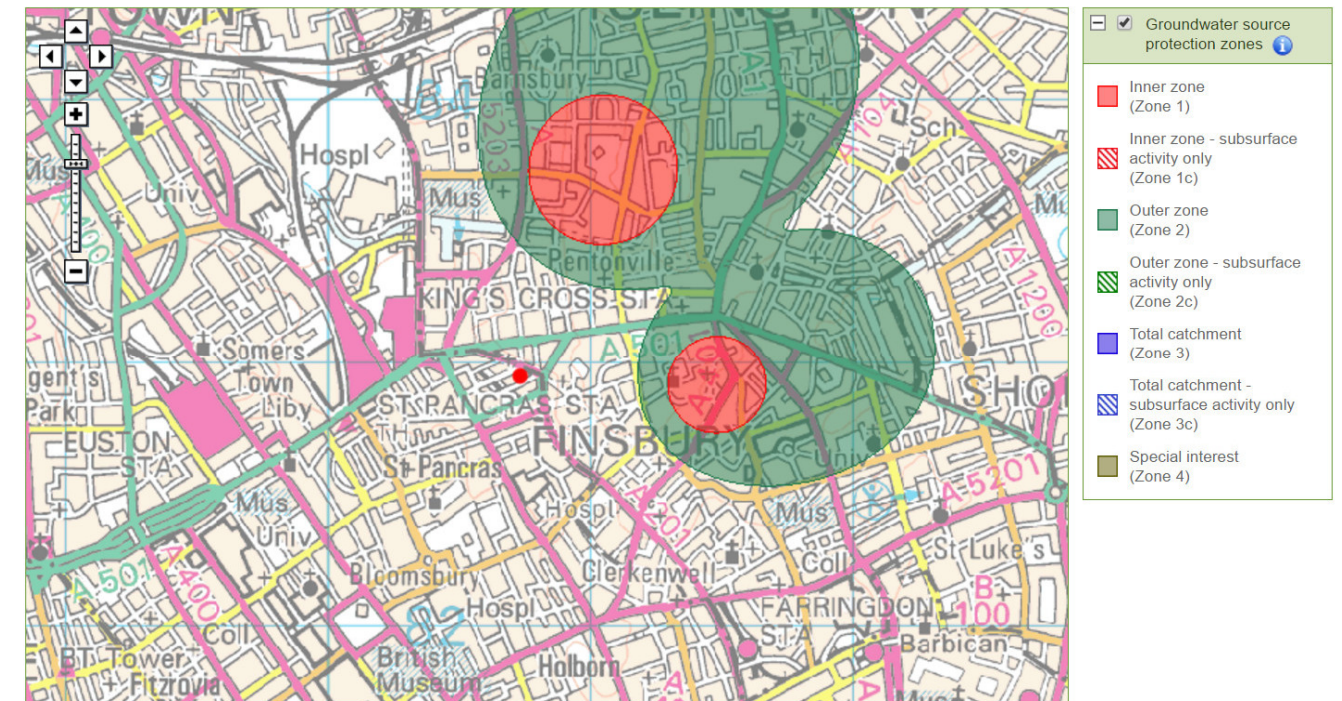


4.5 Hydrology and Hydrogeology

The site hydrogeology is outlined in detail within the GEA report and can be summarised as follows:

1. The Environment Agency Maps shows the site is outside of the Environment Agencies Source Protection Zone (SPZ)
2. The London Clay is classified as an Unproductive Stratum, which refers to rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow, as defined by the Environment Agency (EA). Any groundwater flow within the London Clay will be at a very slow rate, due to its negligible permeability. The permeability will be predominantly secondary, through fissures in the clay.
3. Surface water features such as canals and ponds are not present in the locality.
4. The route of river fleet has which has been shown to have historically run through Kings Cross Road along its route to the Thames has been assessed, the report concludes “The Fleet is now entirely covered and culverted and plans of the nearby sewer system, which indicate a major sewer to follow the line of King’s Cross Road, presumably represents the course of the former river. It is likely that any groundwater flow beneath the site within the London Clay Formation would follow topographic contours, although the site is located within a topographical basin, with an Ordnance Datum level of between 10 m OD and 15 m OD.”
5. The site is not at risk of flooding from rivers or sea, and is defined by the Environment Agency as being within an area of low risk of surface water flooding, see section 17 *Assessment of Flood Risk* of this report for further details



