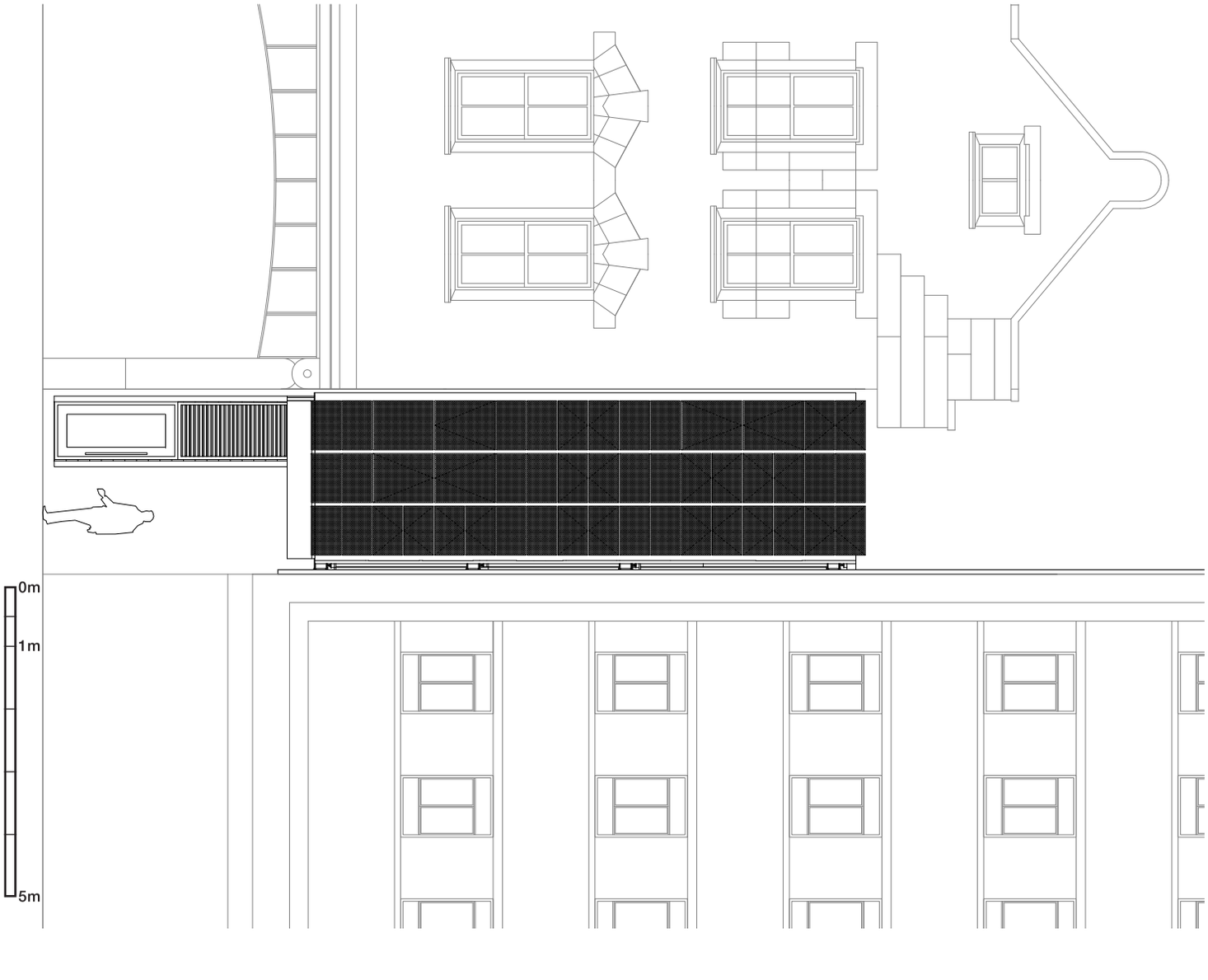


section aa

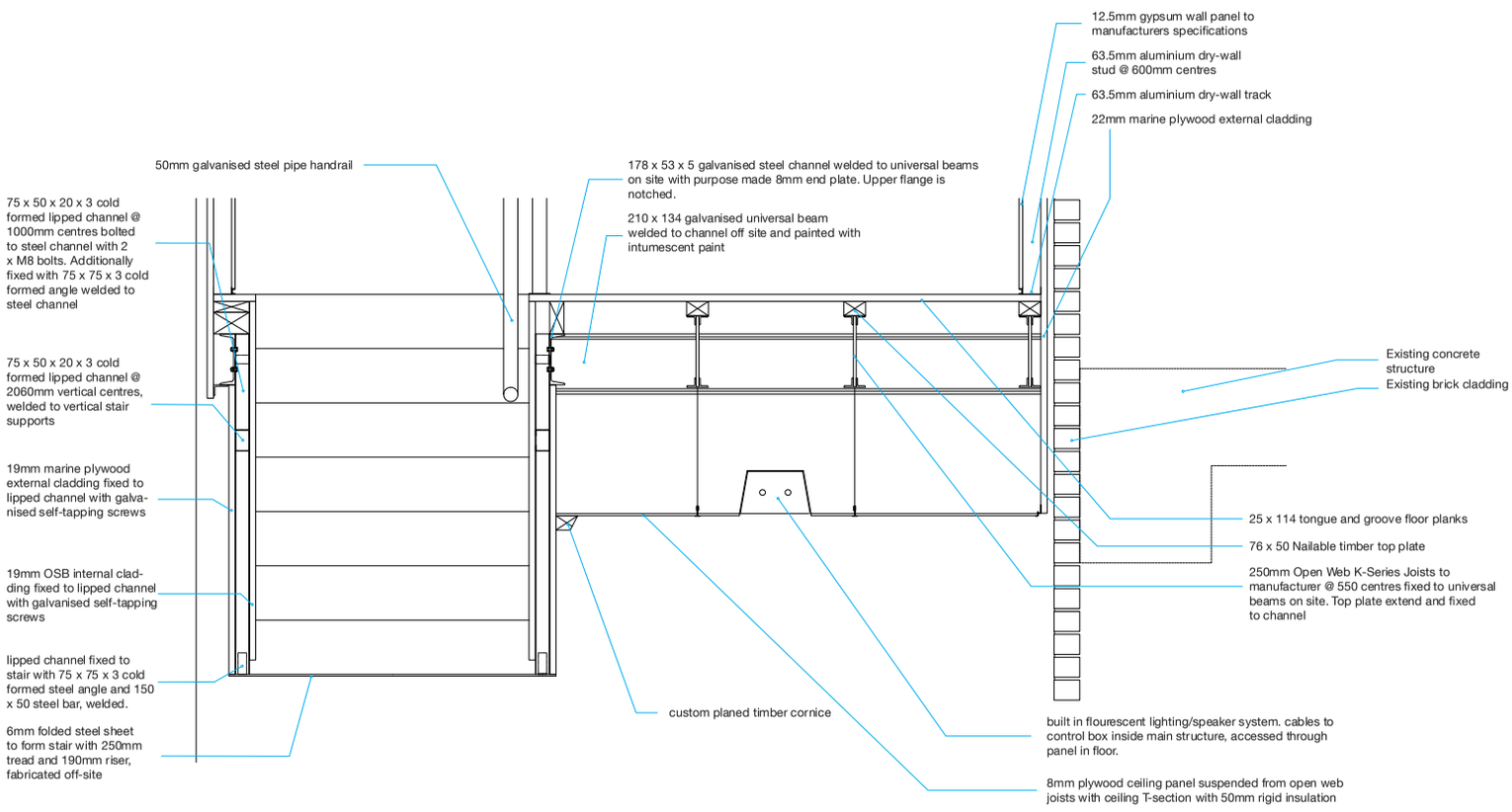
UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA



