Structural Planning Report

212-214 High Holborn, Bloomsbury Parrs

Partington & Associates Ltd
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Tel: 01257 249863

Job No: 2898-16

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1.0 Introduction

This structural report has been prepared in support of the planning application for the proposed development at 212-214 High Holborn.

Partington & Associates Ltd have been appointed as the consulting Structural Engineer to prepare a supporting report to outline the effect of the proposals on the existing Grade II listed premises.

The report has been prepared by Mr David Ormes **MiStructE.**

In preparation of the report consideration has been given to the following drawings produced by Cassidy & Ashton:

8918 - L01, P01, P03, P04, P05, P06, P08, P10

An inspection of the property was undertaken on Thursday 27th October 2016.

This report is prepared in accordance with London Borough of Camden guidance. At the time of completing this report a full structural design of the proposals has not been undertaken.

This report should be read in conjunction with all Architect's and other consultants reports, drawings and other documentation submitted with the planning application.

2.0 Site History

212 to 214 High Holborn is a 4 storey loadbearing masonry building constructed in 1854. The front elevation is constructed from portland stone.

The building was listed in 1974 on the basis of its architectural contribution to the street scape. The list entry number is 1378886.

The property has been subject to alterations in the past. These include alterations to the main roof to add an additional room to the 3rd floor level, re-modeling of the rear in the late 1950's to introduce a rear mezzanine level and also extensions to the ground floor office accommodation.

Past repairs to maintain the facade have been carried out in the past with evidence of crack repairs and local stone replacement.

There has been relatively recent developments on all sides of the property.

The ground floor and basement of the property are occupied by Natwest Bank. The upper floors are currently un-occupied but have been used as offices in the past.

We understand that the Central Line tube tunnel runs directly underneath High Holborn Road at an approximate depth of 24m below street level.

3.0 Existing Structural Arrangement

The existing structure consists of load bearing masonry walls with isolated steel beams & columns. Suspended solid floors exists at ground and first floor levels with suspended timber floors to remaining levels. There is a brick vaulted arch floor to the ground floor lobby above the boiler house.

The basement walls are assumed to be mass brickwork retaining walls.

There is a traditional pitched slated roof to the front half of the 3rd storey roof with a newer flat dormer type arrangement behind. Reinforced concrete flat roofs exists to the rear single storey areas. These are covered with asphalt waterproofing.

Lateral stability of the building is assumed to be obtained by diaphragm action of the floors in conjunction with the in-plane shear resistance of both internal, external and party load bearing walls.

For the purpose of this report the building will be considered in two sections;

1) Front - Original 1854 3 storey building, facade and basement

2) Rear - Altered single storey + mezzanine level and basement

4.0 Proposed Development

The proposed development of the property is outlined briefly as follows. Detailed consideration of the proposals can be found further in the report.

- Demolition of rear single storey offices + mezzanine
- Minor extension of the basement to the rear
- Construction of 8 storey office accommodation to the rear
- Internal alterations to existing front 3 storey area
- Construction of 2 storey extension above the existing 3 storey area

5.0 Structural Proposals

1) Front Section

The alterations and subsequent impact to the front section of the property are outlined floor by floor as follows;

Basement
It is proposed to remove several of the internal walls at basement level. In order to achieve this it will be necessary to introduce isolated steels to support the existing ground floor structure.

Where any internal walls currently provide a buttressing effect to basement retaining walls new steel column supports will be required.

Ground Floor
It is proposed to install a new mezzanine floor between the ground and first floor levels. We would recommend that a new lightweight steel frame structure will be required. It is envisaged that this can be supported off the existing internal columns and loadbearing masonry walls.

1st Floor
The first floor is essentially to remain as existing with some minor alterations to the lobby. These proposals will not have any effect on the existing building.

2nd & 3rd Floors
It is intended to remove all internal walls at 2nd & 3rd floors. Some of the walls are noted to be load bearing and others are timber partitions.

In order to achieve this and also maintain the stability of the structure at these levels it will be necessary to install isolated steel beams and columns to support the floors above. In addition, windposts will be required against the external walls to reinstate the buttressing effect of any walls that have been removed.

