

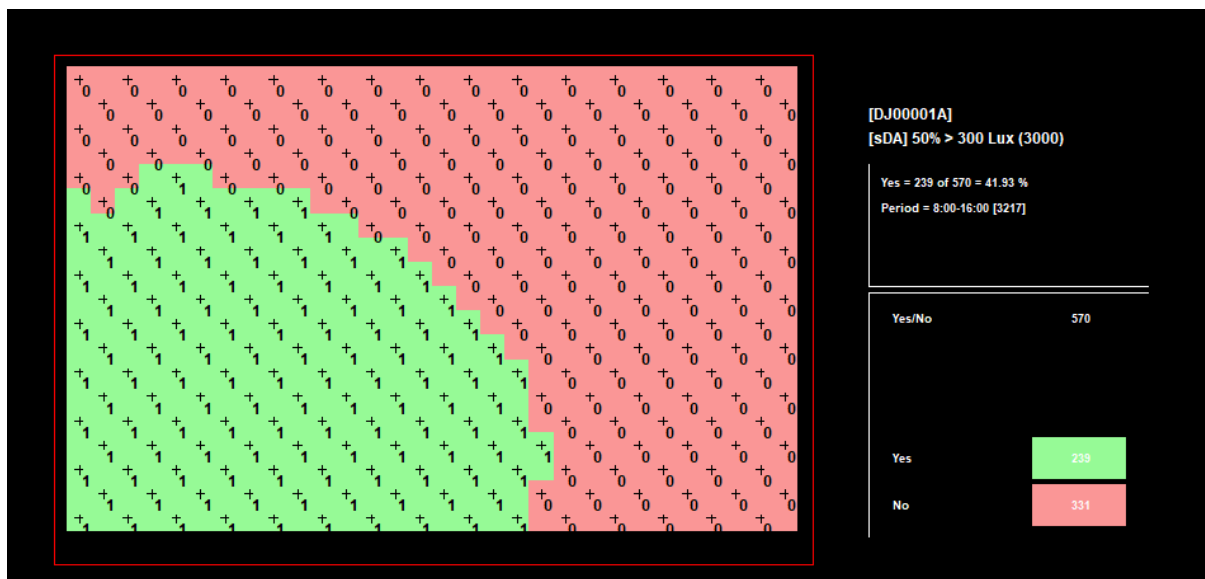
During the detail design process, it has become necessary to review aspects of the approved Planning scheme to resolve the requirements of the environmental design, in order to create optimal learning environment, as well as taking on board the recommendations of the Designing Out Crime Officer. The required changes are described below.

### Daylighting

Environmental conditions are closely related to the concentration and academic performance of students. Therefore Tower Hamlets requested a daylighting assessment of the approved scheme, which unfortunately failed to pass 'good practice' guidance for school classrooms. The daylighting assessor recommended we focus on the Classrooms, rather than the smaller group rooms where there is greater flexibility to locate the teaching area near to the window to benefit from natural light.

