FRANKHAM

STRUCTURAL INSPECTION REPORT

ON THE

FLANK WALL & ANNEXE

At

FLAT 3, 73-75 MONKTON STREET & 77 MONKTON STREET

For

LAMBETH LIVING LTD
THE CHARTWELL BUILDING
CHARTWELL BUSINESS PARK
PAULET ROAD
LONDON SE5 9HW

PREPARED BY:

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CHECKED BY: BH

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FILE REFERENCE: 593850/C03
STATUS: REV A
IDB NO.: 1169

CONTENTS

1.0 INTRODUCTION

Frankham Consultancy Group Ltd was commissioned on the 10th March 2014 via e-mail by Lambeth Living to undertake a structural inspection of the flank wall and the annex of Flat 3 73-75 Monkton Street and 77 Monkton Street.

The initial inspection was undertaken on the 27th March 2014 by Mr Richard Sellwood – Structural Engineer and the initial report 577360/C03 found that further investigations were required. The further investigations requested were a trial hole to the rear annex and CCTV drainage survey.

The trial pits were excavated on the 14th November 2014 and inspected by Mr Richard Sellwood.

2.0 GENERAL DESCRIPTION

77 Monkton Street is an end of terrace house comprising of a three storey main building including lower ground floor level beneath the street level with a two storey annex. It is acknowledged that the whole building is likely to have been built as one unit, however for the purposed of clarity the two storey rear section will be referred to as the annex throughout the report. The property has been split into two separate dwellings with the ground and lower ground floors as one flat and the upper floor as part of Flat 3 73-75 Monkton Street. Externally the property has a small front court yard with steps leading to the front entrance and a paved rear garden.

3.0 OBSERVATIONS

3.1 External

The trial hole was excavated on the rear face of the annex and extended down to the underside of the foundations, a sketch of the trial hole can be found in Appendix B. The trial hole revealed that the foundations go down to 700mm below ground level and are based onto a 300mm deep layer of hogging which sits onto clay. The top of the clay level is 900mm below ground level, above this the ground was topsoil and made ground. See Photograph 1. Rootlets were found whilst excavating the trial pit however, these where noted to be non-active.

Whilst on site a closer inspection of the flank wall was undertaken with access to the adjoining land available. The flank wall has been strengthened with buttresses and an additional skin of brickwork at the base. There is a large crack in the flank wall of the main building close to the location of the rear addition. This is at a similar location to the internal cracks within 77 Monkton Street, this can be seen in Photograph 2.

It was noted whilst on site that there are several trees adjacent to the flank wall and a large trunk remaining of a removed tree. The stump is only 2.4m away from the rear corner of the annex and appeared from the diameter of the stump to have been fully mature prior to removal. This is probably the source of the rootlets found within the trial hole.

4.0 DISCUSSION

The base of the foundations of the annex was found to be 700mm below ground level. Current regulations would recommend a minimum depth of 900mm below ground level with foundations down to around 2.0m when considering the effect of the tree.

It is possible that the cracks were formed as the result of the tree which was removed from the adjacent land. Judging by the stump the tree was mature and roots from the tree were found within the trial pit. If this tree was the source of the issue then it is possible that the movement has stopped however, the foundations should still be underpinned in order to get the underside of the foundation onto clay.

The main building most likely has deeper foundations than the annex due to the lower ground floor (basement) level. It is therefore likely to be founded onto the clay layer of soil which will be stiffer and less susceptible to moisture changes caused by adjacent trees.

5.0 RECOMMENDATIONS

We would recommend that the rear addition of the building be underpinned to a depth of 2m. This will prevent the rear addition from experiencing any further movement. A trial hole should be conducted whilst undertaking the works to find the depth of the foundations to the main building on the flank wall. This should help to determine whether the underpinning needs to be stepped up or can finish flush with the existing foundations.

The crack in the hallway of 77 Monkton Street and outside the second bedroom of Flat 3, 73-75 Monkton Street should be stitched with Helibar and filled with CrackBond TE. Any further cracks within the area or adjacent to these cracks should be raked out and filled with CrackBond TE. Externally the cracks in the flank wall should be filled with CrackBond TE and rendered over.

RICHARD SELLWOOD
STRUCTURAL ENGINEER

APPENDIX A – PHOTOGRAPHS

Photo 1: Trial hole showing corbelled footing.