New 4th & 5th Extension
We would recommend that these two new floors are cantilevered out from the new multi-storey structure to the rear. This will alleviate any additional load being imposed on the existing structure.

It may be possible to support a lightweight 4th & 5th storey on the existing structure bearing in mind that a significant amount of dead load will be removed at 2nd & 3rd floor levels. However, this will need a detailed intrusive investigation into the construction and capacity of the internal columns at basement, ground and first floors.

Refer to annotated drawings in Appendix 'A' for further details on the above.

It is noted that the front section of the building has been used as offices in the past therefore it is assumed that there will not be any issues with increased superimposed loading from office use.

In addition, due to the removal of internal walls at 2nd and 3rd floors there will be a general reduction in dead loading applied through the existing listed building.

2) Rear Section

The works to the rear section of the property comprise the demolition of the current single storey structure and construction of a new independent multi storey structure off piled foundations. At this stage it has not been decided whether this will be a steel frame, concrete or a combination of the two.

The alterations and subsequent impact to the rear section of the property are noted as follows;

Basement

Where possible, the basement walls to the rear will be left in place and temporarily propped whilst the new construction of the ground floor is complete.

Where it is necessary to extend the retaining walls it is assumed that these will be constructed as secant piled walls.

If the existing retaining walls are found to be in poor condition during the demolition works these will be replaced with new.

Ground Floor

Complete demolition of this floor including removal of solid ground floor construction.

The removal of the rear ground floor structure is not deemed to have any detrimental effect on the remaining front section of the property.

Lateral stability of the existing front section will be maintained and enhanced by ensuring the existing floors are adequately tied into the party wall construction on either side of the building. This should be carried out prior to any demolition works.

The interface between the two sections will be provided with a full height movement joint to effectively isolate the old and new construction.

Any new works will be designed to limit vibration effects on the existing structure. It is assumed that due to the restricted site access to the rear piled foundations will be of the bored type with restricted access piling equipment utilized which in itself will limit any excess vibration.

6.0 Further Considerations

All the works contained within the report will be subject to further intrusive investigation and full and final design and detailing prior to works commencing.

All existing structural elements subject to additional load / revised load path must be reviewed and analysed to ascertain whether they are capable of supporting additional load.

Whilst substantial internal propping of the structure will be required to undertake the above works we do not consider that full facade retention will be required.

In addition to the above the following will be required;

- Full ground investigation
- Liaison with London Underground
- Watching brief during demolition works to ascertain the condition of existing basement walls.

7.0 Conclusions & Summary

Building is reasonable condition bearing in mind its age.

Alterations to the front section are not considered to be out of the ordinary.

Although the alterations discussed above appear to be extensive we do not consider that they represent a threat to the integrity of the listed building.

Partington & Associate Ltd

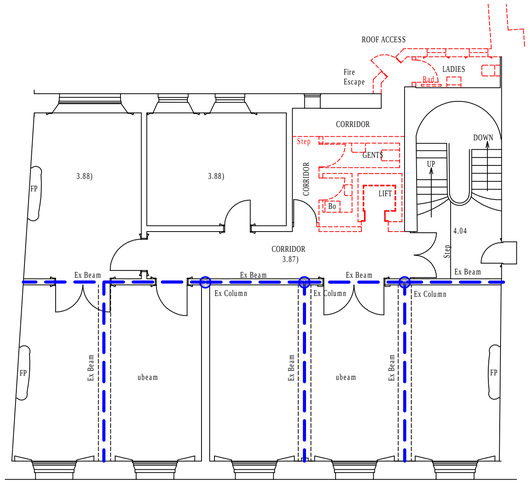
Appendix A

Structural proposal sketch plans

Drawing No's 2898-16 / 01 & 02

Health & Safety Notes

1. Contractor must ensure that all work on site is carried out in a safe & satisfactory manner, in accordance with Health & Safety At Work Act 1974, COSHH Regulations 2002 & requirements of C.D.M



