

7 Proposed Structure

7.1 Overview

The proposed scheme involves the demolition of the existing building with the exception of the partywalls which will need to be retained. Once this is complete the underpinning works and retaining walls will be constructed, followed and the basement excavation. Refer to Section 8 for details of the sequencing, and Appendix A for further details of the proposed structure.

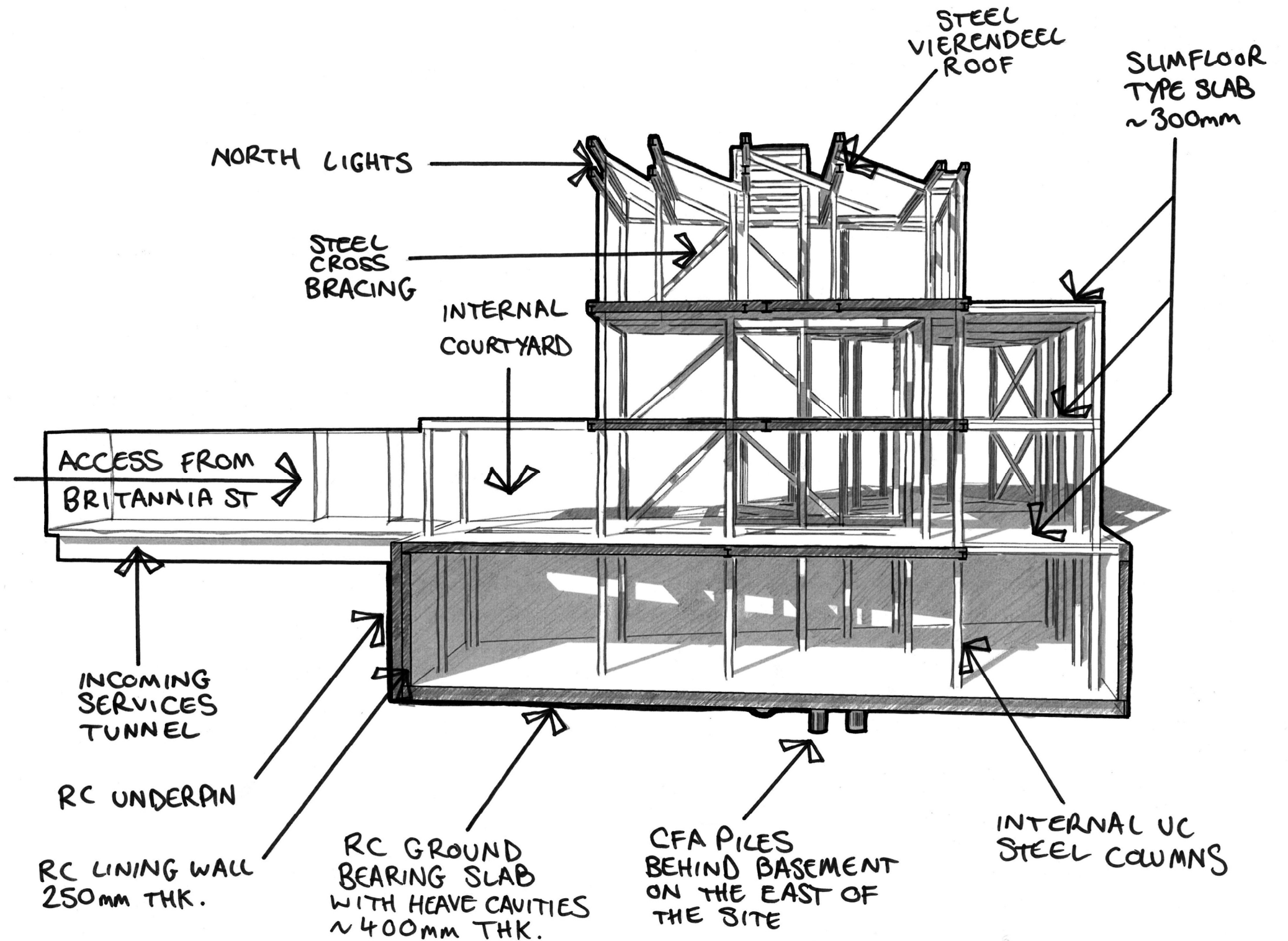
7.2 Superstructure

The proposed superstructure will be an integrated steel beam and composite deck type slab with depths of approximately 300mm, built in the conventional sequence of works.

The Steel section will be Steel UC section with support plates welded to their base to support the composite deck. Some transfer beams will be incorporated, however the columns are predominantly continuous to foundation level, these forces will be supported with the new linings wall and raft slab.

The development has a proposed average service load of 54kN/m² as a summation of all floors, which will result in a net reduction in load once the removal of the soil is accounted for. As such, the basement slab will be designed for the resultant heave due to unloading of the soil, and hydrostatic uplift.

The ground and basement floor slab will act as rigid diaphragms to restrain the top and base of the retaining walls and transfer lateral earth pressures from each retaining wall to the opposing side. Where lightwells are required at the ground level, the wall will require sufficient stiffness to ensure the retaining walls will prevent appreciable movement.



Concept Perspective Illustration of Proposed Structure with Cut