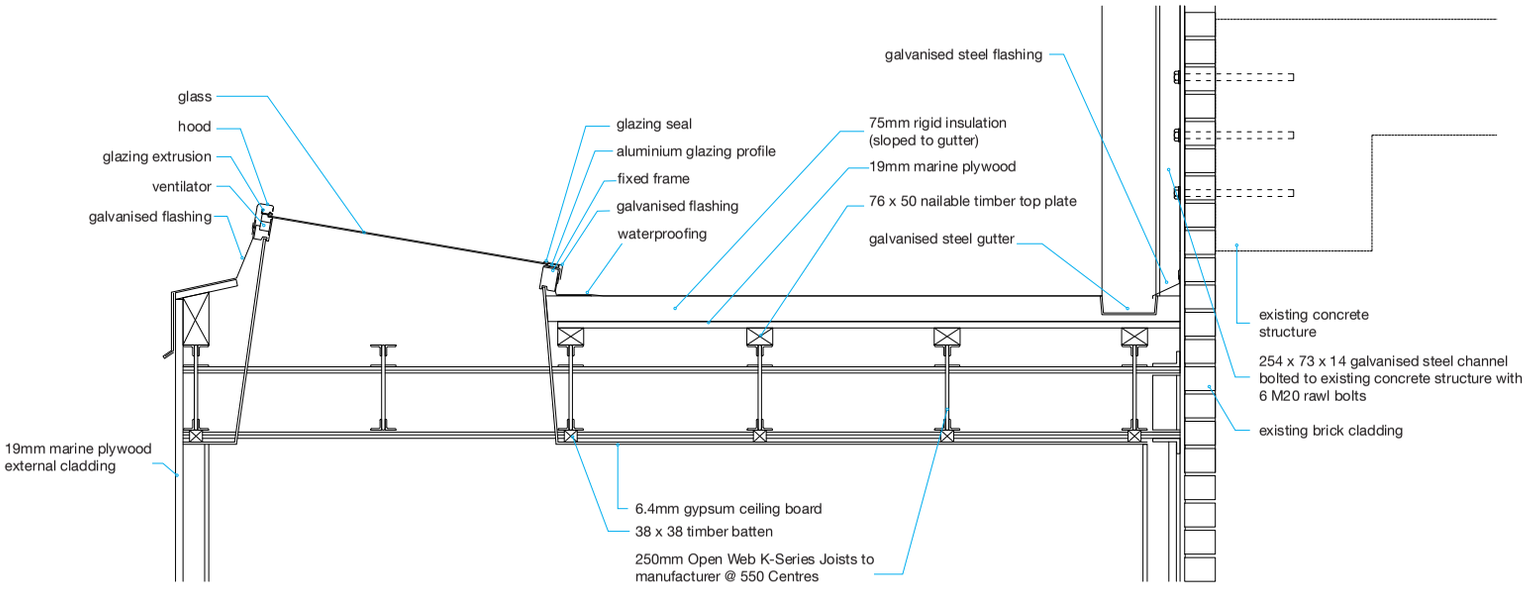
section bb



street elevation

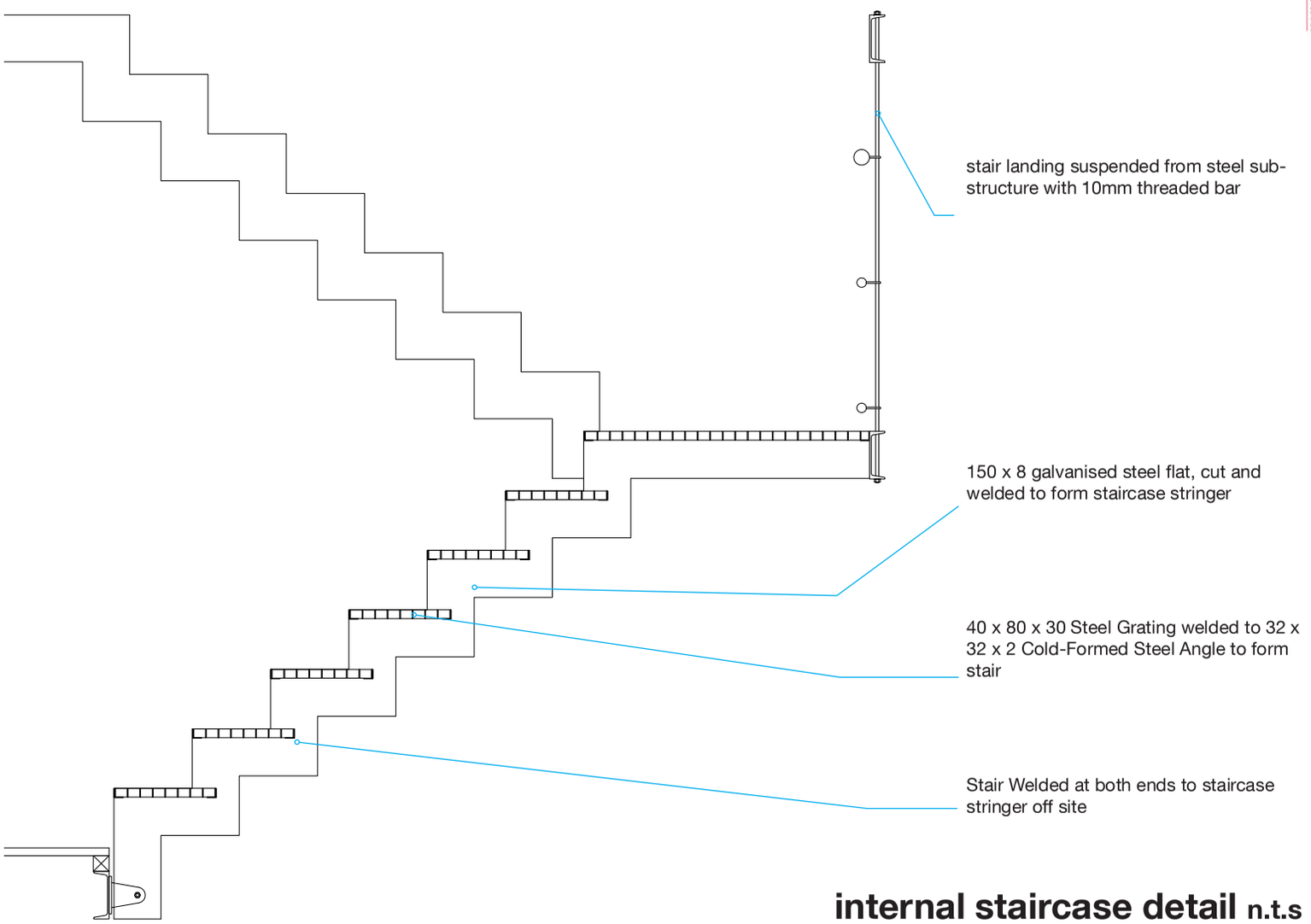


suspended staircase detail n.t.s

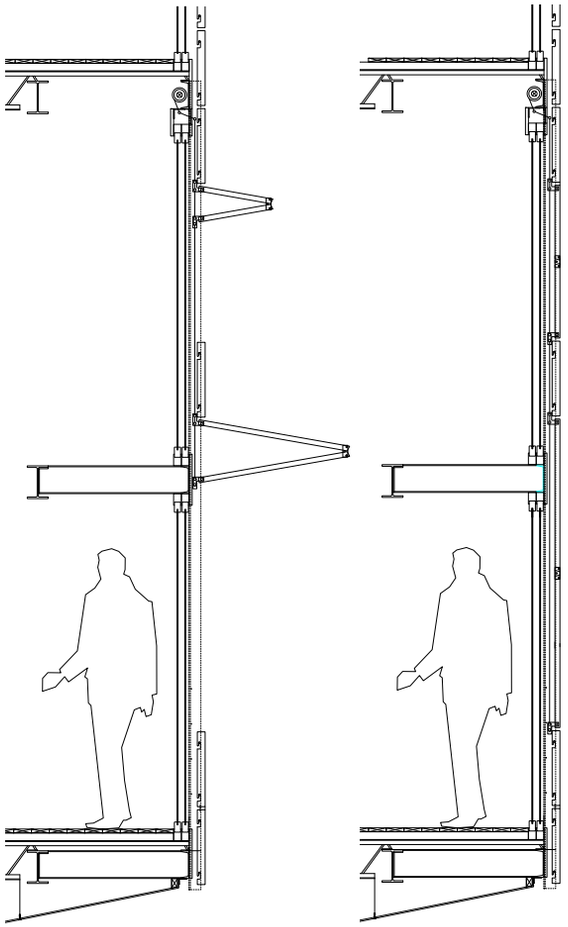


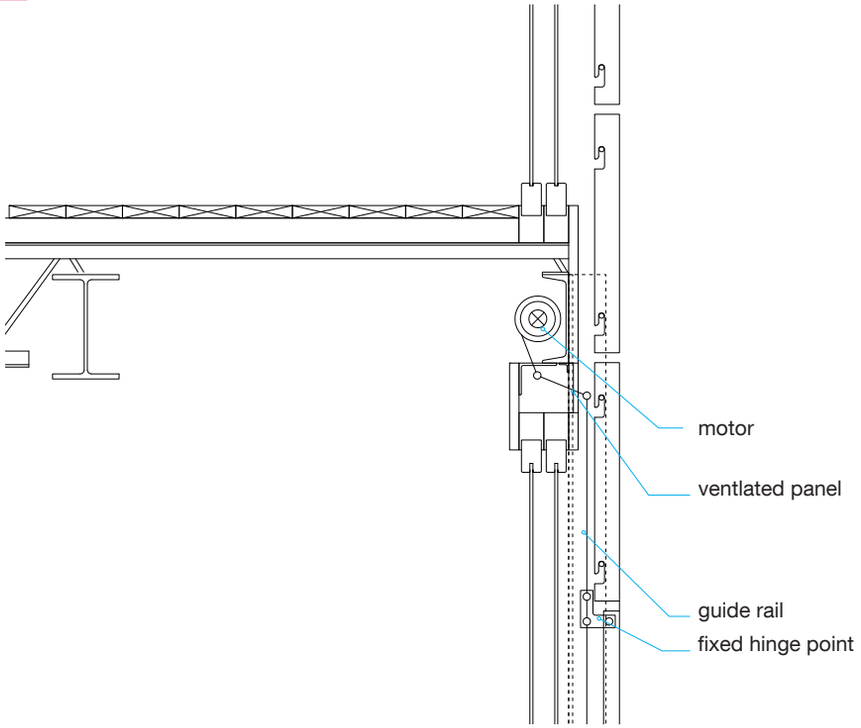
roof detail n.t.s

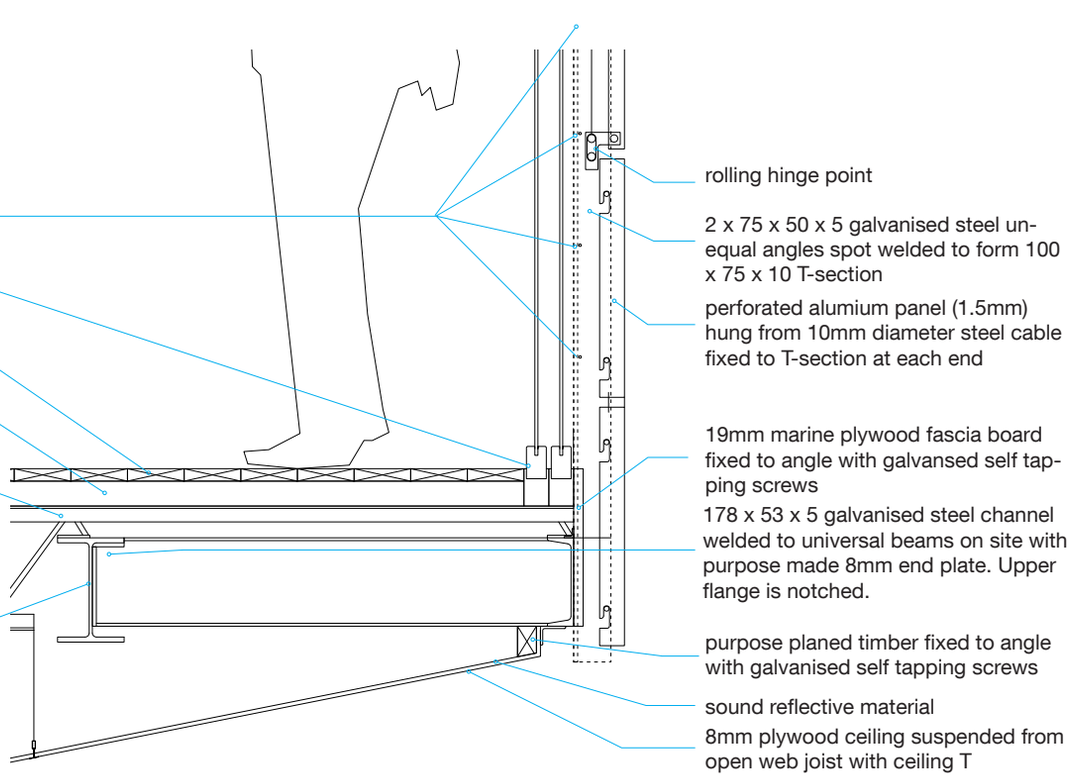
UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA



internal staircase detail n.t.s







openable facade details n.t.s

SBAT Rating System

The SBAT rating system analyses the sustainability of the building in three main categories: social, economic, and environmental. These categories are further subdivided into individual criteria by which the building's/design's performance is analysed.

The proposed infill typology and urban framework are thoroughly grounded within a general approach to sustainability that is a prerequisite for any new design project.