Photo 2: Cracks in flank wall towards rear.

APPENDIX B – SKETCH

Project Title: 77 Monkton Street.			Job No: 31474351
Element: Trial Pit			Calc Sheet No: TP1
Drawing Ref:	Calculations By:	Checked By:	Date: 17/11/14

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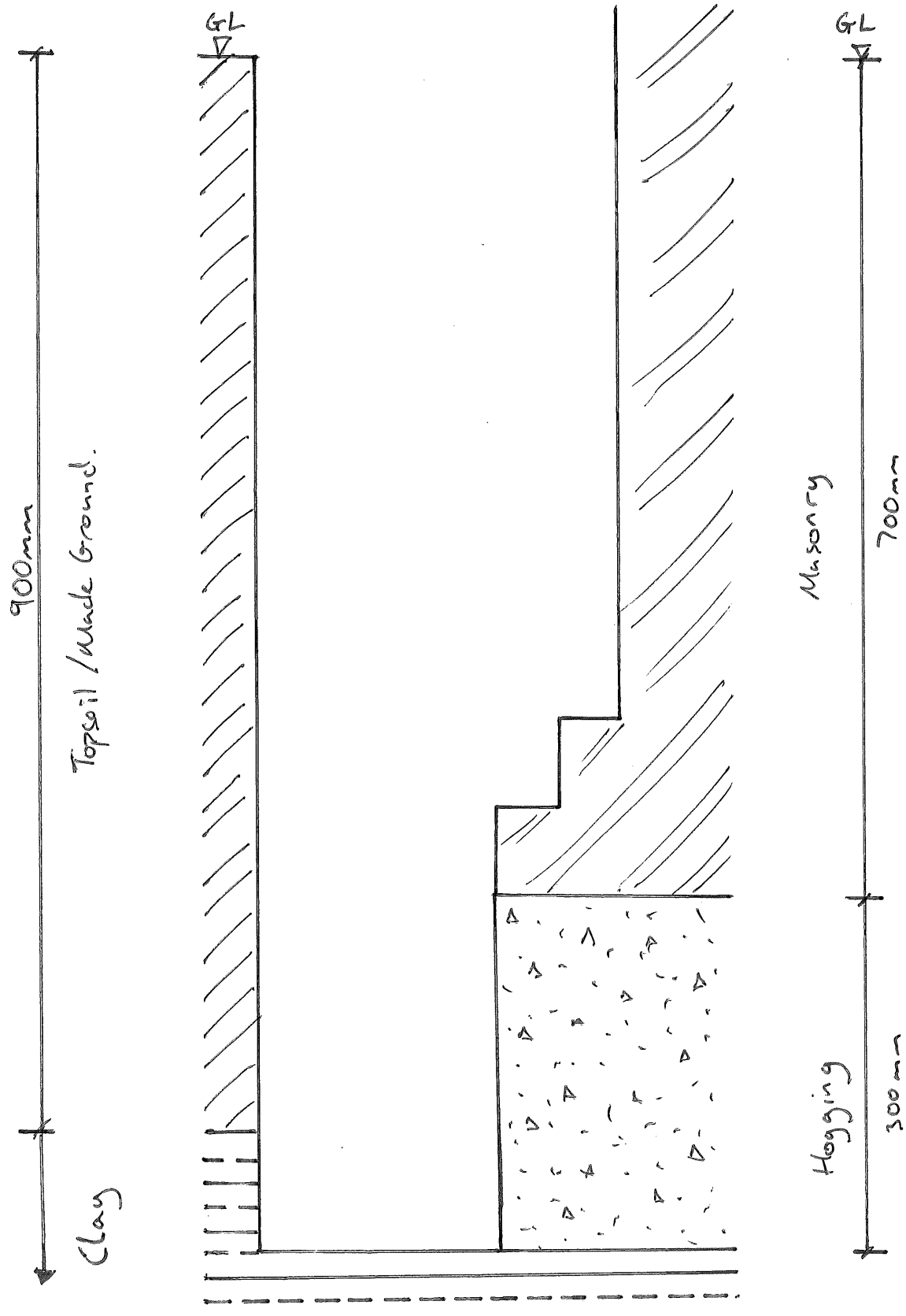
SKETCH SHEET

