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Explanatory note to address construction impacts associated with Mary Ward House

Report Title

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Revision: P7	Prepared by:	Toufiq Islam	Checked by:	Jess Mill	Approved by:	Jess Mill
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Contents

1. Introduction

Elliott Wood have been appointed to undertake the structural and civil engineering design for the redevelopement of Tavis House on Tavistock Square in Bloomsbury. The proposals are for the:

"Variation of conditions 2, 9, 13 and 15 approved under planning permission reference 2021/6105/P on 1 December 2023 for 'Refurbishment and extension of the existing building to provide new entrances, a new roof top pavilion, roof top plant equipment and enclosures, rear extension and cycle parking associated with Class E use together with new hard and soft landscaping and other ancillary works'. NAMELY amendments to external rear facades, rooftop plant and other associated works."

The building will be used as a lab-enabled office; the existing structure will be retained as office space, and the new concrete frame will be designed to accommodate the higher loads associated with lab uses.

Mary Ward House is located to the northeast of Tavis House. The two buildings have individual access roads off of Tavistock Place, these are parallel but separated by a steel fence. There is approximately 12.5m between the two buildings.

Following consultation, Historic England has suggested in their letter of 22 July 2024 that construction at Tavis House will require careful management. They have also requested confirmation that adequate safeguards be in place by condition and obligation to ensure adequate protection to Mary Ward House.

We have undertaken a thorough review of the proposed construction with reference to Historic England's consultation response and we confirm that, with the following safeguards and conditions, appropriate and adequate protection of the heritage asset would be achieved.

2. Existing Building and surveys

Tavis House is an existing office building comprised of one level of basement and nine superstructure stories.

The building was constructed in the late 1930's and is formed from a concrete encased steel frame and concrete hollowpot floors. The existing foundations are currently unknown, but assumed to be shallow footings bearing onto the London Clay.

The building was completed at the onset of WWII. During the war, strengthening works were added to the basement, so that it could function as a bomb shelter for people living and working in the vicinity. These additional masonry walls and periscopic access hatches are still visible on site today.

To the rear of the building, and along Tavistock Place, existing retaining walls support lateral earth pressures between ground and basement level. On Tavistock square, there are existing pavement vaults.

Our knowledge of the existing building has been based upon archive drawings, site visits to review the visible structure, and site and structural investigations undertaken by specialist contractors. The investigations have been undertaken to determine the existing ground conditions, the substructure arrangement, and the size and condition of the existing steelwork.

3. 'Extant Permission'

Planning permission was granted on 1 December 2023 under reference 2021/6105/P for the:

"Refurbishment and extension of the existing building to provide new entrances, a new roof top pavilion, roof top plant equipment and enclosures, rear extension and cycle parking associated with Class E use together with new hard and soft landscaping and other ancillary works."

4. Basement and Foundation Proposals

There is one storey of basement in the existing case, and this is proposed to be retained over its current footprint. There is no change to the consented scope of works in this area.

Where the existing building is retained towards the front of the site, the existing foundations will be kept. Where the new concrete frame will be installed to the rear of the site, new piles and pilecaps will be installed. This solution has the following benefits:

- Piles can be designed to reduced settlements in comparison to shallow footings. This means that the differential movement between the new and existing structure will be mitigated as far as possible
- It avoids the requirement for full-scale excavation over the footprint of the basement (which may be required if a raft solution was progressed).

5. Façade Retention and slab replacement

On the Tavistock Place elevation and the northwest corner of the building, the existing façade will be retained during construction whilst the internal structure is removed and rebuilt. In the permanent case, the façade will be tied back to each new slab level. The new RC frame will be designed to achieve the structure requirements associated with lab use. As in the existing case, there is approximately 12.5m between Tavis House and Mary Ward House in this location – refer to plan in Appendix A.

During construction, the supports for the façade retention frame are proposed to be located within the footprint of the building, which will minimise the impact on the public or adjoining building users. The only structure proposed to be located outside of the footprint will be the steel walers installed at each level.

The existing slabs will be carefully broken out, and a new RC frame installed. Refer to Chapter 8 for considerations during construction.

6. New rear extension and façade

Extending the building to the rear of the building, and the replacement of the associated façade has been granted within the extant planning application.

In this location, a new concrete frame extension will be built to house lab spaces. During the construction of the new RC frame, temporary works will be retained entirely within the footprint of the proposed building.

