

Project:	Charles Gordon House	Project No:	03129
Prepared By:	Linsey Chambers	Date:	03/10/2023
Present:	Linsey Chambers	Weather:	Dry, sunny, mild

Background:

Charles Gordon House is a Grade II Listed residential property located at 5 Rockstone Place in Southampton. It is central to a group of 3 houses dating from Circa 1835 and consists of 3 storeys and a basement which are arranged as 4 separate flats. The main entrance is reached via stone steps, which bridge over the basement lightwell, from pavement level to the elevated ground floor.

Day Associates carried out an inspection of the front steps and supporting basement wall, both externally and internally, in February 2023 and found evidence of historic water ingress and a decayed timber beam at high level in the basement beneath the front steps. The report recommended that:

'The Beam should be replaced, subject to the appointment of a Structural Engineer to specify and design the replacement.'

Subsequently Marbas were appointed by Day Associates to carry out an inspection of the front steps and supporting structure and specify repair details as required.

Purpose of the Inspection:

1. To inspect the decayed timber beam that has been uncovered in the basement.
2. To inspect the front steps and basement wall externally.

Inspection of decayed timber beam:

The room below the ground floor entrance hall, in line with the external front steps, has been stripped of finishes exposing a decayed timber beam at high level. Facing south towards the front of the building, the timber beam can be seen at high level spanning 1.35m between masonry walls. The beam is 220mm wide and at least 140mm deep. It was not possible to confirm the depth of the beam due to the presence of plaster finishes and timber studwork (see figure a).



Figure a. High level timber beam in basement with blockwork infill beyond.

The LH end of the beam extends into the masonry wall and is intact (see figure b). The RH end extends into the opposite masonry wall but has visibly decayed on the underside and is being temporarily supported on an acro prop (see figure c).

Beyond the timber beam is a panel of blockwork which forms the external wall below the steps. The blockwork is a relatively modern construction material and suggests that there was previously an opening here that has been blocked up. The timber beam is therefore likely to be a lintel over the original opening which supports structure above. This is further supported by the presence of timber bonding bricks in the masonry walls below the timber beam. Traditionally timber bonding bricks were built into walls for timber door and window framing to be fixed to. Figure b shows the timber bonding brick. Figure c shows the corresponding timber bonding brick is missing, probably also due to decay from water ingress.

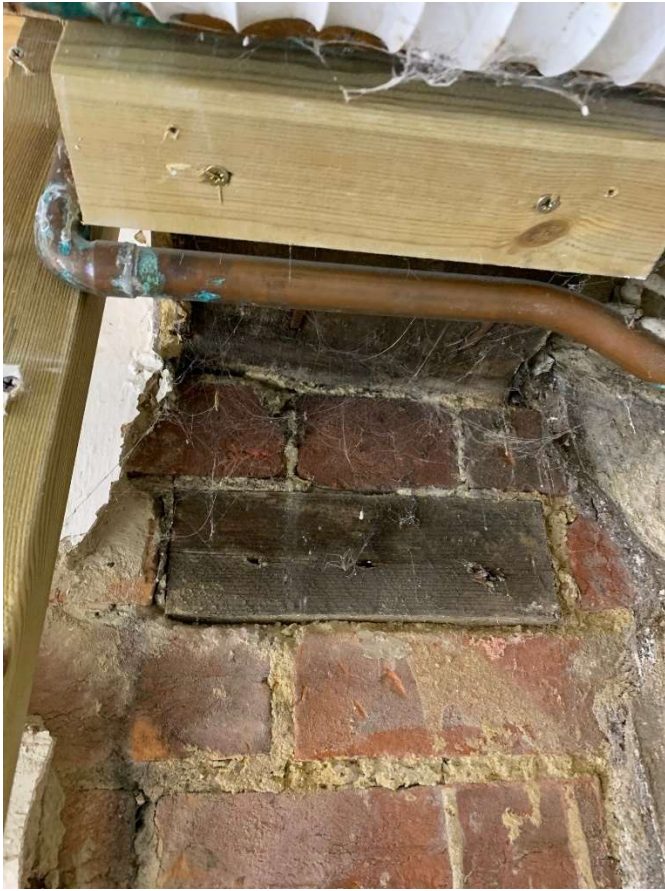


Figure b. Wall supporting LH end of beam with timber bonding brick under.