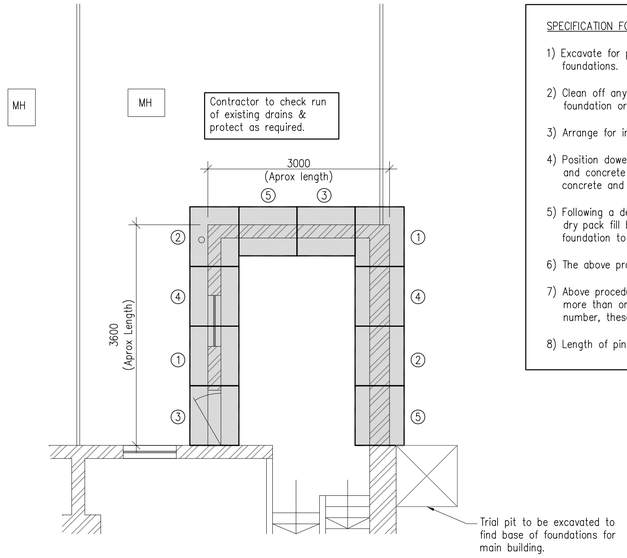


APPENDIX C – SCHEDULE OF WORKS

Schedule of Works

Item	Description	Quantity	Cost
	Demolition		
1.0	Remove plaster around large cracks in Flat 3 73-75 Monkton Street and 77 Monkton Street in preperation for Helibar.	Item	
2.0	Rake out any further cracks internally within both properties adjacent to the proposed Helibar works.	Item	
3.0	Rake out all cracks on external face of flank wall.	Item	
	Installation.		
1.0	Install underpinning as per drawing 31474351/S/01.	Item	
2.0	Install Helibar to flank wall as indicated on drawing 31474351/S/01.	Item	
3.0	Fill any further cracks internally with CrackBond TE and make good finishes.	Item	
4.0	Fill external cracks on flank wall with CrackBond TE and make good finishes where necessary.	Item	

APPENDIX D – UNDERPINNING DRAWING AND SPECIFICATION



GROUND FLOOR PLAN – REAR ANNEX
(1:50)

SPECIFICATION FOR UNDERPINNING AND SEQUENCE OF WORKS

1) Excavate for pins 1 to a min depth of 1200mm below existing foundations.

2) Clean off any loose material on the underside of the foundation or any uneven surfaces.

3) Arrange for inspection by the engineer.

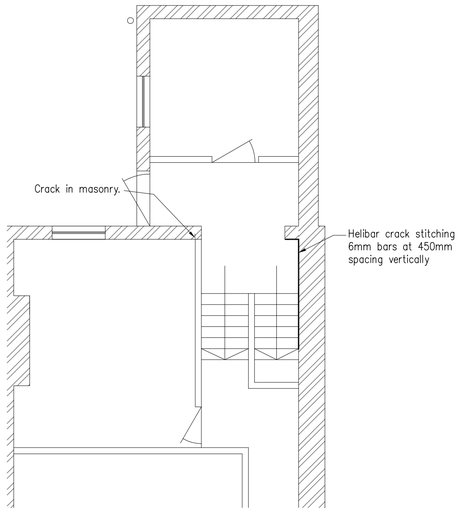
4) Position dowel [4H10–950 long (bent 400 to suit)], formwork and concrete so that a gap of 50mm is maintained between top of concrete and soffit of existing foundation.

5) Following a delay of 48 hours after concreting, ram in a dry pack fill between underpinning & underside of existing foundation to ensure full contact is achieved.

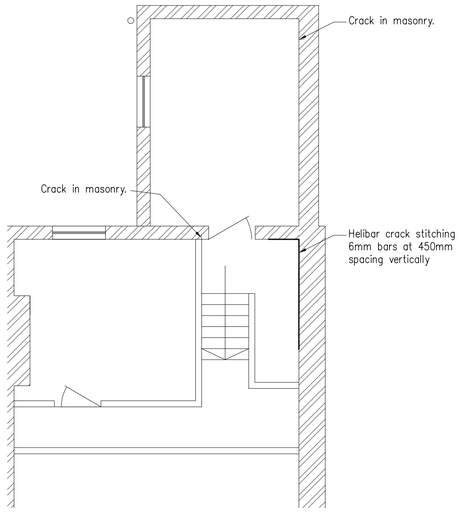
6) The above procedure to be then repeated for pin 2.

