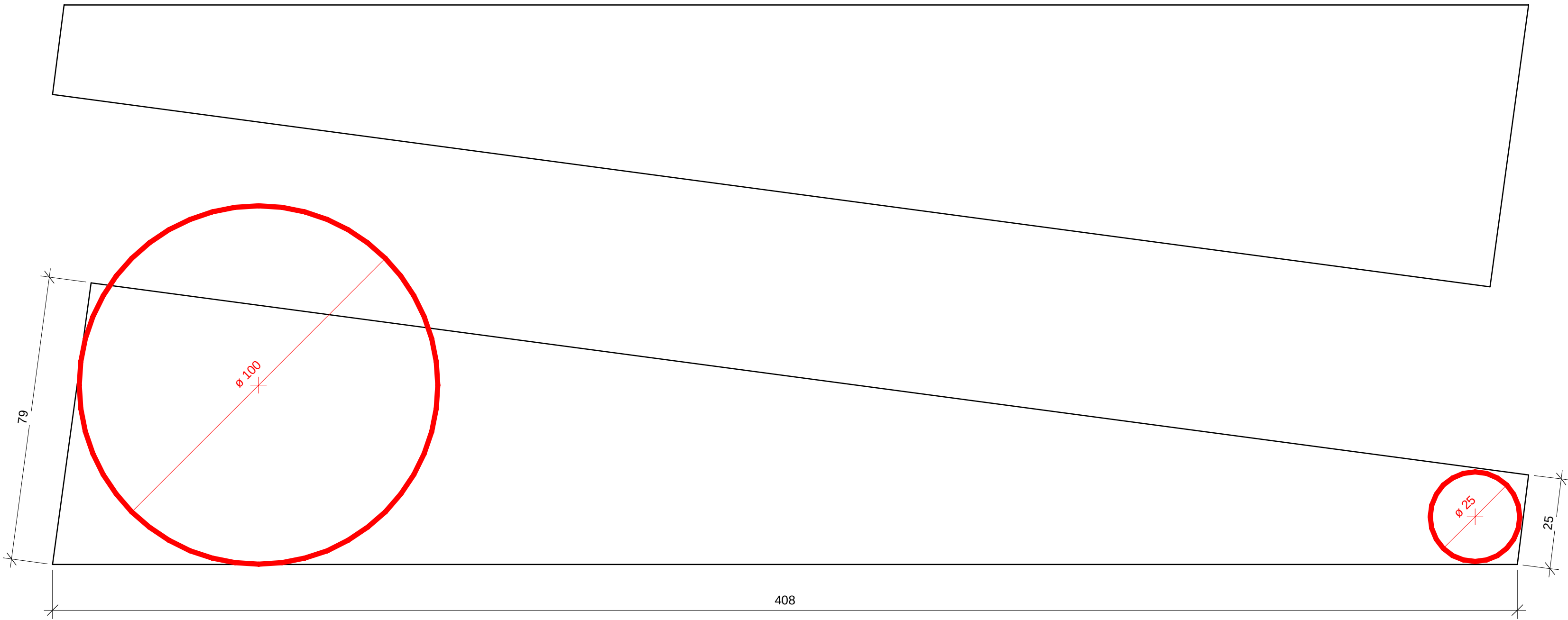
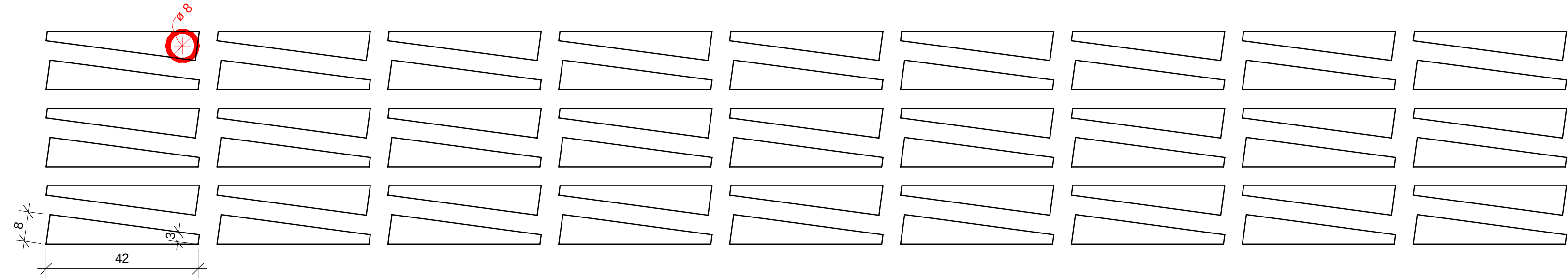
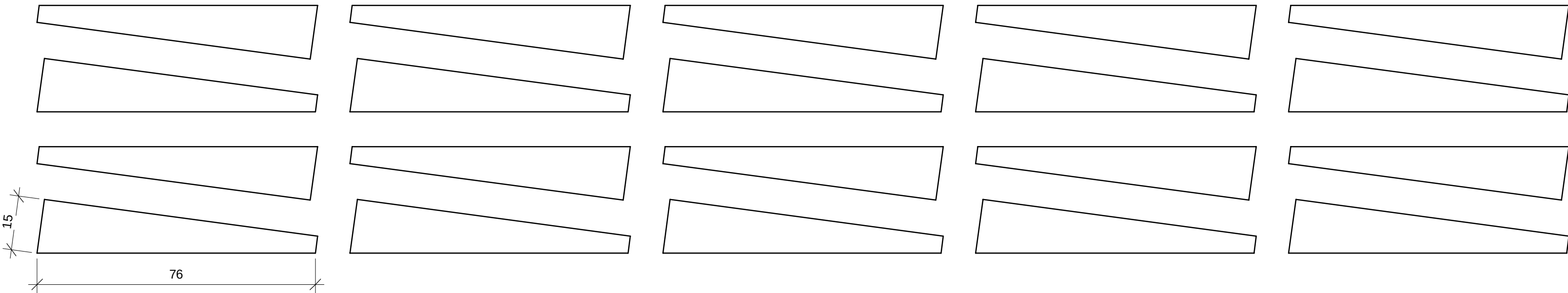




