

Design and Access Statement

Royal Berkshire NHS Foundation Trust
North Block East Wing, London Road, Reading

The Proposals

The East Wing of the Royal Berkshire Hospital is an extension to the main hospital that was constructed in 1865. The 3-storey grade 2* listed building is of traditional construction, comprising loadbearing masonry, suspended timber upper floors and a timber roof. The external elevations are clad with Bath Stone. The building has been unoccupied since 2008.

The interior and exterior of the building are currently in poor condition. Much of the upper floors and roof is suffering from wet and dry rot. The main staircase between the ground and first floor has collapsed and areas of the upper floor have been reported as unsafe due to rot. An environmental investigation has highlighted the risk of toxic mould. Rainwater ingress has been halted due to the installation of a temporary roof and weather protection to the elevations.

The building is founded on shallow stepped brick strip footings. Due to localised poor ground conditions (common across the site), the northern end has subsided, evidenced by significant cracking to the walls visible from inside and outside of the building.

Consent was granted in June 2021 for a concrete piled underpinning solution to the subsidence (201826). This was a very intrusive solution and involved the installation of a large volume of concrete.

Since then we have carried out further ground investigations and Stantec have proposed an alternative method of remedying the subsidence as outlined below.

Therefore, this proposal seeks Listed Building Consent for the insertion of localised ground stabilisation rather than the intrusive underpinning solution.

The installation of a new below ground storm and foul sewer network, consented under the same application, remains our intention subject to ground investigation which will be carried out once the scaffolding is removed.

Listed Building applications for the restoration and then conversion of the building will follow on from this. Our priorities are firstly to stabilise the structure, and then follow on with applications to make the building watertight and then to convert the building for the Trust's use.

We also attach a full Heritage Report written by Worlledge Associates.

Design

The details of the design are set out in the attached Structural Engineers drawings.

Any impact on the ground floor of the building, where existing floorboards need lifting to allow access, have been consented under the previous application.

Preliminary analysis of data from probe testing of the ground around the building indicates that there are multiple voids in the ground supporting the building, likely solution features. The pattern of superstructure damage indicates that it is primarily caused by the foundation movement associated with these voids.

The existing consented scheme proposes piled ground beams to underpin the entire building. In our opinion, this is not the most appropriate method for stabilising this building and as such we propose using an injection grouted alternative for the following reasons:

- The majority of the building does not exhibit indications of foundation movement. The foundations can therefore generally be considered adequate and the damage can be attributed to localised issues with the supporting ground (corroborated by the probing results). Piling will not address the issues with ground but instead bypass them and support the walls on discreet piled ground beams. This leaves the voids untreated and changes the way the foundations are working. A grouted solution does improve the ground which allows the existing, adequate, foundations to continue functioning as originally intended. It is therefore an honest and robust solution.
- Pile installation and construction of reinforced concrete ground beams can be an intrusive operation with a potentially elevated risk of damage to the existing fabric, especially considering the extent and spacing proposed in the consented scheme. Grout injection is a ground stabilisation technique and therefore no construction works are required immediately adjacent to existing building elements. The extent of grouting can also be targeted to only treat the necessary areas, whereas the piled scheme was proposed across the whole building.
- Ground beam construction requires exposing lengths of existing wall and leaving them temporarily unsupported over a certain length. Given the condition of the walls this approach could increase the risk of further movement or damage to the superstructure. The injection grouting alternative does not require alteration of the foundations and can be carefully controlled to minimise the risk of movement.

Access

Improved accessibility to the building will be addressed in a future application which will seek to convert the building for use (probably administration) by Royal Berkshire Hospital.