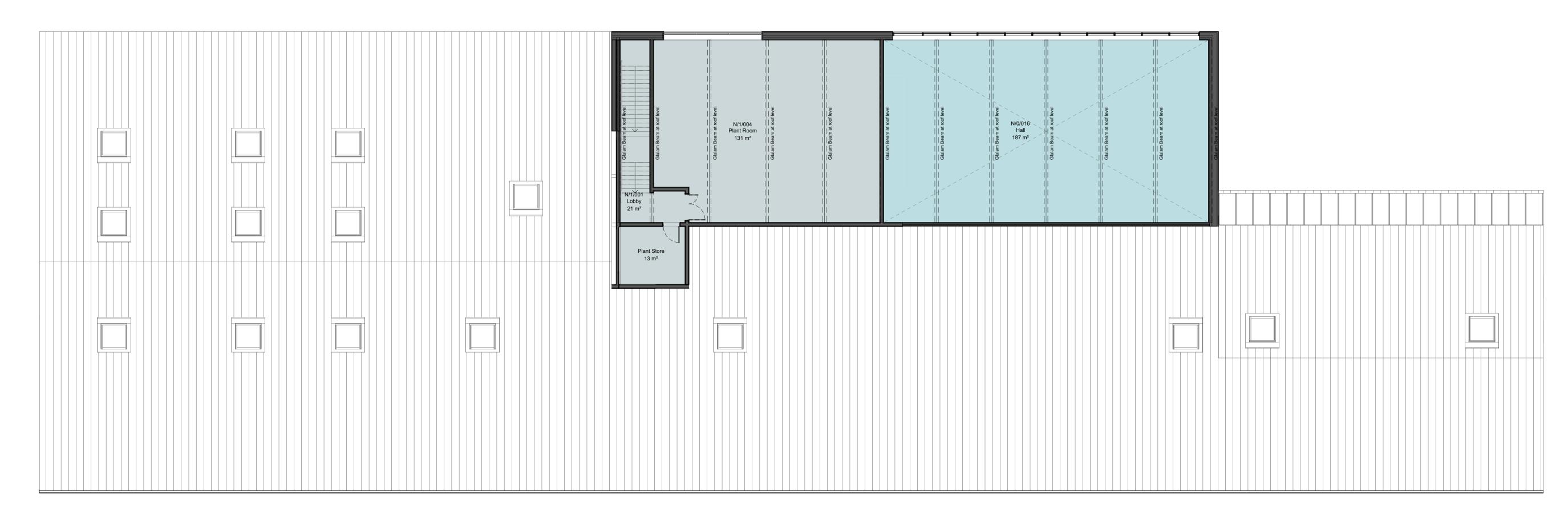




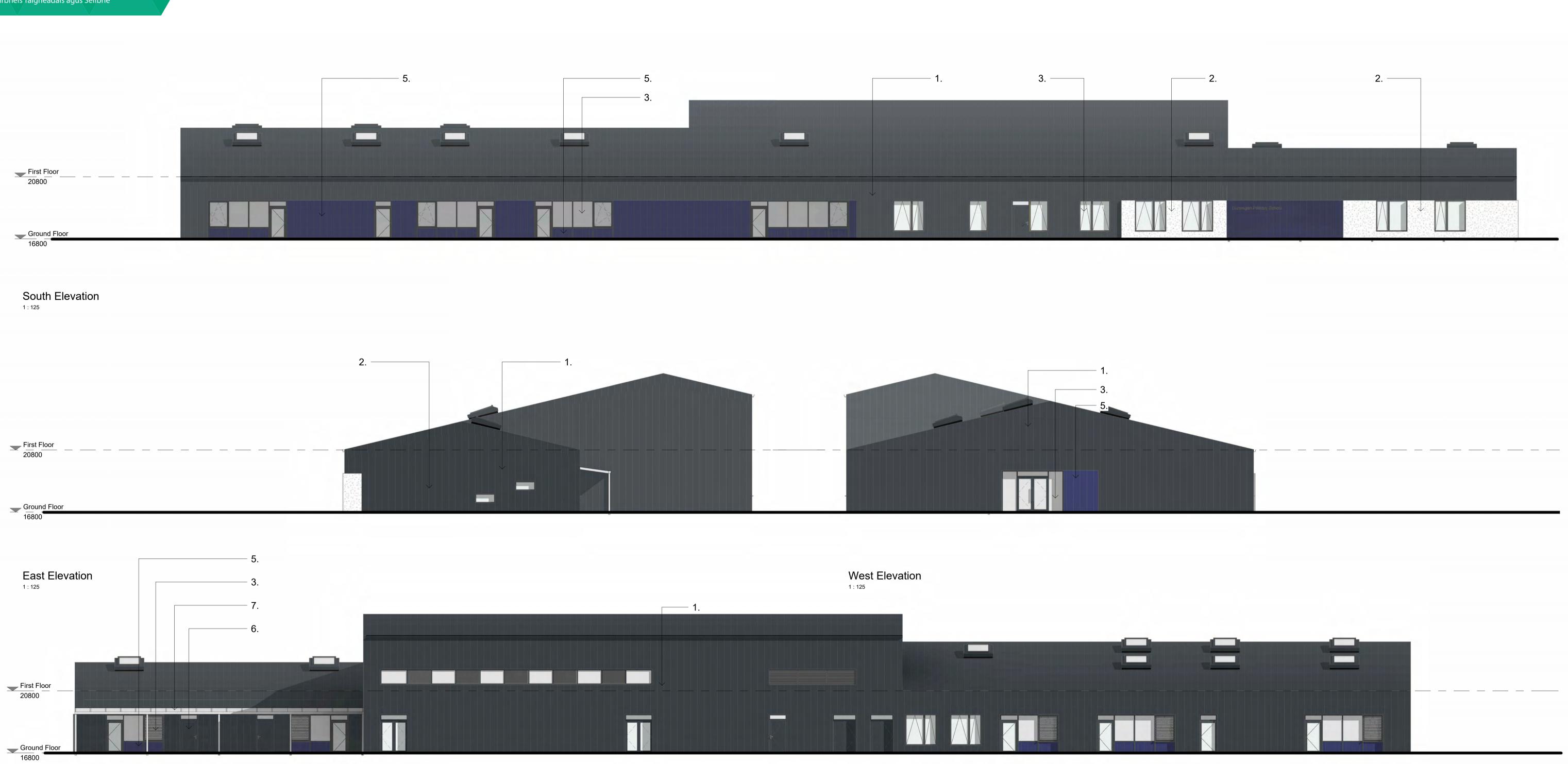


01 - Teaching
02 - Hall
03 - Staff
04 - Kitchen / Dining
05 - ASN
06 - Nursery
08 - Circulation