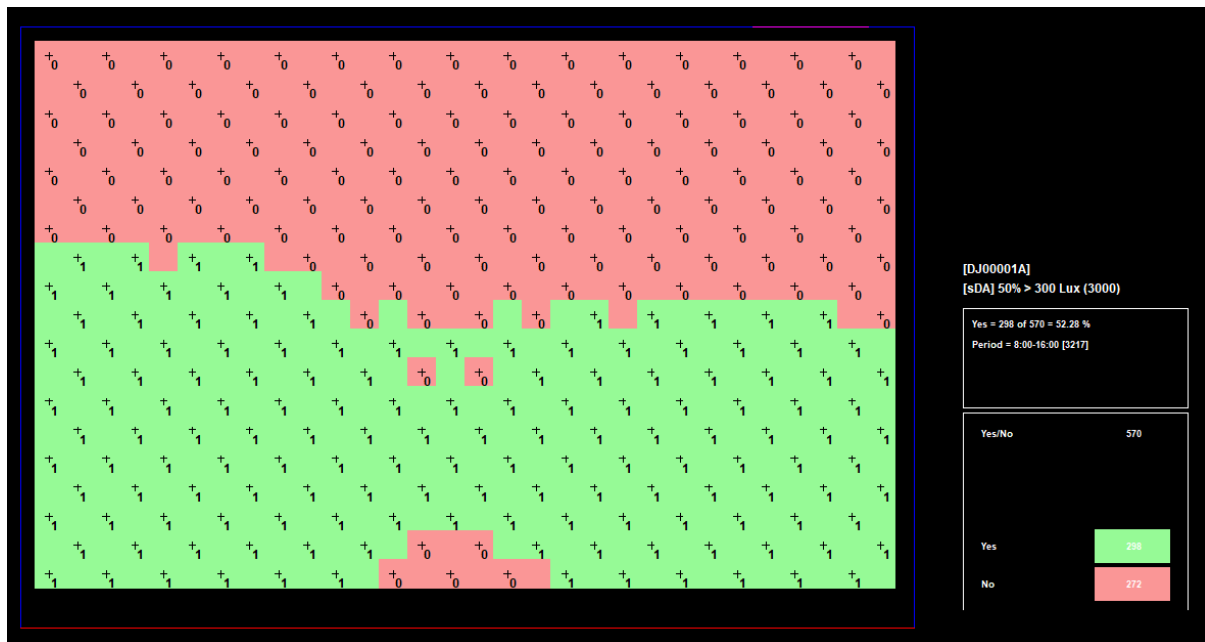
The window design was reviewed to increase the height and width of all windows to establish if this could achieve compliance. With the increased window sizes, the Ground Floor Classrooms are now compliant – this is based on adjusting the 3 smaller windows roughly equally placed within the room, which allows light to be evenly distributed.

However, the First Floor Classrooms had a single large window in the corner of each classroom to achieve the 'desired' elevation treatment/balance. Unfortunately, this has significantly compromised the quality of daylighting in these classrooms and they still failed to meet the criteria by a significant margin as a result. This is shown in the daylighting diagram below – nearly 42% of the classroom meets the required criteria, however 50% compliance is required to demonstrate good practice.



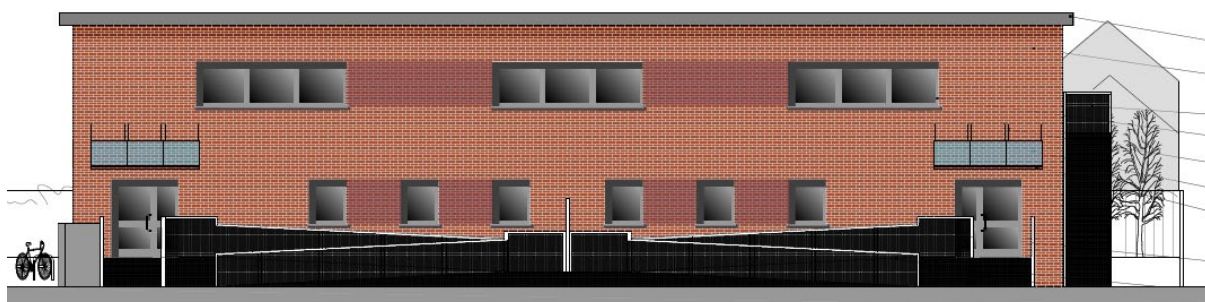
Daylighting Assessment – Typical First Floor Classroom

As such, we have proposed to split the large windows into two smaller windows which are more evenly spaced within the room. The example shown below, demonstrates a pass under both criteria. Further details are provided with the accompanying daylighting report.