The new façade to the new rear extension is proposed to be formed from precast concrete panels supported on the new frame at each floor level.

The advantage of keeping the majority of the façade production off-site is that it vastly reduces the amount of on-site activities. In turn, this minimises the disruption to the surrounding occupants and the length of the construction programme.

7. Impact of proposals on Mary Ward House

Mary Ward House is located to the rear of Tavis House. The building was constructed in 1898, and has been largely unaltered since then. The building and attached railings are Grade I listed.

Based upon archive drawings, it is understood that the building consists of one level of basement and three superstructure stories. It is also understood that the basement does not project any closer to Tavis House than the visible superstructure.

The proposals for the redevelopment of Tavis House have carefully considered the impacts on adjoining neighbours.

The distance between the proposed extension to Tavis House and Mary Ward House is approximately 19m in this location – refer to plan included within Appendix A. The new extension will be supported on piles. Where the new extension stops at ground floor level, piles will be sleeved to prevent surcharging the existing retaining wall, but this will also have the impact of further mitigating and load interactions between the Tavis House and Mary Ward House foundations.

Where the existing façade is to be retained along Tavistock Place, the distance from the building to Mary Ward House is approximately 12m, as in this existing case. The façade loads will be supported on the existing footings. The new frame will be supported on pilecaps at basement level, because of the relative depths, there will be minimal impact on the Mary Ward House footings – refer to the sections included on the next page.

There are no changes to the front façade under the current Section 73 application.

8. Impact during construction

During construction of the rear extension, and for the replacement of the floor slabs within the footprint of the retained façade, temporary works and material storage will be located within the existing service yard to the rear of the site. No provision has been made to block the adjacent access to Mary Ward House, or to use this access road in any way for storage or to support temporary works.

8.1 CMP

An outline Construction Management Plan (CMP) has been included as part of the original planning submission. This will be developed further by the appointed Contractor, and will include details of working hours, dust management etc as required by the Section 106 agreement. The definition of a CMP is included within Appendix B.

Items which will be included within the CMP are:

- Registration with Considerate Contractor and associated regular site visits / inspections
- Contact number for the project manager
- Third party dust monitoring with monthly reports to Camden environmental health team against set targets
- Damping down of works to achieve agreed dust level targets
- Hydraulic rather than percussion demolition methods for superstructure elements
- Controlled traffic movements preventing standing vehicles waiting to enter site via on-line booking system

8.2 Mitigation measures for demolition of existing façade and slabs

The breaking out of existing structures shall be carried out by diamond saw cutting and hydraulic bursting where possible to minimise noise and vibration to the adjacent properties. All demolition and excavation work will be undertaken in a carefully controlled sequence, taking into account the requirement to minimise vibration and noise. Non-percussive breaking techniques where practicable.

Dust suppression equipment should be used during the demolition process to ensure that any airborne dust is kept to a minimum. Where practical, concrete should also be wetted down prior to and during breakout to further inhibit airborne dust.

8.3 Mitigation measures for bulk excavation

Mechanical plant will be required to complete the excavation required for new pilecaps and foundations. It will be ensured that any mechanical plant is switched off when not in use and is subject to regular maintenance checks and servicing.

8.4 Mitigation measures for the construction of the concrete frame

It will be ensured that any concrete pours are completed within the permitted hours for noise generating works. Sufficient contingency period will be allowed for to ensure that concrete pours can be completed within these hours regardless of unforeseen circumstances such as batching plant delays and traffic congestion.

The fabrication and cutting of steelwork for the reinforced concrete columns and slabs shall take place off site. If any rebar needs to be trimmed on site this should be completed using hydraulic or pneumatic tools instead of angle grinders.

8.5 Mitigation measures for piling

The new piled foundation will be formed using a continuous flight auger rig – this is a non-percussive technique and therefore produces significantly less noise and vibration than the alternative driven piles.

8.6 Dust control

In order to reduce the amount of dust generated from the site, it will be ensured that any cutting, grinding and sawing should be completed off site where practicable. If cutting, grinding and sawing is being carried out on site, surfaces are to be wetted down prior to and during these types of work whenever possible. Any equipment used on site should be fitted with dust suppression or a dust collection facility.

The contractor will be responsible for ensuring good practice with regards to dust and should adopt regular sweeping, cleaning and washing down of the hoardings and scaffolding to ensure that the site is kept within good order.

