Structural Design Studio Ltd
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Structural Design Studio is a limited company registered in England and Wales no. 10727757

Justyn Bailey,
31 The Green,
Richmond,
TW9 1LX

31 The Green, Richmond, TW9 1LX – Structural Impact Assessment

Structural Design Studio Ltd (SDS) were appointed by the building owner, Justin Bailey, to complete a visual inspection of the existing building and review the age, condition and construction of the existing structure and comment on how the structural works can be undertaken without having a detrimental impact on the Listed Building fabric. We understand that the existing building is Grade II Listed and the proposed works include converting the building containing office bank space back into a single family dwelling. A number of partitions are proposed to be removed and the stair relocated to the original central position. This report is required by the local authority for Listed Building Consent.

Sarah Wadley of SDS visited site on the 7th November 2023 and gained access to all parts of the building. A number of downlighters were removed and carpet locally lifted during our visit to look at the existing floor structure. No trial pits were undertaken.

This letter is for the sole use of the client and Local Authority planning department and should not be relied upon by any third parties.

Building Description

The existing building is a three-storey terraced property constructed traditionally with masonry walls and timber floors. The building has an existing flat roof and a small single storey extension to the rear. The building is Grade II Listed and internally appears to be in a fairly good condition for its age and type.

According to the geology maps the underlying ground condition is likely to be sands and gravel (Kempton Park gravel) overlying London Clay to depth.

Proposed Alterations

The current proposals involve internal refurbishment of the entire property including converting the office space into a single family dwelling. A number of internal partitions are proposed to be removed and the stair relocated to the original central position.

Opening Up Work Findings

In order to determine the condition of the existing floors some downlighters were removed in the ceiling at each level and the carpet was locally lifted. These opening up works confirmed that the floor structure at both first and second floor level consist of modern timber joists running front to back with modern floor boards on top. The ceilings consisted of two layers of plasterboard to the underside of the joists. No lath and plaster was found. No historic timber was found in any of the openings that were made and therefore it would appear that historically the floors have been replaced throughout.

The internal partitions were found to be of modern stud construction and are non-load bearing.

The rear elevation is currently clad with timber however, in some areas the cladding was missing and the brickwork underneath was visible. The brickwork appears to be of modern red brick construction and does not appear to be original.

Based on the opening up works, it would appear that it is only the front elevation and party walls which form part of the original fabric of the building.

Conclusion

Based on the existing structure, we do not foresee the current proposals having a detrimental impact on the historic fabric of the building. The partitions that are proposed to be removed are non-load bearing and non-original and therefore can be removed without the need for any additional structural strengthening.

Where the stair is being relocated, we would recommend infilling the existing void with new floor joists to match existing. A timber wall plate will be fixed to the front and rear façade with timber joists supported on joist hangers off the wall plate. In the location of the new stair case we would propose that the existing floor joists are doubled up to trim around the new void. Bolting the new joists to the side of the existing.

Method Statement for Strengthening

1. Existing floorboards should be numbered and then carefully removed and set aside
2. The existing modern plasterboard ceiling should be removed in the location of the new stair
3. Double up the new floor joists where required. Bolt together with new M12s at 400mm centres.
4. Temporarily prop the existing floor joists between and cut them back to form the new void and re-support on new doubled up timber trimmers.
5. Install new timber staircase
6. Demolish existing staircase and local floor joists
7. Install a new timber wall plate on front and rear elevation (if existing found to be inadequate). Resin fix to elevation with M12 Hilti resin anchors at 400mm centres.
8. Install new floor joists in location of existing stair void.
9. Reinstate floor boards and plasterboard ceiling under

Should you have any questions regarding our assessment please don't hesitate to contact us.