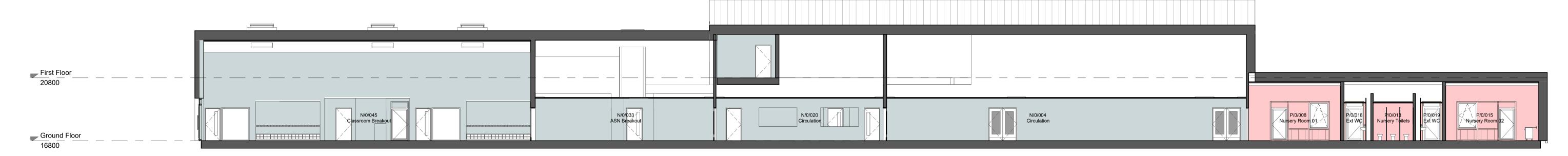


02 - Hall
08 - Circulation

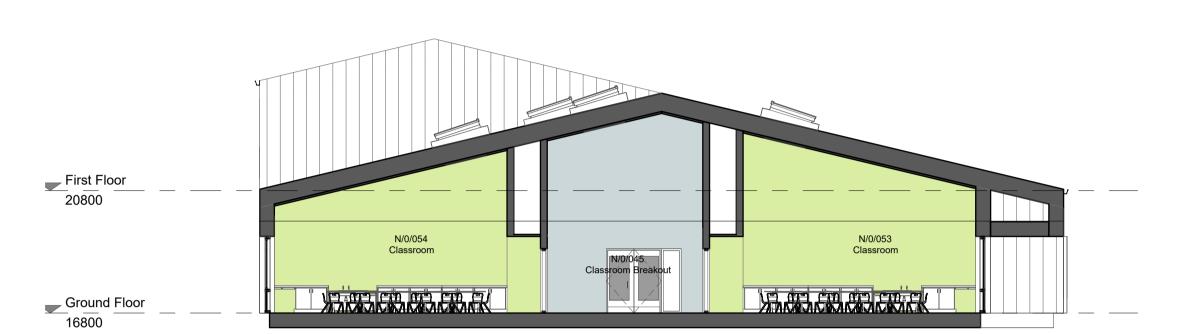




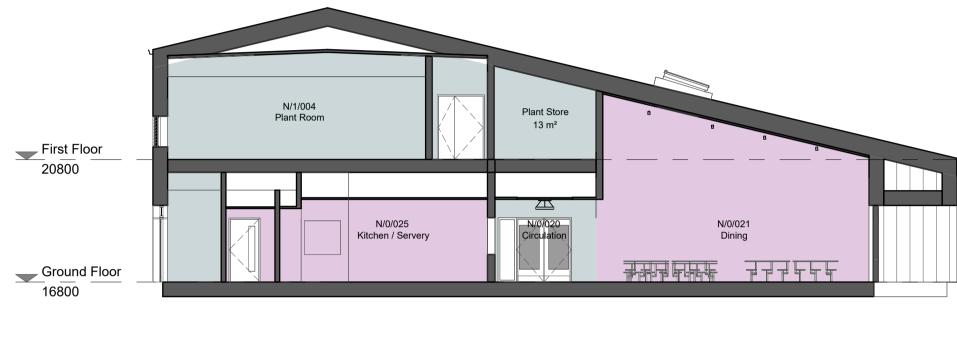




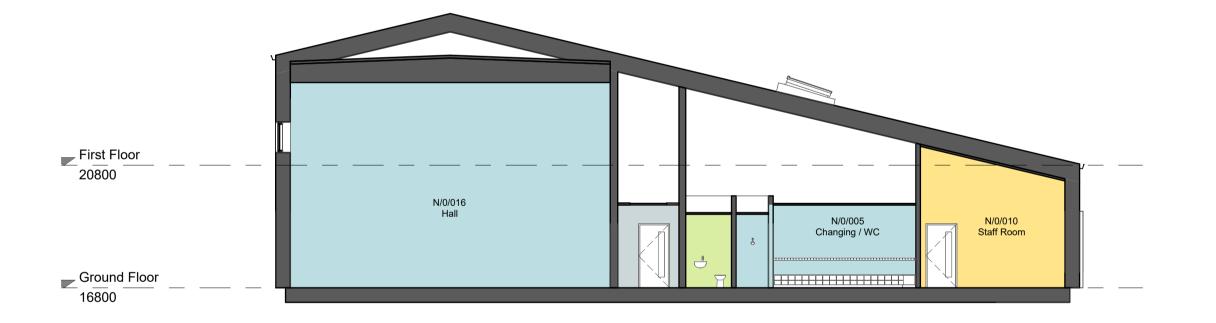
Section AA



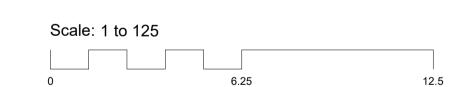
Section BB



Section CC

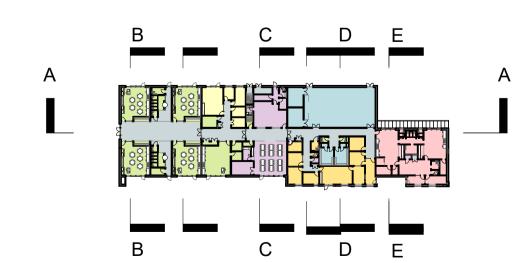


Section DD















01 - Teaching
02 - Hall
03 - Staff
04 - Kitchen / Dining

05 - ASN
06 - Nursery
08 - Circulation



