The Contractor selected will be a member of the Considerate Contractors Scheme. Contact details of the contractor who will be responsible for containing dust and emissions within the site will be displayed on the site boundary so that the local residents can contact the contractor to raise any concerns regarding noise and dust.

The building will be enclosed within suitable scaffold sheeting and any stockpiles of sand or dust-generating materials will be covered. Cement, fine aggregates, sand and other fine powders should be sealed after use.

9. Conclusions

The impact on neighbouring residents has been carefully considered during the development of the proposals for Tavis house.

The extent of the rear extension, and the proposed foundation options have been designed so that the impact on the foundations of Mary Ward House is negligible.

The structural proposals for the new façade, and the retention of the existing façade have been developed to minimise the impact on the public and adjacent building occupiers.

The construction logistics plan will be developed by the appointed Contactor as part of the S106 works.

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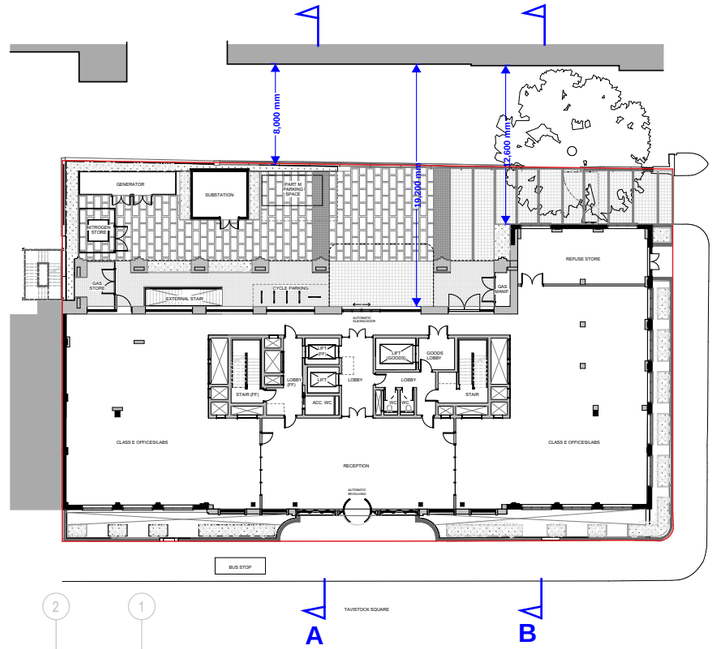
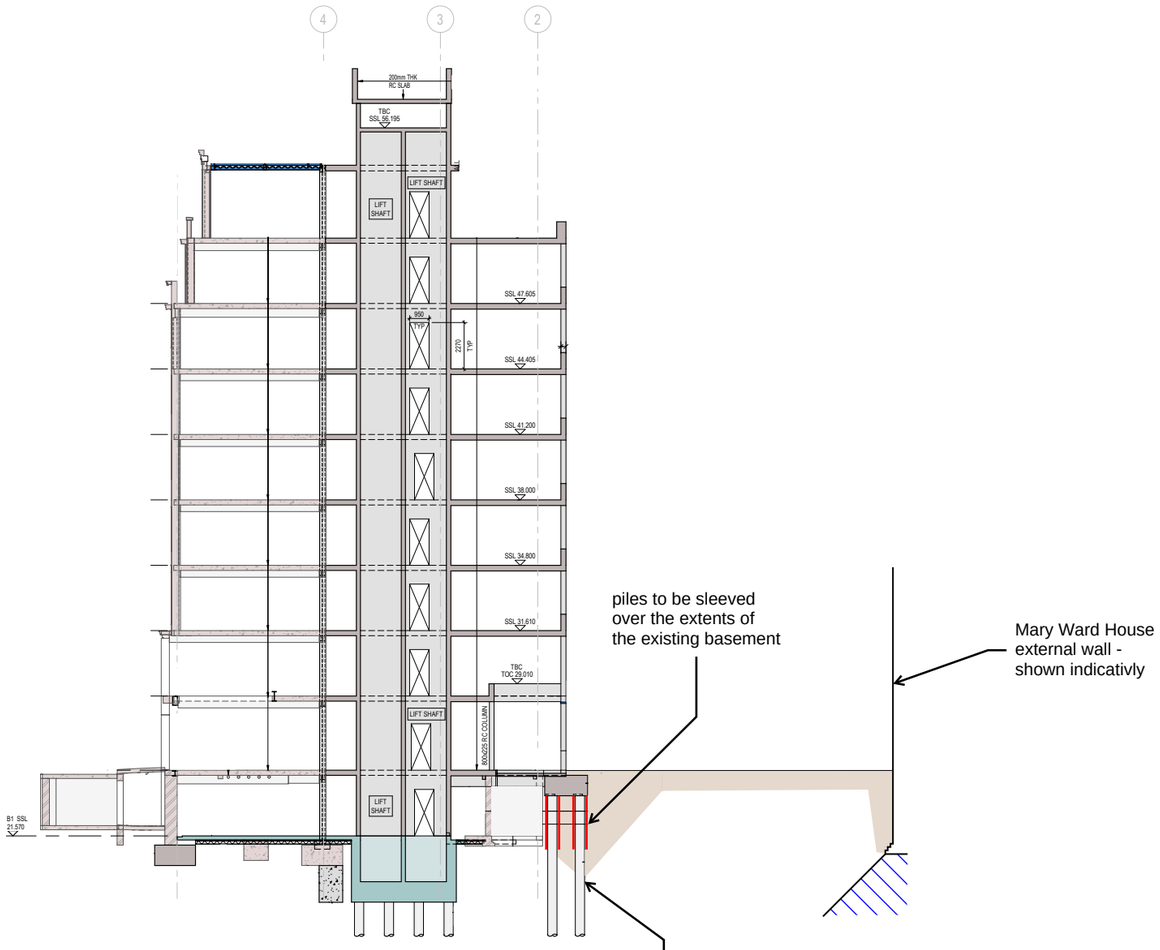
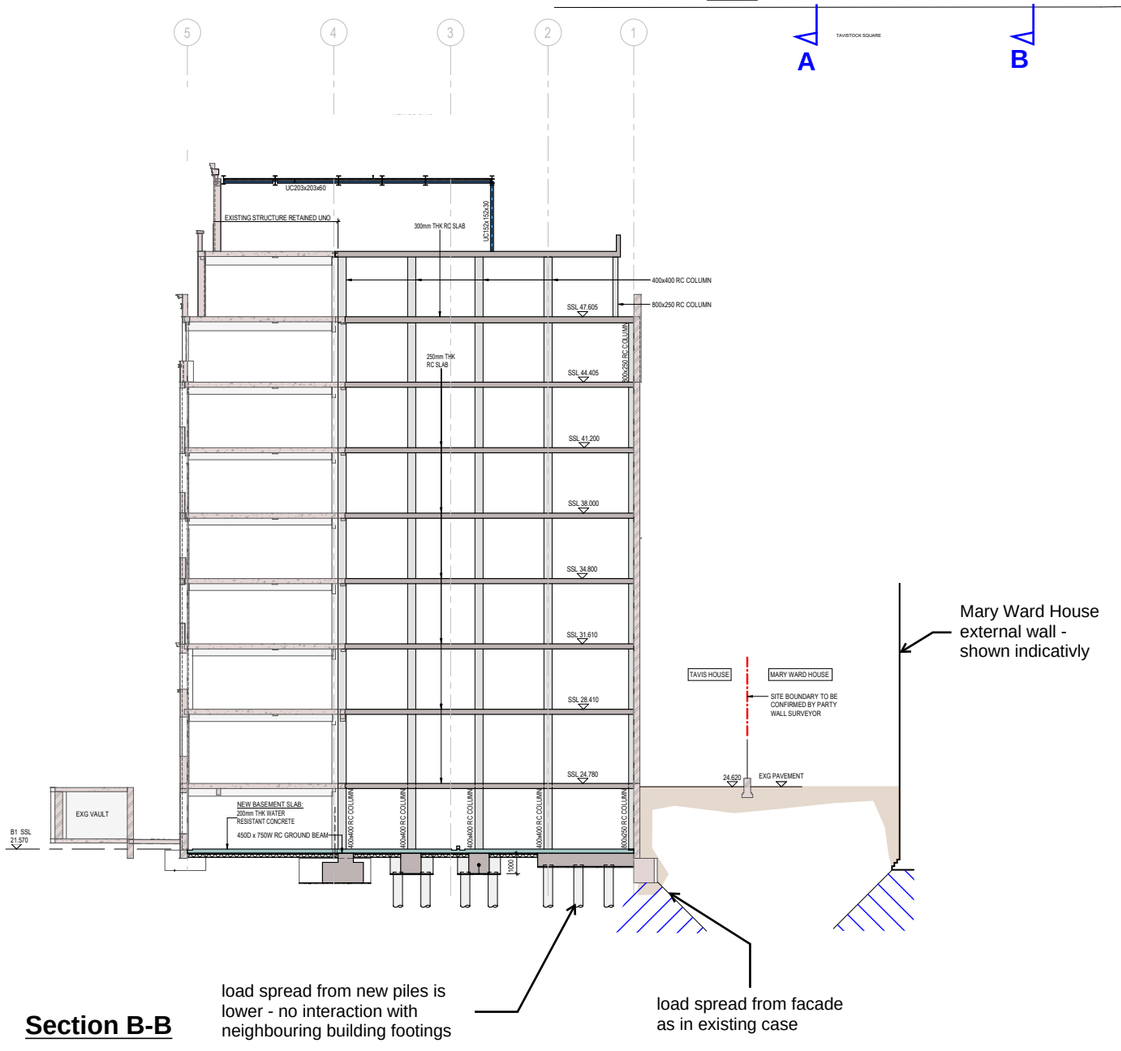
Appendices