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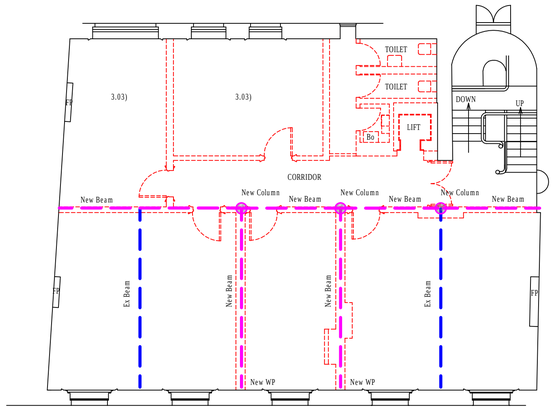

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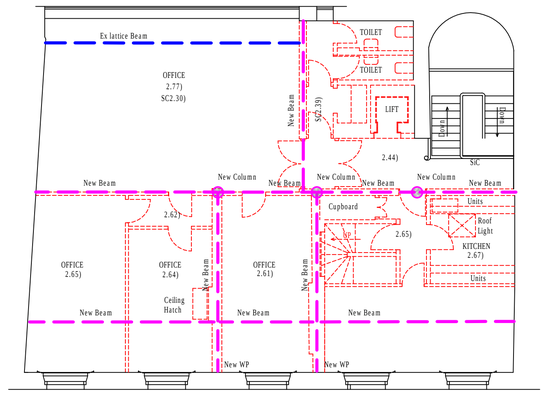

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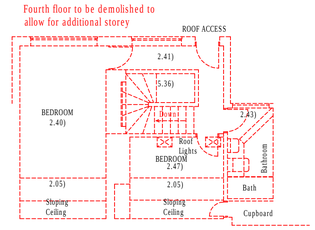
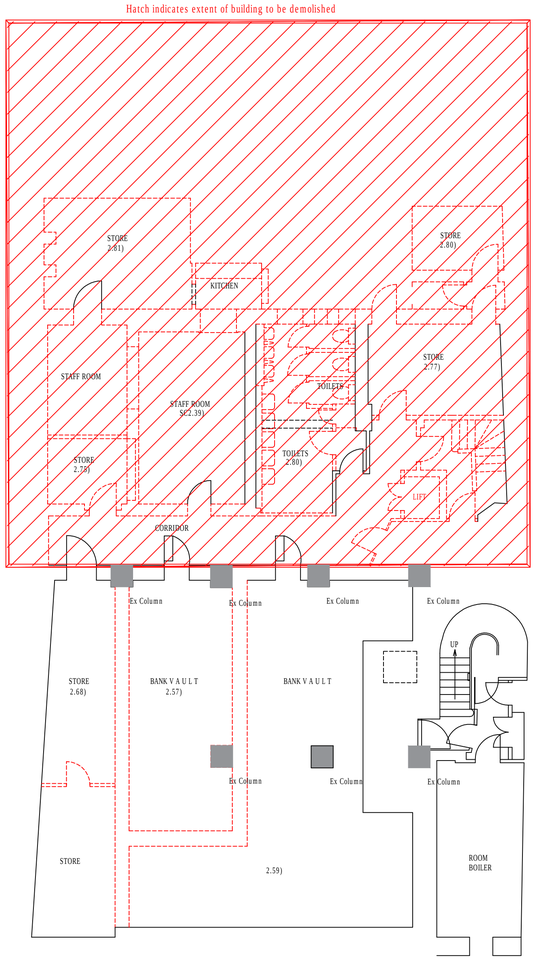
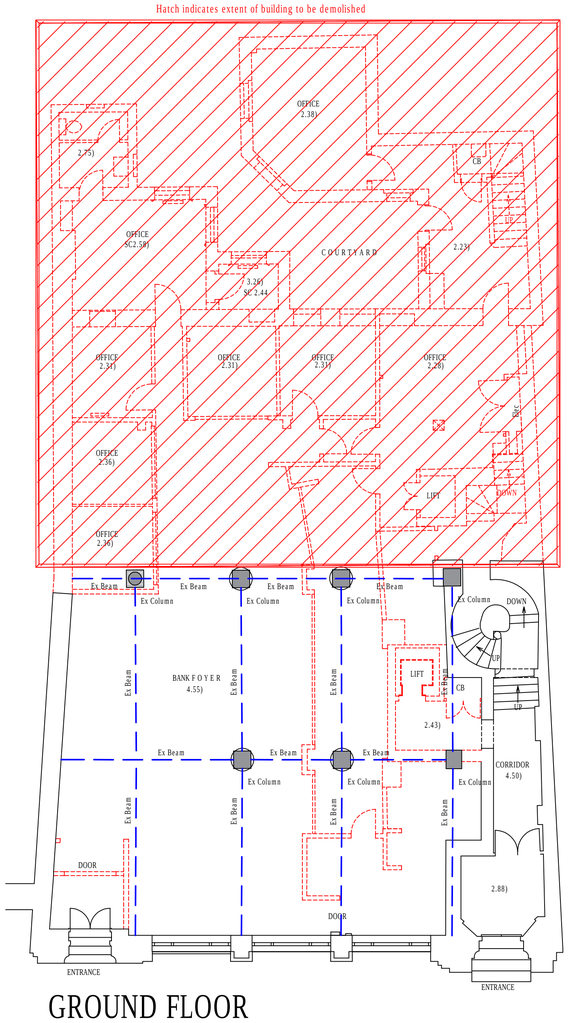