7) Above procedure to be repeated for pins 3 & 4. Where more than one pin is shown on the drawing with a similar number, these may be opened up at the same time.

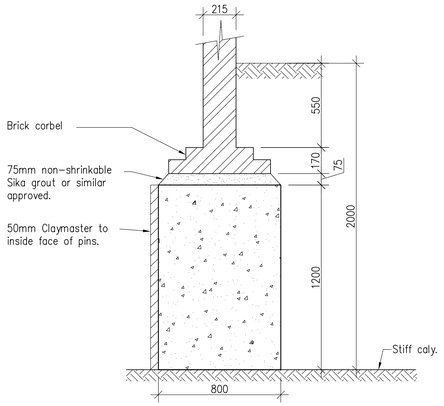
8) Length of pins not to exceed 1100.



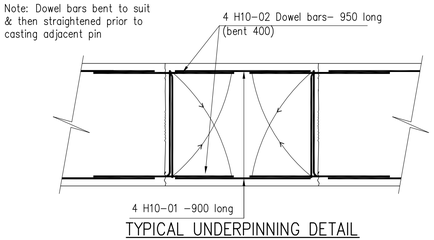
GROUND FLOOR PLAN
(77 MONKTON STREET)
(1:50)



FIRST FLOOR PLAN
(FLAT 3, 73–75 MONKTON STREET)
(1:50)

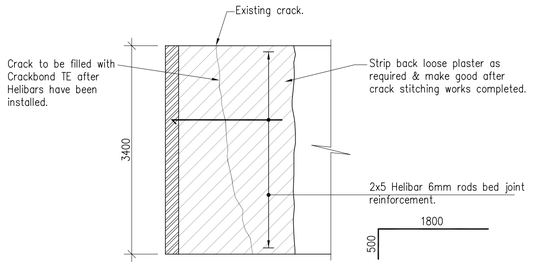


TYPICAL UNDERPINNING SECTION
(1:20)



TYPICAL UNDERPINNING DETAIL
(1:20)

NOTE:
Pin to be dry pack in 3:1 cement/sand mix with sufficient water to bind mix together.
New footing to be in concrete grade RC30/37 (20 max. aggregate) SRPC.
Water cement ratio to be 0.6.



DETAIL A
FLANK WALL ELEVATION
HELIBAR INTERNAL SIDE ONLY
(1:50)

NOTES

Do not scale this drawing.

All dimensions and levels to be checked by contractor on site prior to commencement or manufacture.

Refer to attached underpinning specification.

Access to the rear is limited. Contrator to liase with Lambeth Living to confirm arrangements.

Rev	Date	By	Chk	Comment
A	05/12/14	RS	BH	Initial issue.

BRINGING IDEAS TO LIFE

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Celebrating 30 Years 1982-2012

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Client: Lambeth Living

Project Title: 77 MONKTON STREET
LONDON SE11 4TX
–

Drawing Title: STRUCTURAL G.A. & DETAILS

Drawn by:	Scale:	Date:
RS	As shown @ A1	DEC 2014
Designed by:	Checked by:	Approved by:
RS	BH	MA

File Ref.:

Drawing No.	Rev.
31474351/S/01	A

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CIVIL & STRUCTURAL SPECIFICATION

NO. 10

UNDERPINNING WORKS

At

FLAT 3, 73-75 MONKTON STREET & 77 MONKTON STREET

For

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REF: RS/PT/31474351
CHECKED BY: MA

ISSUE DATE: DEC / 2014
FILE REFERENCE: 593873/SPECIFICATION
STATUS: REV A

LAMBETH LIVING LTD
THE CHARTWELL BUILDING
CHARTWELL BUSINESS PARK
PAULET ROAD
LONDON SE5 9HW

SPECIFICATION NO. : **10**

SPECIFICATION: **Underpinning Works**

AT: **FLAT 3, 73-75 MONKTON ST & 77 MONKTON ST**

FOR: **Lambeth Living Ltd**

FRANKHAM PROJECT NO.: **31474351**

DOCUMENT VERIFICATION:

Prepared by: **Richard Sellwood**

Reviewed by: **Martin Andrews**

Approved by: **Gordon Lane**

Issue Purpose	Issue Date	Prepared by	Reviewed by	Approved by
Construction	09/12/14	RS	MA	GL

SPECIFICATION NO.10

UNDERPINNING WORKS

INDEX

SECTION NO: CLAUSE DESCRIPTION

SPECIFICATION NO.10

UNDERPINNING WORKS

10.1 METHOD OF WORKING

Carry out underpinning of existing walls or foundations in the locations and depths shown on the contract drawings or as agreed by the Engineer or his representative on site. The sequencing shown is conceptual and an alternative sequencing arrangement may be put forward by the Contractor for approval.