Yours sincerely,

Sarah Wadley
MEng (Hons) CEng MIStructE

Director I **Structural Design Studio**

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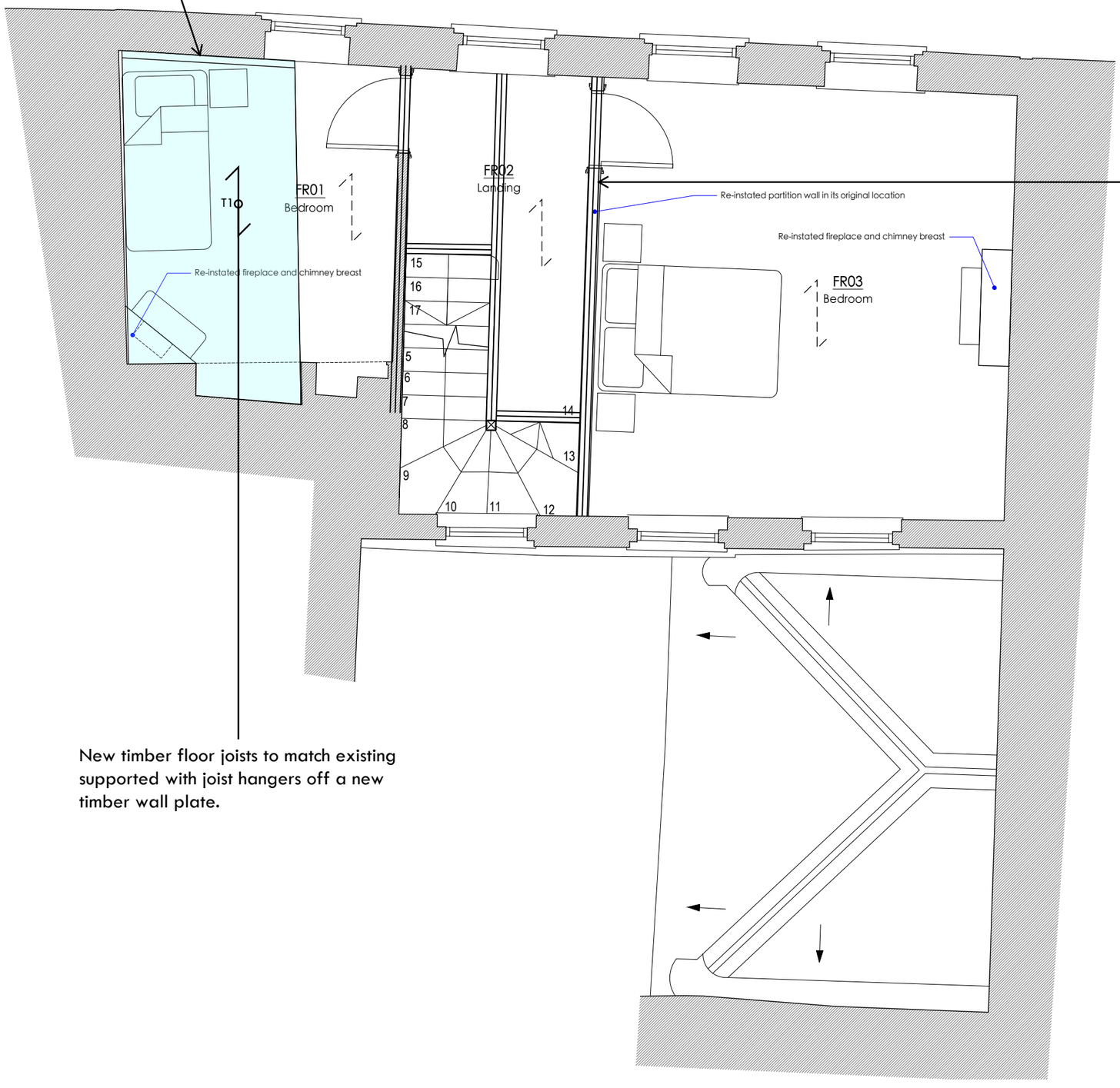
New timber wall plate to be resin fixed to front elevation with Hilti HIT HY 270 M12 anchors at 400mm centres.



Double up timber floor joists to trim around new stair void. Bolt together with M12s at 400mm centres. Cut and resupport existing floor joists on to trimmers with joist hangers.

New timber floor joists to match existing supported with joist hangers off a new timber wall plate.