The site, a narrow service alley between two buildings, has many limitations and advantages that lead to an uneven performance according to the SBAT rating system. For example, the parasitic approach of using existing service connections and structures save on costs; yet the limitations of weight and dimensions severely limit possibilities of inclusive design.

Rather the proposal should be seen within a broader context, both within the scope of this thesis and alongside others proposed by members of the master's class. The reinterpretation of the city block fosters an approach of 're-inhabiting' the city, which in itself is sustainable by encouraging new use.

Some of the criteria of the SBAT rating system are now expanded on in more detail to show the virtues and shortcomings of the design.

Social Sustainability

Occupant Comfort

Natural daylighting and ventilation are provided through windows and skylights. The northerly exposure of the site provides adequate day-lighting to the main functional areas of the building, whilst day-lighting for the rest of the building is augmented by a light well, skylights and the careful manipulation of levels and circulation elements. Noise reduction was a principle consideration in the design of the building, and as such it shields its occupants through the use of acoustic insulation and double glazing.

The site, between two existing buildings, effectively shields the proposal from large fluctuations in temperature and wind. The glazed northern facade provides picturesque vignettes of the heritage buildings across the street.
Circulation however is somewhat compromised due to the narrow alley and the desire to keep the service way open for existing users.

Inclusive Environments

The difficult site prevents much planning for inclusive environments due to size and weight restrictions. However, it is possible that these problems could be avoided with more careful planning.

Access to Facilities

The proposal is situated within the heart of Pretoria CBD and is such situated within walking distance to nearly all amenities.

Education, Health and Safety

The proposal contributes to the safety of the area in general by increasing the occupied hours of the area and by providing additional lighting on the street

Economic Sustainability

The benefits of a parasitic insertion show here, as much of the traditional ground works and service connections required for a new build are avoided. The limited size also keeps costs down, but the fabrication of the steel elements may prove to be expensive. Fortunately Pretoria has a more than adequate supply of building contractors, fabricators and material stockists that allow most of the required elements to be sourced locally.

Environmental Sustainability

Consideration was taken from the start to use renewable solar energy where possible and to also harvest rain-water run-off. The roof effectively catches water from the two neighbouring buildings to further increase yield.