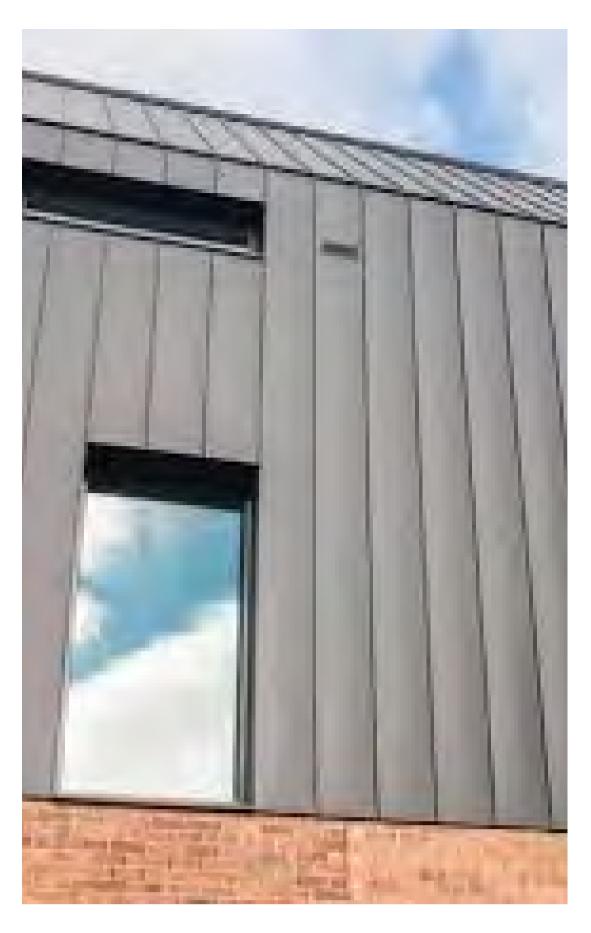




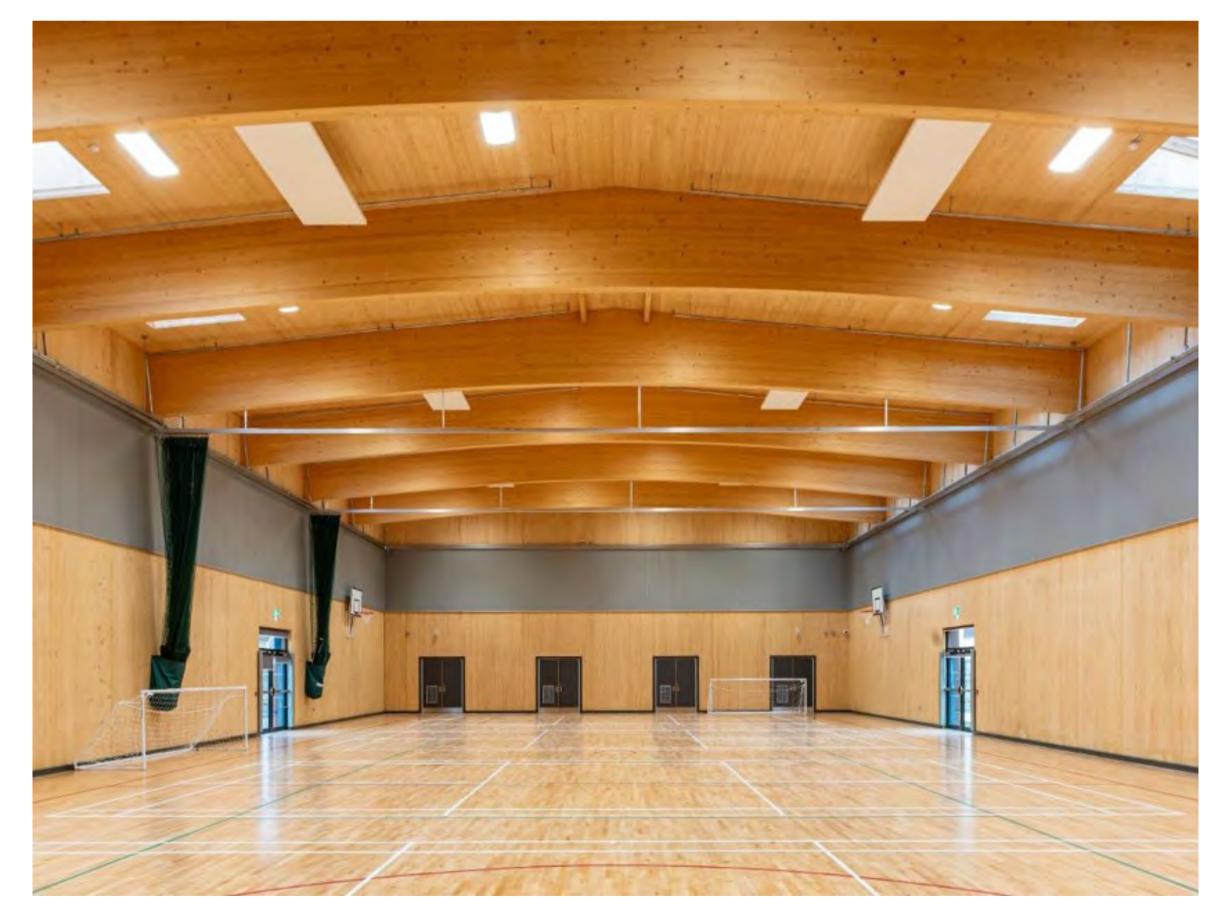










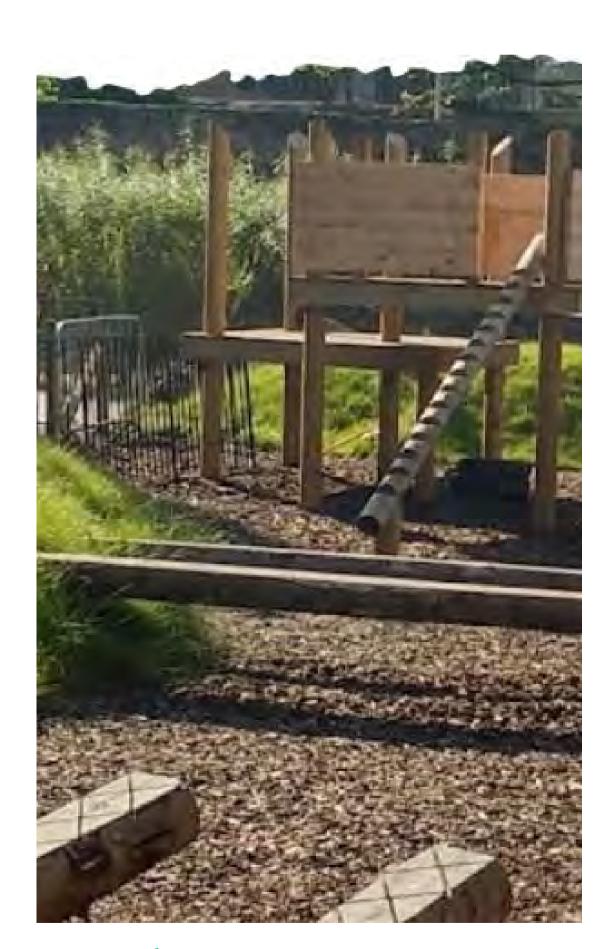






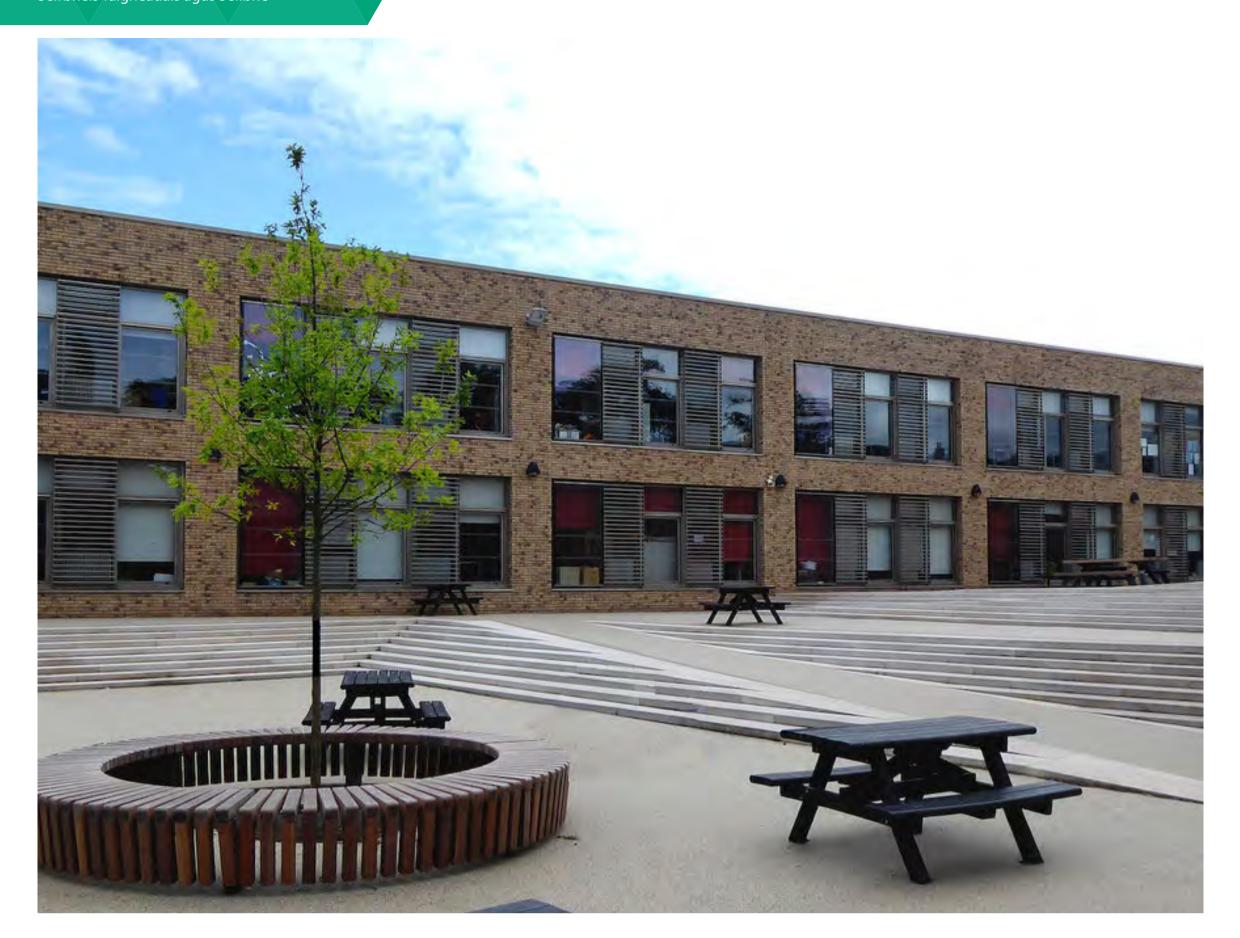










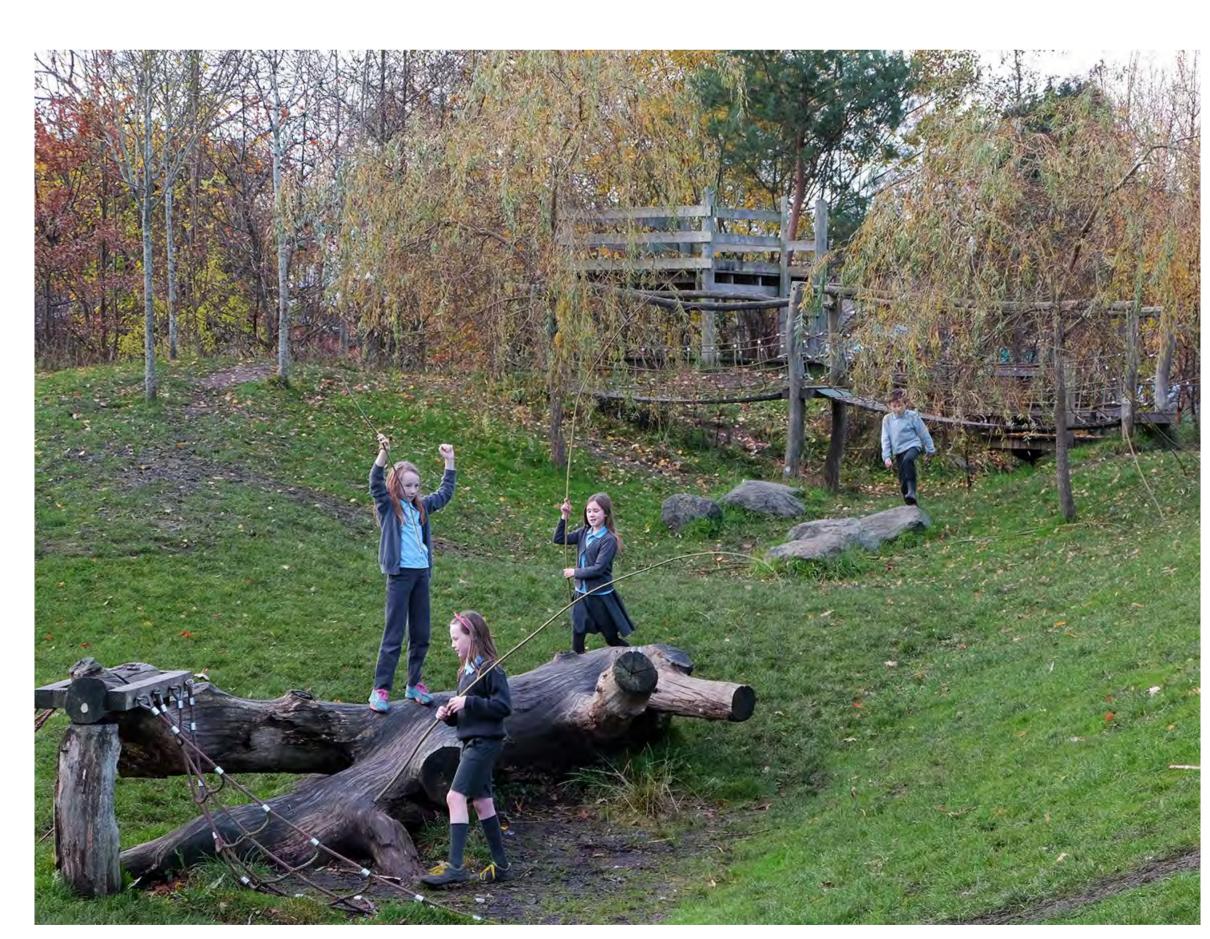












### PASSIVHAUS SCHOOLS

### What is Passivhaus?

Passivhaus is a proven and independently certified global energy performance standard that has consistently delivered high quality buildings around the world for the last 30 years. The standard sets performance targets for:

- Space Heat Demand (annual energy consumption to heat the building) < 15 kWh/m2/yr.
- Primary Energy Demand (annual energy for all heat, power & services from generation to end use). < 60 kWh/m2/yr.
- Airtightness (how many times the air in the building changes under a set

It also follows a rigorous whole-building quality assurance method during the design and construction. This process is guided by robust design tools and calculation methods and is independently assessed and certified.



#### **Benefits**



Lowers future demand for renewable energy

round **Improved** health & well

being of staff

students and

Delivers

consistent levels

of fresh air year-

buildings

learning

Resilient and

future-proof

Lower maintenance and management costs

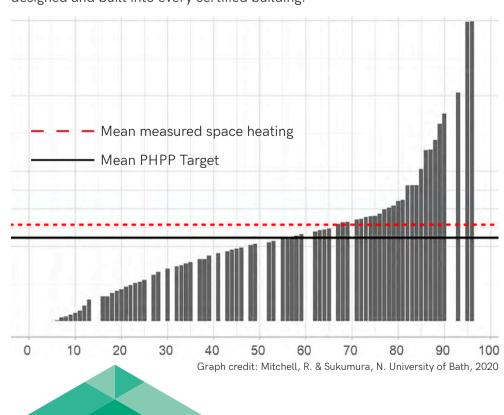
net zero

carbon

Lower cooling requirement in warming climate

### Closing the Gap

For over 30 years, Passivhaus projects around the world have been consistently closing the 'performance gap'—the difference between expected and actual energy performance. The graph below illustrates this in recent UK Passivhaus homes, showing space heating energy use. The minimal performance gap is evident between the 'mean PHPP target' and measured space heating. In addition to closing the energy performance gap, the adoption of Passivhaus also ensures exceptional comfort and broader benefits - as shown at left - all designed and built into every certified building.