SPZ zones within Camden

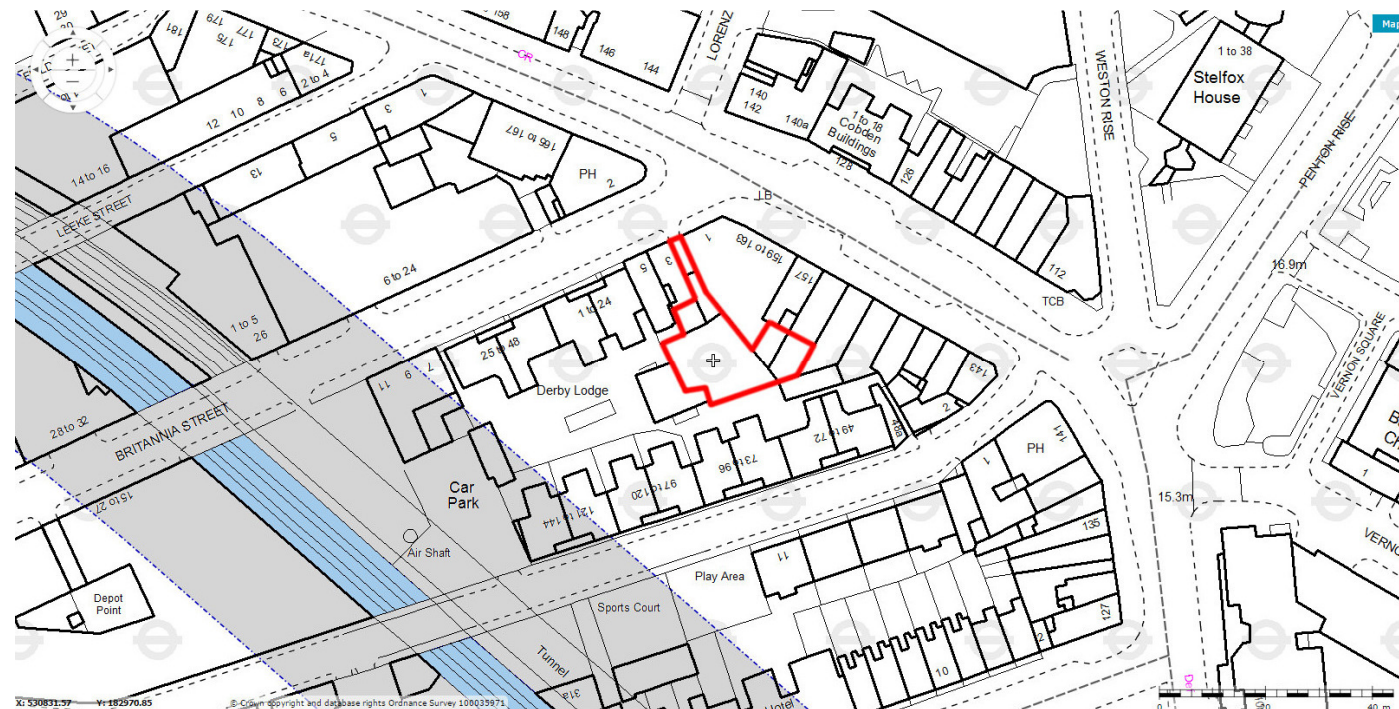


River Fleet

5 Underground Rail Assets

5.1 Current LUL Assets

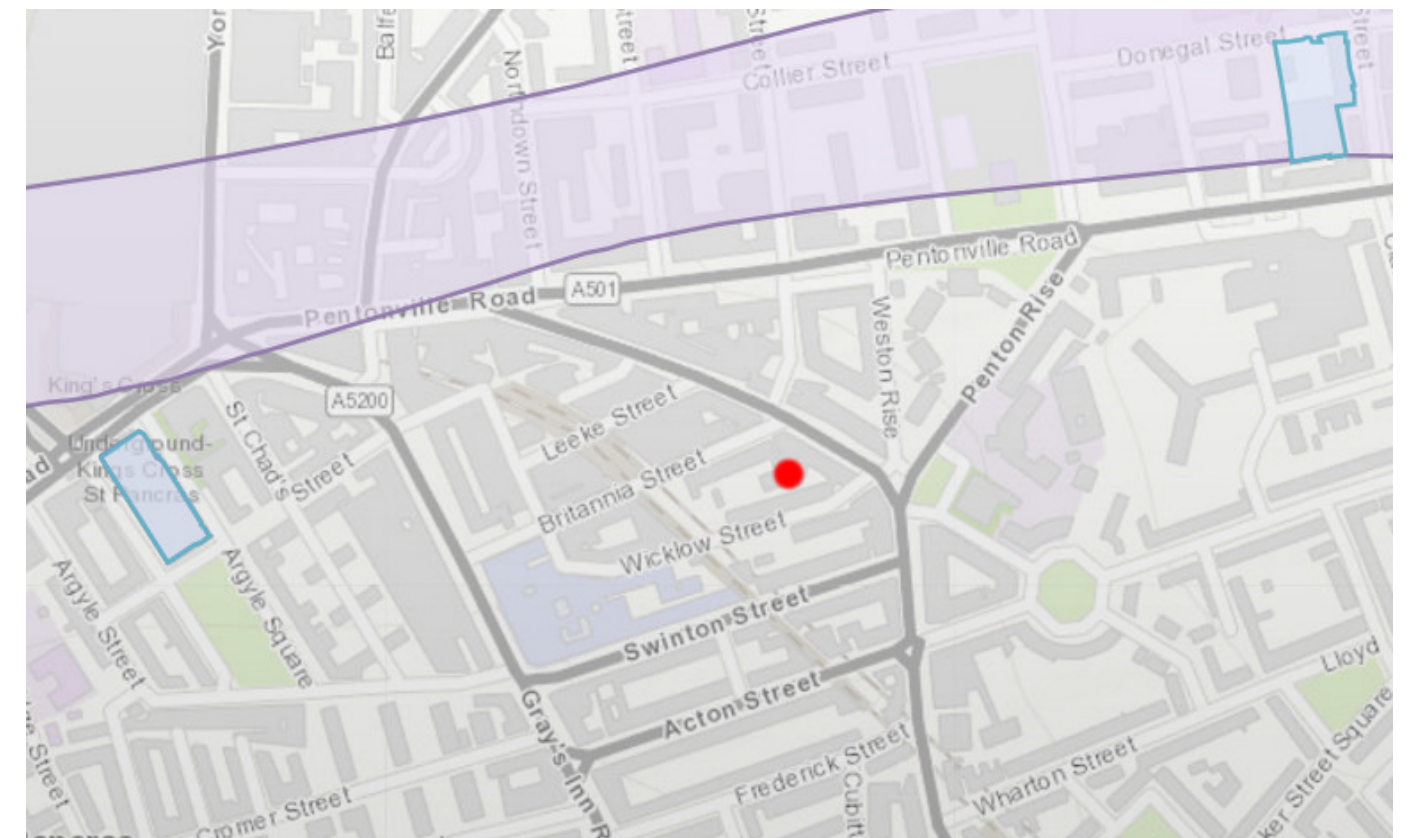
The Metropolitan, Circle, and Hammersmith Lines between Kings Cross and Farringdon pass through a sunken route which passes under Britannia Street, the site and proposed works are entirely clear of the LUL exclusion zone and as such will not impact on the LUL assets.



LUL Exclusion Zone Map

5.2 Crossrail 2 Safeguarding Zone

As with the existing railways, the site is outside of the safeguarding zone the future development of Crossrail 2 which broadly follows the Pentonville road route, and as such does not impact the development in question.



Crossrail 2 Safeguarding Zone Map

6 Existing Structure

6.1 Material and Geometry

The existing building on the site is loadbearing masonry structure with masonry corbel footings, the double hipped roof is supported by a series of Fink Trusses of mild steel angles which bear directly into the masonry walls. The north side of the structure which leads toward Britannia Street has a newer timber roof bearing on the older masonry walls, and there is an internal steel floor structurally independent of the main structure which occupies most of the warehouse space, this is supported directly on the concrete ground bearing slab. The observations given here are based on visual inspection and trial pitting works only.

6.2 Soil Load Profile

Based on the above observations and estimations of the Storage Live Load, an ‘all-up load’ of 9kN/m2 has been calculated to establish an existing surcharge on the ground.