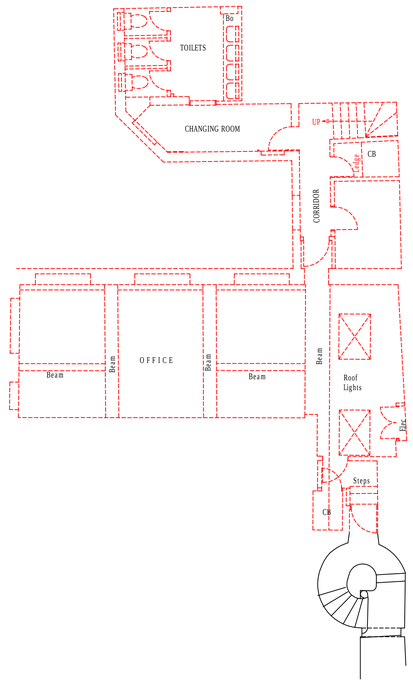
4th FLOOR



BASEMENT



GROUND FLOOR



MEZZANINE FLOOR

SCALE 1 : 100
SCALE 1 : 1
0m 2m 4m 6m 8m 10m
0m 10mm 20mm 30mm 40mm 50mm 60mm 70mm 80mm 90mm 100mm

Revision	By	Check	Date	Description

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Client	Austringer Capital Ltd	Scale	1:100@A1
Project	HIGH HOLBORN PROPOSED OFFICES	Date	DEC 2016
		Drawn	DGT
Title	STRUCTURAL PROPOSAL PLAN / DEMOLITION PLAN	Check	
Job No.	2898-16	Dwg No. 01 Rev.	Approved