#### **Buntingford School**

**Client:** Hertfordshire County Council

Passivhaus consultant: Sussed Sustainability

**Architect:** Holmes Miller

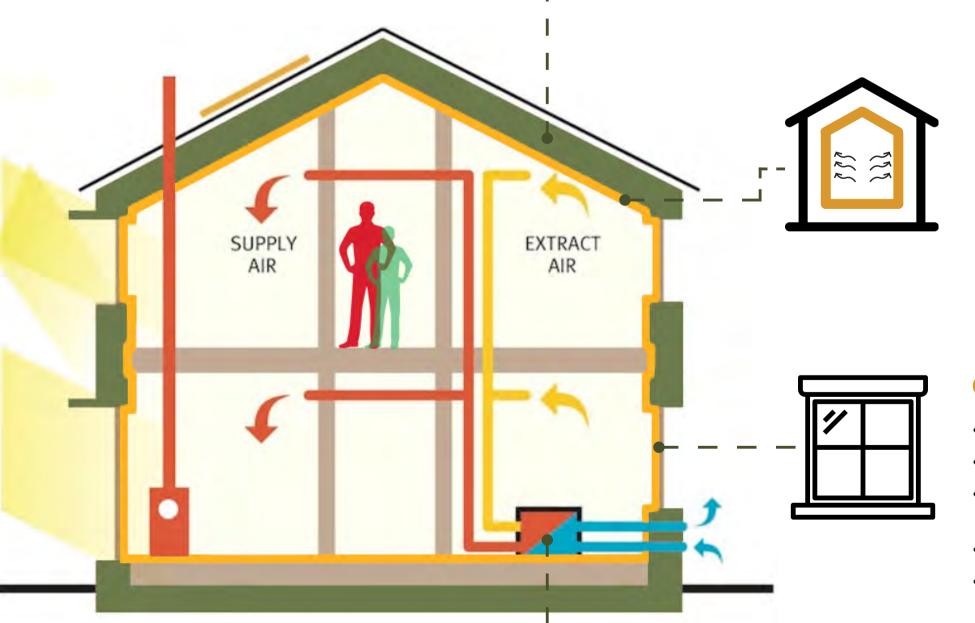
"Hertfordshire County Council came to us with a bold brief, meeting Passivhaus and net zero carbon objectives. We have collaborated with the whole team to deliver a bulding which meets these exacting standards whilst also creates a healthy, beautiful, and vibrant environment for children."

- Matt Bridgestock, Sussed Sustainability





# **Key Concepts**

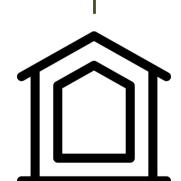


#### **Airtightness**

- Airtight building fabric
- Continuous airtightness layer
- Saves energy by reducing heat loss in winter
- Protects structure from moisture build-up
- Ensures that MVHR equipment operates efficiently

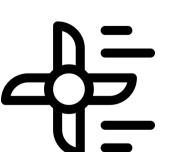
# Glazing

- Triple Glazed windows
- Optimal window sizing and shading design
- High performance windows enable design for daylighting - reducing demand for artificial lighting
- Aim to balance winter solar gain and summer comfort
- A mix of openable and fixed casements enables user control of natural ventilation



### Insulation

- High levels of insulation to whole building
- Thermal bridge free insulation continuous at junctions and openings
- Saves energy and reduces CO2 emissions
- Maintains comfortable surface temperatures in
- Keeps building cool in summer



### **Ventilation & Services**

- Mechanical ventilation with heat recovery (MVHR) dramatically reduces winter heating
- MVHR filters incoming air creating good indoor air
- Opening windows provide options for additional natural ventilation in summer
- Heat recovery combined with the other concepts mean it is easier to meet heat demand with smaller,

















Unit 4, Building 5, Templeton Business Centre 52 Templeton Street Glasgow, G40 1DA +44(0)141 550 1401

dualchas.com info@dualchas.com 912\_021

DRAWING SET CLIENT **PLANNING** 912\_LSHA

DRAWING TITLE **BLOCK PLAN** 

DRAWING NUMBER DRAWN BY ΙH

DATE 10/07/2020

2022-03-28 Drainage red line revised. Ditch added

Rev Date Note

0 20 30 40 50 M

Fas, Sabhal Mör Ostaig Sleat, išle of Skye IV44 8RQ +44 (0)1471 833 300

© Dualchas Architects. To be read in conjunction with the specification and all relevant drawings. Contractor to check all dimensions on site. Do not scale from this drawing. Architect to be advised of any variation between the drawings and site conditions.