Unless shown otherwise on the drawings, the aggregate length of any excavation of any wall to be underpinned shall not exceed one quarter of the total length of the wall at any one time.

The whole of the underpinning is to be executed in lengths not exceeding 1.0m at a time or as may be directed or required by the Local Authority or the Engineers representative, and all work is to be carried out to their satisfaction.

The sequence of underpinning shall be arranged so that no two adjacent sections shall be constructed consecutively. Sections of underpinning are to be keyed into its neighbouring section.

The bottoms of all excavations are to be taken down to the levels shown on the drawings or as required by the Local Authority or the Engineers representative. Where foundations of new walls are below the level of foundations of walls of the adjoining premises, excavate as necessary from, and underpin from, the levels of the bottom of new foundations up to the underside of the foundations of old wall as directed by the Local Authority or Engineers representative.

The bottoms of all the excavations shall be carefully trimmed and finished to the specified levels and all loose material removed.

The sides of the excavations shall be properly supported and retained by good sounds timbering (or by their satisfactory methods) where necessary. All such timbers shall be carefully removed as the excavations are filled in. The removal of the timbering as aforesaid shall be done in such a manner as not to endanger the works and shall not relieve the Contractor of the responsibility for ensuring the stability of the works.

The Contractor shall ensure that the prepared formations are not damaged by weathering. Concrete shall be placed on the day the excavation has taken place unless the formation is blinded with concrete or otherwise suitably protected.

The Contractors attention is drawn to the necessity of providing adequate means of supporting, shoring or upholding by any other means adjoining structures, foundations, road services, etc during operations on the site.

Where existing foundations are discovered to differ from those detailed on the drawing, any discrepancy shall immediately be brought to the attention of the Engineer or his representative. The Contractor shall also immediately report any existing wall or foundation encountered which is in a poor condition.

Concrete shall be placed as quickly as possible after completion of each section of excavation and be thoroughly compacted and carried up to within 75mm of the underside of the existing foundation.

Concrete shall be a minimum grade C30 and to suit any aggressive ground conditions noted in the ground investigation report or as advised by the local authority.

After 24 hours the 75mm gap shall be filled by ramming a 1:3 dry pack non-shrinkable mortar of approved manufacture which shall be allowed to achieve its required strength. A minimum of 48 hours is to pass for this process before adjacent sections are excavated.

All excavated material not required for back filling shall be removed to a tip to be provided by the Contractor.

On completion of works the Contractor shall leave the site in a clean and tidy condition.

All underpinning works are to be carried out in accordance with the latest recommendations and guidance of the Association of Specialist Underpinning Contractors and the Building Research Establishment.

10.2 RESPONSIBLILITY

The entire responsibility for the execution of all works and of all necessary supports and protective measures will rest with the Contractor not withstanding any approval by the Engineer or his representatives or his concurrence with, the action of measures taken or proposed to be taken by the Contractor in pursuance of these obligations.

The Contractor is to indemnity the employer against all costs, charges, damages, fines, penalties, expenses, claims and demands, whatsoever for or upon account or in respect of any injuries or accidents which may at any time happen or be caused to persons or adjoining or adjacent property consequent or incidental to any work hereby agreed to be carried out by the Contractor.

The Contractor is responsible for obtaining approval from all authorities concerned regarding the position of scaffolding etc relative to public highways etc.

The Contractor is to provide his method statements, programme and any proposed alternative sequencing or construction methods to the Planning Supervisor at least seven days prior to the commencement of the works.

The Contractor is provide 'As Built' record drawings of the works constructed within seven days of the completion of the works. These drawings are to include formation and top of concrete levels to each section, construction widths, sequencing, obstructions and any other details or sections necessary to accurately describe the works.

END OF SPECIFICATION NO.10