SDS mark-up / sketch

Project No:	Project name:
223343	31 The Green
Date:	Mark-up title:
09.11.23	Proposed First Floor Structure

0 1 2m N

revisions

A - 15/09/2023 Pre-app - revised layout

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job title
31 The Green

client
Justyn Bailey

drawing title
Proposed First Floor Plan

drawing number
1951.03.03.Pln.023

rev
A

scale 1:50@A3
date May 2023
drawn by AP
checked by IP

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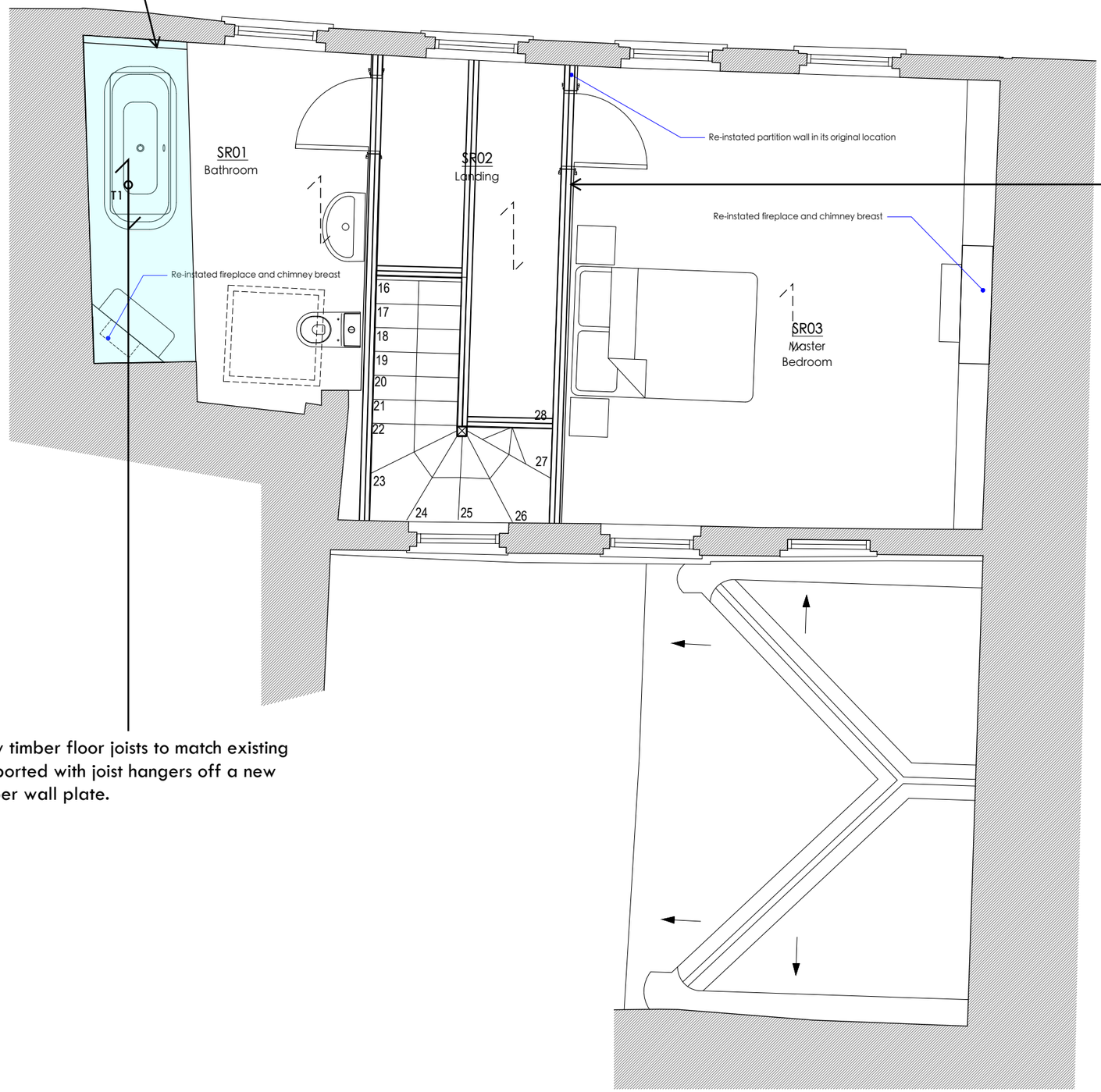

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