Appendix A – section markups highlighting interaction between foundations





Section A-A



Section B-B

Appendix B – CMP definition

		review prepared by the Council's consultants BPS Chartered Surveyors dated 17.02.2022
2.5	"the Agreement"	this Planning Obligation made pursuant to Section 106 of the Act
2.6	"Business Parking Bay"	a parking place designated by the Council by an order under the Road Traffic Regulation Act 1984 or other relevant legislation for use by businesses of the locality in which the Development is situated
2.7	"Business Parking Permit"	a parking permit issued by the Council under section 45(2) of the Road Traffic Regulation Act 1984 allowing a vehicle to park in a Business Parking Bay
2.8	"the Certificate of Practical Completion"	the certificate issued by the Owner's contractor architect or project manager certifying that the Development has been completed
2.9	"the Construction Apprentice Default Contribution"	the sum of £220,000.00 a sum being £20,000 per apprentice required on site to be paid by the Owner to the Council in lieu of construction apprentice provision
2.10	"the Construction Apprentice Support Contribution"	the sum of £1,700 (one thousand seven hundred pounds) per apprentice to be paid by the Owner to the Council in accordance with the terms of this Agreement and to be applied by the Council to support the recruitment and training of apprentices
2.11	"Construction Management Plan"	a plan setting out the measures that the Owner will adopt in undertaking the construction of the Development using good site practices in accordance with the Council's Considerate Contractor Manual and in the form of the Council's Pro Forma Construction Management Plan as set out in the First Schedule hereto to ensure the Construction Phase of the Development can be carried out safely and with minimal possible impact on and disturbance to the surrounding environment and highway network including (but not limited to):- a) a statement to be submitted to Council giving details of the environmental protection highways safety and community liaison measures proposed to be adopted

		by the Owner in order to mitigate and offset potential or likely effects and impacts arising from the building out of the Development; b) proposals to ensure there are no adverse effects on the Conservation Area features c) amelioration and monitoring effects on the health and amenity of local residences site construction workers local businesses and adjoining developments undergoing construction; d) amelioration and monitoring measures over construction traffic including procedures for notifying the owners and or occupiers of the residences and businesses in the locality in advance of major operations delivery schedules and amendments to normal traffic arrangements (if any); e) the inclusion of a waste management strategy for handling and disposing of construction waste; and f) identifying means of ensuring the provision of information to the Council and provision of a mechanism for monitoring and reviewing as required from time to time
2.12	"the Construction Management Plan Bond"	the sum of £15,000.00 (fifteen thousand pounds) to be paid by the Owner to the Council in accordance with the terms of this Agreement to be used by the Council in the event of the Council undertaking actions to remedy a breach of the Construction Management Plan following the procedures set out in clause 4.4
2.13	"the Construction Management Plan Implementation Support Contribution"	the sum of £9,456.00 (nine thousand four hundred and fifty six pounds) to be paid by the Owner to the Council in accordance with the terms of this Agreement and to be

ElliottWood

• Fitzrovia
The Building Society
55 Whitfield Street
London
W1T 4AH

• +44(0)20-7499-5888

• Wimbledon
The Building Society
241 The Broadway
London
SW19 1SD

• +44(0)20-8544-0033

• Nottingham
St Mary's Hall
17 Barker Gate
Nottingham
NG1 1JU

• +44(0)1158-223-148

• info@elliottwood.co.uk
• elliottwood.co.uk

Certified

B Corporation