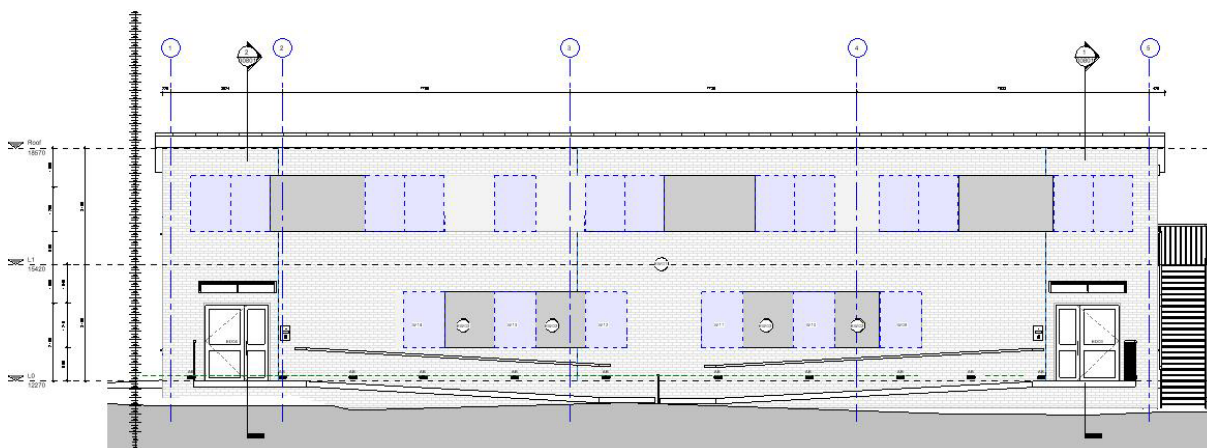


As a result of changes to the internal layout – following a strategic review by the Head Teacher – the placement of rooms at first floor is broken by the presence of a small office in the middle. The addition of a dedicated window improves the internal environment and also have a positive impact on the balance of the elevation. One external door at Ground Floor has also been replaced by a window.

To achieve the same design principles as the original scheme, we have connected each pair of windows by special brickwork - whereas previously there were 3 large windows, all connected together. We feel this achieves the same design aesthetic, but with the significant benefit of improving the teaching environment for the school's students.



*Planning Approved Scheme – Street Elevation*



*Proposed Alternative – Street Elevation*

### **Building Height & Roof Form**

Despite the need to increase window sizes to improve daylighting, the acoustic assessment of the existing site confirmed that the surrounding environment is too noisy for the windows to be used for ventilation. As a result, Mechanical Ventilation with Heat Recovery or Hybrid Ventilation is required in order to provide adequate ventilation, while also keeping noise levels to a minimum.

The slope of the existing site means the building needs to be raised on a plinth with stepped/ramped access. To minimise the impact on the street, the original design utilised 2.5m internal ceiling heights and minimal ceiling void – the minimum recommended ceiling height for classrooms is 2.7m.

These ventilation units are sizable and required to be located within the ceiling void, which subsequently has to increase to provide sufficient space. As the ceiling heights are already lower than recommended, there we are unable to reduce them further, and it has become necessary to raise the overall height of the building to accommodate the MVHR units. By changing from a curve roof to a mono-pitched roof, we are able to minimise the overall increase in building height.

Development of the heating/cooling strategy have also allowed us to significantly reduce the quantity of external plant, by have a centralised system rather than room-by-room. This removes the need for louvred enclosures to either side of the building and results in more space around the cycle racks.

### **Secured By Design**

Following consultation with the local Designing Out Crime Officer (DOCO), we have made minor changes to the external fencing. This includes creating secure bike stores, increasing the height of fencing to the recycling centre and adding a trellis topper around the rear garden to ensure we achieve a minimum of 2.4m secure boundary throughout.

We have also relocated the refuse store from underneath the fire escape – this avoids it being used as a climbing aid as well as posing a fire risk.

**Trees**

The original scheme transplanted a number of trees into new position, however the condition of these trees was deemed to be poor and would not survive the transplantation. As such, these are being replaced instead. Furthermore, a significant complaint was received from a neighbouring resident regarding a number of existing trees. It has therefore been agreed to remove these and replace them away from the boundary so as not to cause a nuisance. Extensive consultation has been undertaken with the Tree officer & Biodiversity officer regarding the proposed removal & replacement. Further details are provided in the accompanying arboricultural report.