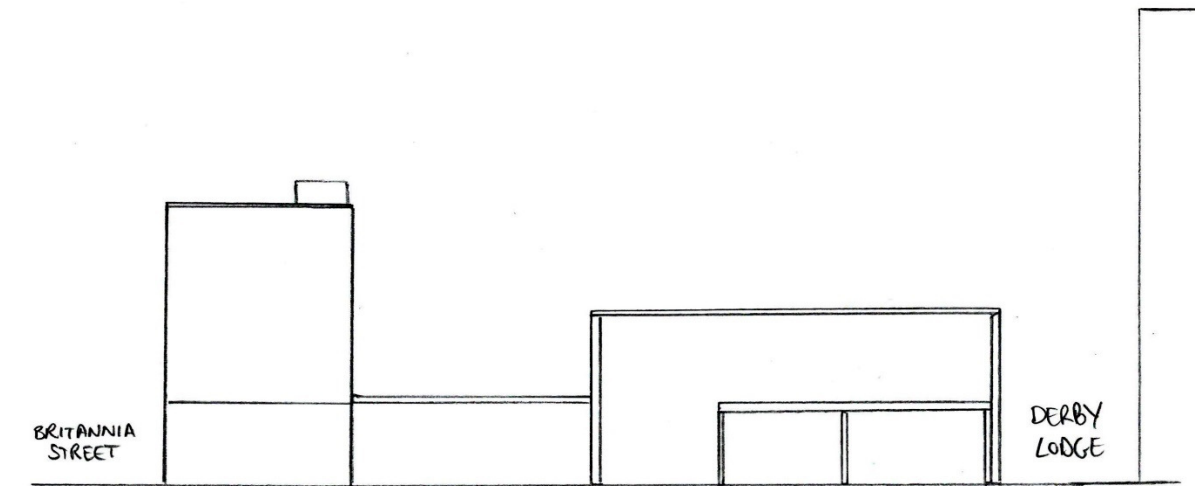
6.3 Foundations

6.3.1 Internal Foundations

The internal structurally independent steel frame is unlikely to have its own foundation as this appears to have been built at a later date from the surrounding structure, and an attempt has been made to spread the steel column load above slab level, this indicates that this frame is likely to be supported directly by the ground bearing slab.

6.3.2 Perimeter Foundations

The trial pitting works have shown that the masonry walls are supported on masonry corbel foundations, typically at a depth of -1.5m below ground level, however some variation in this level exists across the site. Foundation maximum depths are shown in the following table.