Rev.	Description	Date

Client
Austringer Capital Ltd

Project
HIGH HOLBORN
PROPOSED OFFICES

Drawing Title
DEMOLITION PLAN

Drawn by	Checked by	Date
JAC	ND	05.10.2016

Status	Scale @ A1
PLANNING	1:100

Job no.	Dwg.no.	Rev.
8918	P04	

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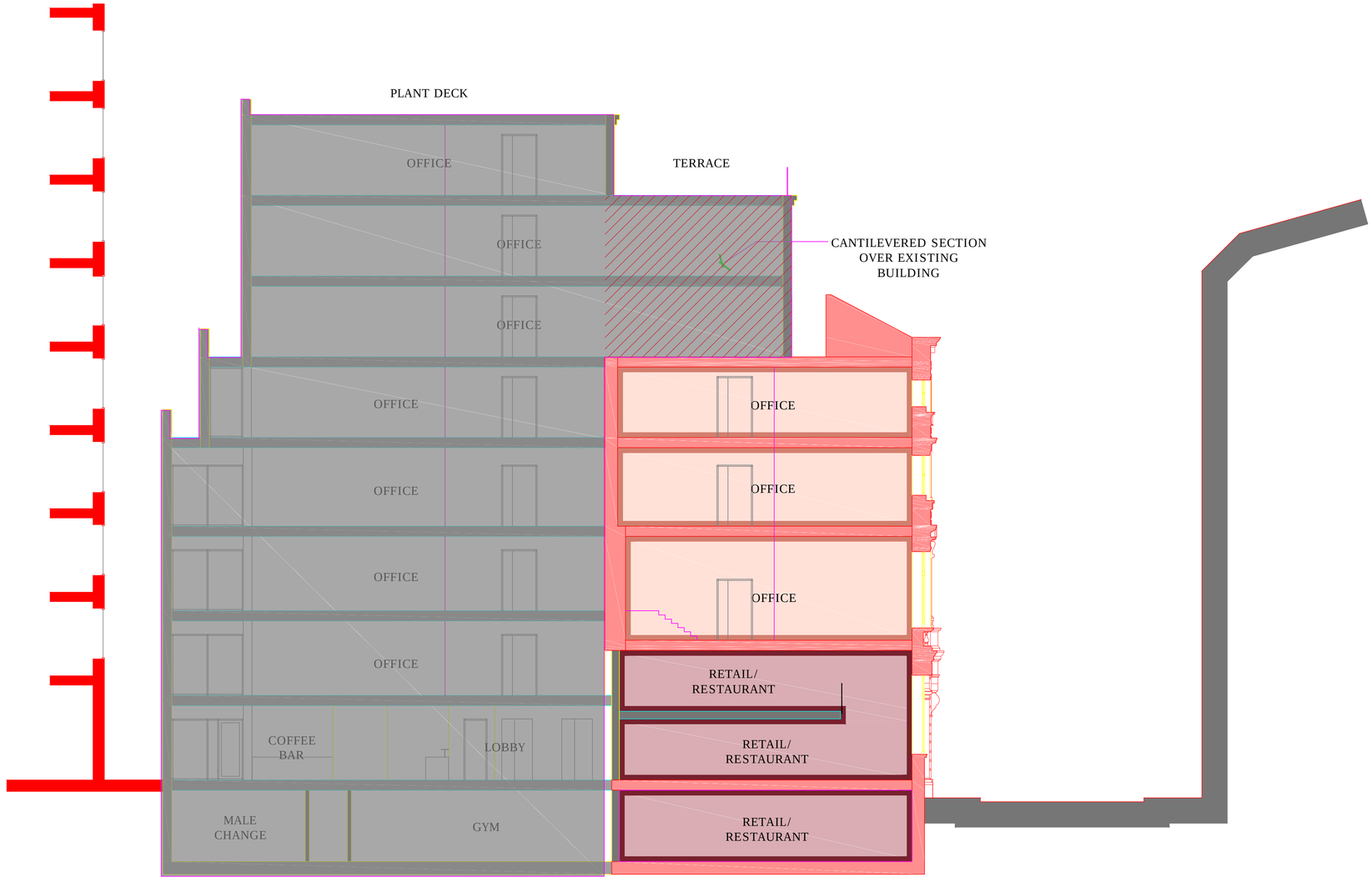

212-214 High Holborn
SECTION A

A

SCALE 1 : 100
SCALE 1 : 1

0m 2m 4m 6m 8m 10m
0m 10mm 20mm 30mm 40mm 50mm 60mm 70mm 80mm 90mm 100mm

Revision	By	Check	Date	Description

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Client	Austringer Capital Ltd	Scale	1:100@A1
Project	HIGH HOLBORN PROPOSED OFFICES	Date	DEC 2016
		Drawn	DGT
Title	STRUCTURAL PROPOSAL SECTION	Check	
Job No.	2898-16	Dwg No. 02 Rev.	Approved

Rev.	Description	Date
A	Section revised following site visit	22.11.2016
P1	First issue	14.11.2016

Client
Ferrywood Ltd

Project
212-214 High Holborn

Drawing Title
Proposed Section A

Drawn by	Checked by	Date
nd	nd	11.11.2016

Status	Scale @ A1
PRELIMINARY	1:100

Job no.	Dwg.no.	Rev.
8918	P10	A

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