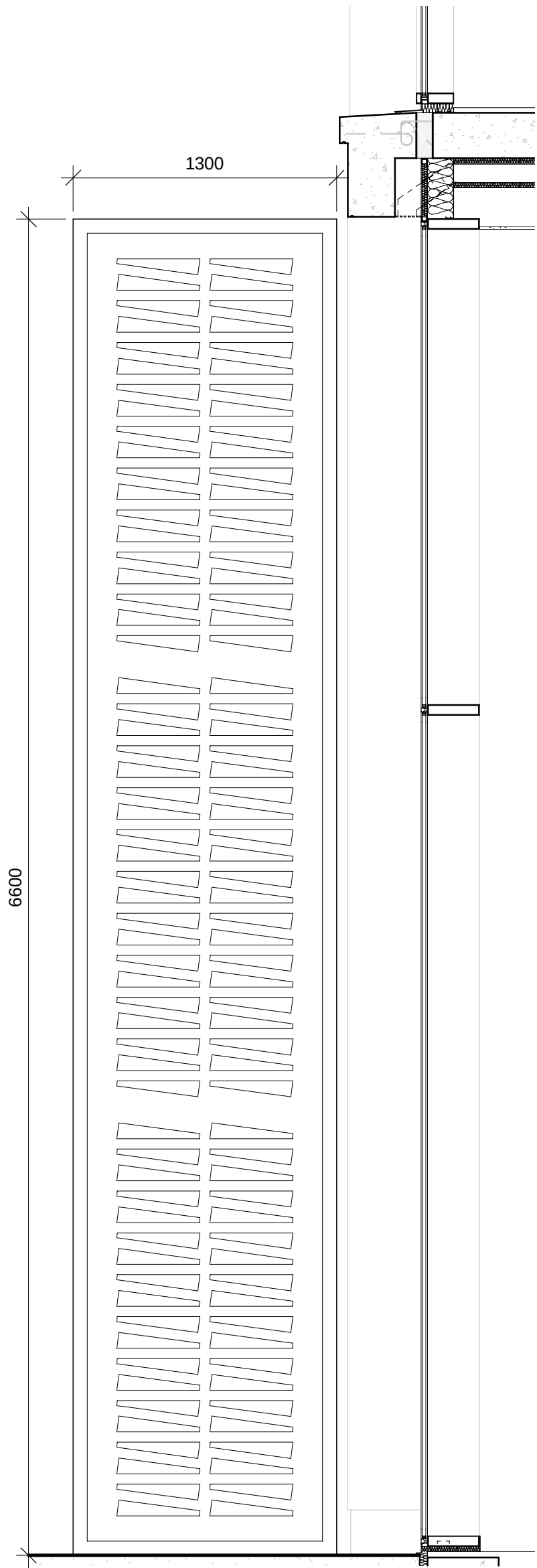
Perforation Option A: >25mm
1:1 @ A1



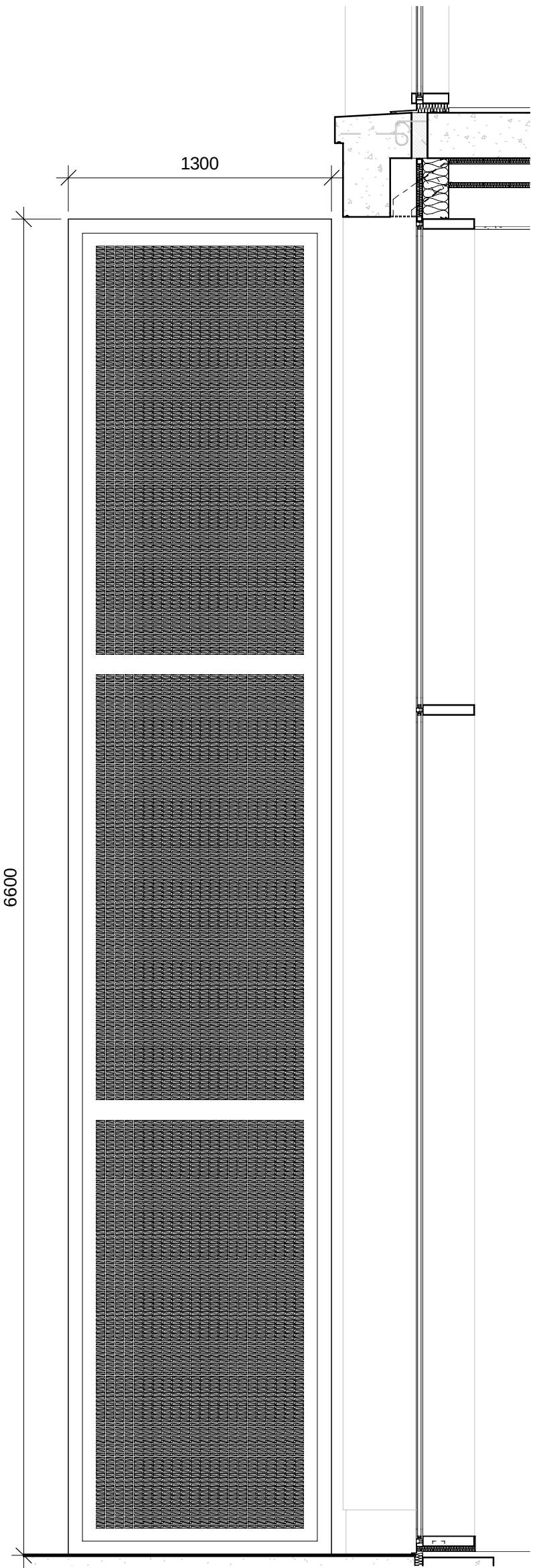
Perforation Option B: <8mm
1:1 @ A1



Typical Spandrel Panel Perforation Pattern
1:1 @ A1



Typical Wind Baffle Elevation
Perforation Option A: >25mm
1:25 @ A1



Typical Wind Baffle Elevation
Perforation Option B: <8mm
1:25 @ A1

Design Rationale

Requirements:

Perforations to wind mitigation baffles need to achieve porosity requirements defined for wind mitigation measures by wind microclimate study, and protection from entrapment requirements defined by Approved Document Part O.

Wind microclimate study requires that baffles achieve 25% porosity.

Approved Document Part O requires that openings are smaller than 8mm diameter or between 25mm and 100mm diameter.

Tested options:

It should be noted that because spandrel panels are inaccessible, protection from entrapment was not required. As such, the typical perforation pattern has been scaled to achieve the requirements of Approved Document O.

Option A increases perforations to between 25mm and 100mm.

Option B decreases perforations to below 8mm.

Conclusions:

Option A achieves 29% porosity; Option B achieves 33% porosity. Adjusting the perforation pattern used on the spandrel patterns to meet the required protection from entrapment results in designs which do not meet the porosity required for effective wind mitigation.