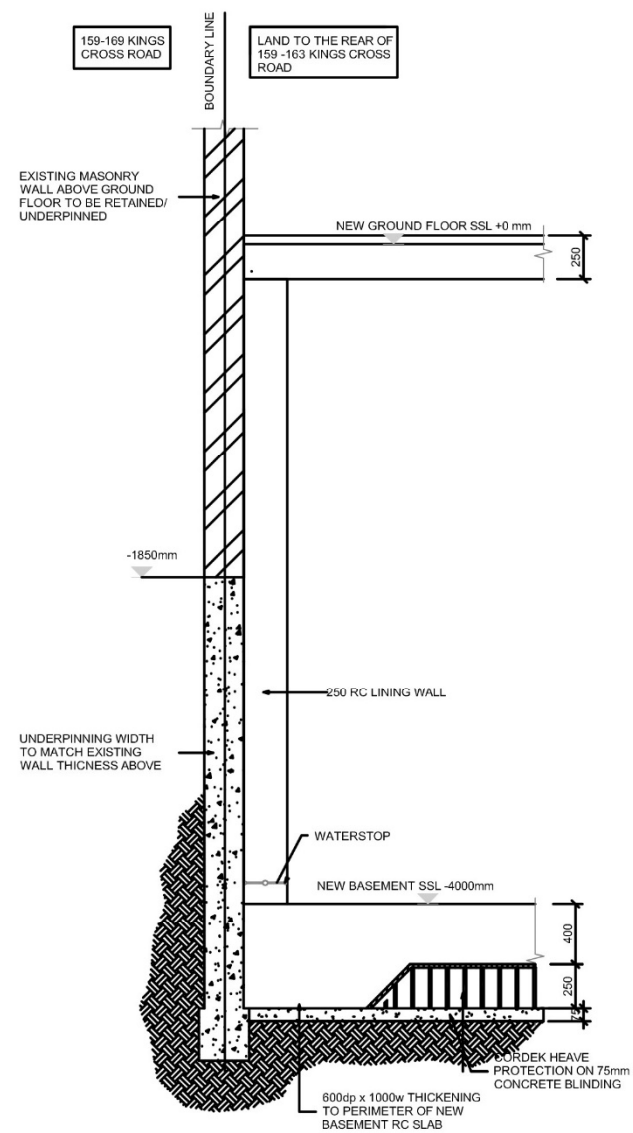


Section X-X

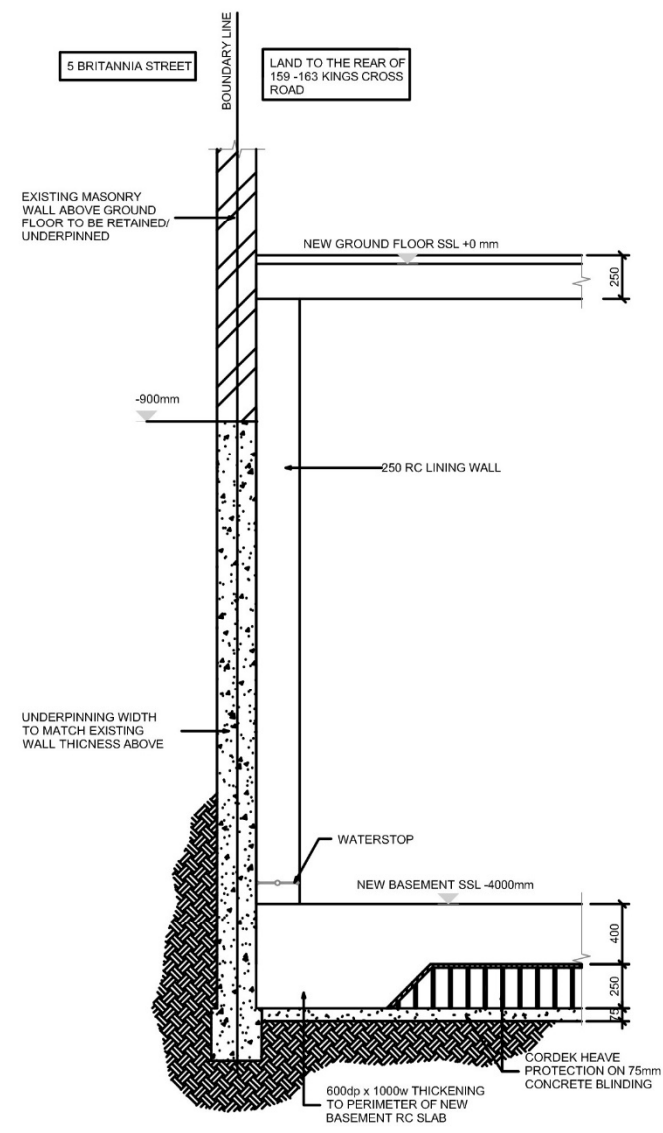
TRIAL PIT DATA		
Partywall Shared With	Trial Pit Number	Depth Below Ground (mm)
1 Britannia Street	TP1	-4,000+ (Underpinned)
3 Britannia Street	TP2	-1,900
3 and 5 Britannia Street	TP3	-900
5 Britannia Street and Derby Lodge	TP4	-1,420
Derby Lodge	TP5	-1,430
Derby Lodge	TP6	-1,300
153 Kings Cross Road	TP7	-1,460
153-155 Kings Cross Road	TP8	-1,400
159-163 and 157 Kings Cross Road	TP9	-1,700+
159-163 Kings Cross Road	TP10	-1,850