Figure c. Wall supporting RH end of beam with timber bonding brick missing.

The source of water ingress that has caused the beam to decay is not clear but given that the RH end of the beam within the wall is the most severely decayed it suggests that there is moisture in the wall at this end possibly caused by cracks in the stucco on the front elevation of the building or a weakness at the interface between the front wall and the steps.

Inspection of front steps:

The front steps appear to be the original stone steps which span parallel to the face of the building between supporting beams that bridge across the basement lightwell. The steps appear to be in reasonable condition. There is some moss and vegetation growth evident between the ends of the steps and the base of the side walls (see figure d). These gaps could be a potential route for water to track down into the main front wall of the building.

The basement wall below the front steps has a stucco finish. The area that corresponds to the end of the decayed timber beam viewed internally, shows signs of blistering (see figure e). This is due to efflorescence, which is a build-up of expanding salts below the painted surface of the stucco wall, caused by moisture in the stucco.



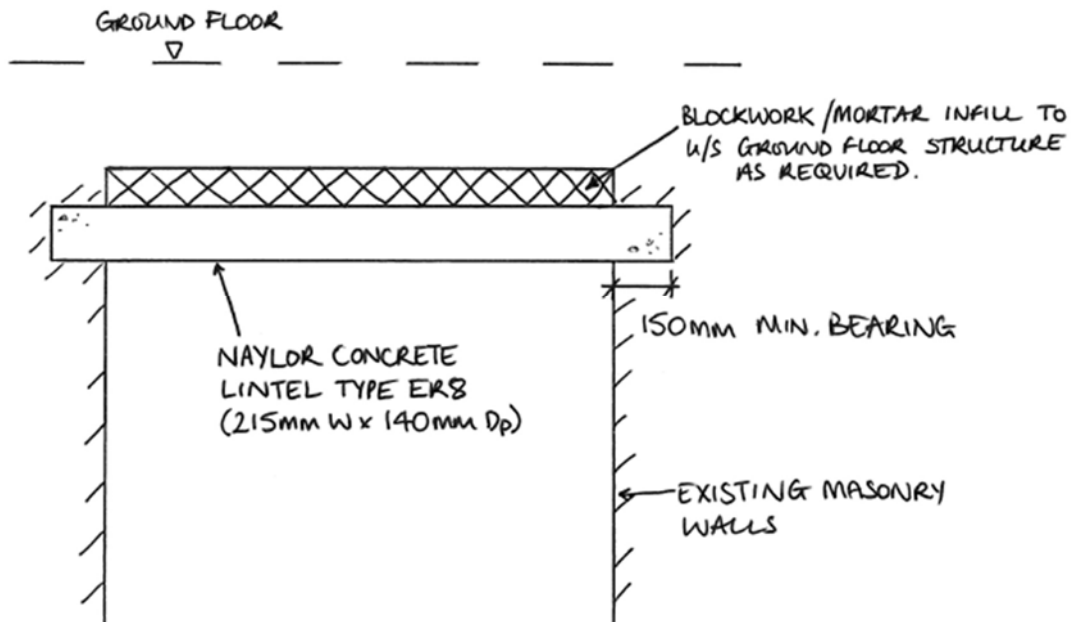
Figure d. Front steps



Figure e. Blistering of paint finish on stucco beneath steps

Conclusions and recommendations:

1. Moss and vegetation should be cleared out of the gaps between the steps and the bases of the side walls and gaps filled with a suitable lime mortar to prevent further water ingress.
2. Gutters higher up the building should be checked and cleared to ensure rainwater does not overspill and run down the face of the building.
3. Blistering paintwork should be scraped off. Stucco should be repaired either side of and beneath the steps as necessary and locally repainted. Repairs and paint finish should be compatible with the age and type of stucco.
4. Decayed timber beam should be replaced. This could be a like for like replacement or, to avoid the problem of decay in the future, a concrete lintel such as Naylor Lintel type ER8 is recommended. See sketch below:



Lintel to be installed in accordance with manufacturers recommendations.

5. All repairs should be discussed and agreed with the local conservation officer as they may be subject to listed building consent.

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For and on behalf of Marbas Consulting Engineers

Distribution: Day Associates