Due to the wide triangular shape used for perforations on the spandrel panels, Option A creates openings which are comfortably large enough for hands and feet to be inserted. We would have concerns about Option A creating climbable structures >6m in height.

In order to achieve effective protection from entrapment, Option B creates openings which are very small and a pattern which creates a very fine grain. We would have concerns both about the legibility of the pattern (which may begin to read as a mesh) and about the manufacturability of such a fine pattern.

We consider the originally proposed circular perforation pattern to be a more appropriate solution, as it provides both the required porosity and protection from entrapment, without compromising on legibility of pattern or creating an easily climbable structure.

This drawing is copyright.
Do not scale off dimensions.

All dimensions to be checked on
site by contractor.

Contractor to report any dimensional
discrepancies, errors or omissions
prior to commencing on site.

Rev	Date	Description
P01	2024-01-15	First Issue



Project Title
Swan House
2 Rochdale Road
Manchester

Status
FOR INFORMATION

Drawing Title
Wind Mitigation Baffle Sketch
Design Rationale
Sheet 1: review of alternative patterns

Project No 10133	Scale Varies @ A1	RG Series 90
SHP Drawing Code 32073-SHP-Z1-A-G740-SK-XX-001	Revision P01	

simpsonhaugh

Manchester
+44 (0)161 835 2345
London
+44 (0)20 7549 4000