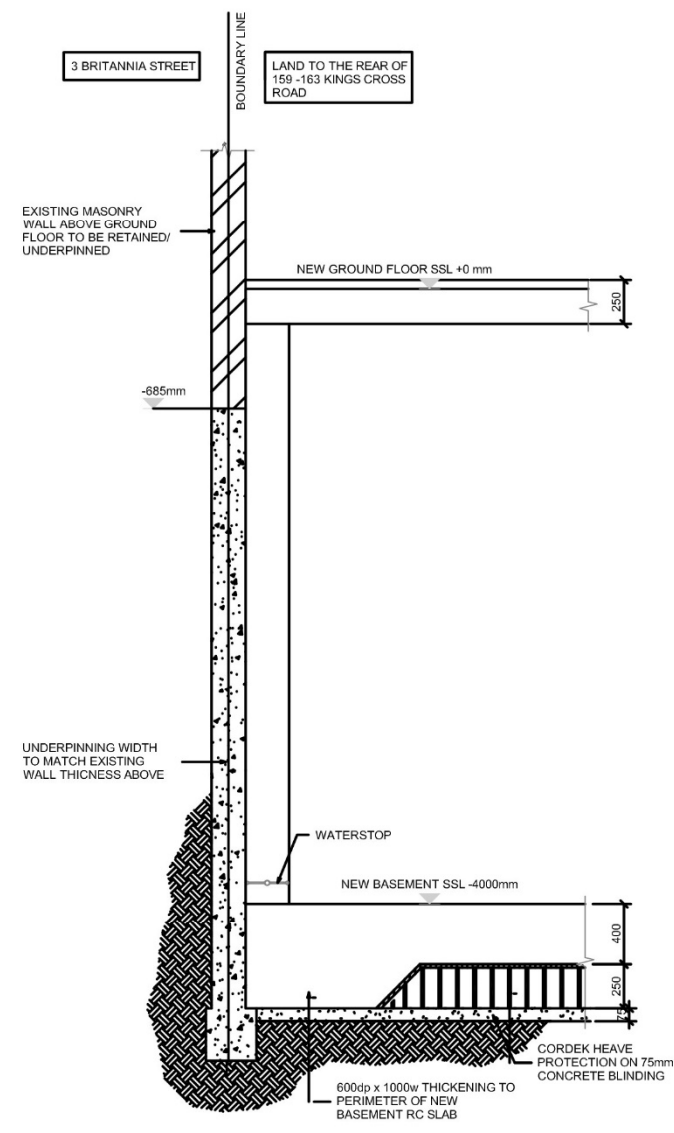
Measured Survey Plan of LVL0



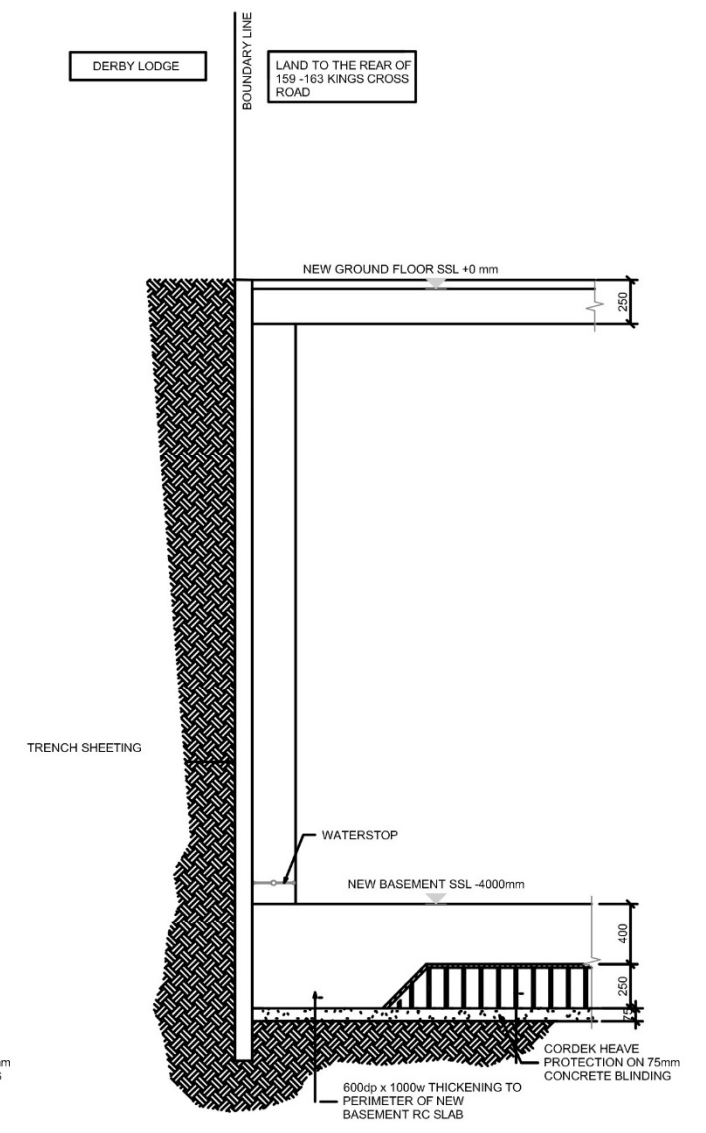
South Boundary
159-163 Kings Cross Road



East Boundary
5 Britannia Street



North Boundary
3 Britannia Street



South Boundary
Derby Lodge

Sections Through Retaining Walls showing nearby Foundations