Commentary by Pell Frischmann, RIBA stage 2 level of detail.

Structural approach to option 2

This option seeks to retain and reuse as much of the existing substructure and superstructure as possible. However the addition of several stories to a building with little spare capacity and complex existing foundations\basement is a significant undertaking. Hence additional new foundations, column strengthening and new shear walls are all required in this option. There is are primary cantilevered transfer beams at first floor, all will need strengthening.

Temporary works :

There is major intervention to an existing building and the temporary works will be extensive, will have multiple phases and will be complex.

Impact on existing foundations :

The additional stories impose significant additional vertical load lateral load on the existing foundations. New supplementary piles and new pile caps will need to be installed alongside existing, this will be slow and complex.

