216193.101

December 2016

STRUCTURAL FEASIBILTY REPORT

For

CONSTRUCTION OF FLATS

At

6 STREATLY PLACE
NW3 1HP

For

ADAM BIER

ENGINUITY
ENGINEERING INGENUITY

Suite 12 Borough House Marlborough Road Banbury OX16 5TH T 01295 279719 F 01295 278977 E ingenuity@ianharban.com W www.ianharban.com

CONTENTS

1.0 Summary

This report considers the structural feasibility of constructing a development at 6 Streatly Place NW3 with particular reference to the access restrictions of the site, the effects on nearby buildings given the slope of the site and need to retain existing site boundary structures. A concept structural layout and construction sequence has been developed as part of the considerations. This utilises mini piling and sequential construction techniques as are now frequently adopted for schemes of this type.

The proposals are considered entirely feasible using normal mini piling techniques and sequential construction techniques with only minor risk of non structural damage to nearby structures, which would be within category 1 of BRE Digest 365

2.0 Instructions and Limitations

2.1 Instructions were received from you via your Architect requesting a Structural Methodology Statement on the proposal to construct a low rise development of flats at 6 Streatley Place. We understand the report is required to supplement a Planning Application.

2.2 Our investigation and report is based on currently available information following an inspection of the site and walking available access routes, along with the Architects Panning drawings. This report has been prepared in consideration of the feasibility of constructing the building only and should not in any way be taken as a design for the construction.

2.3 This report is prepared for the information, benefit and use of Adam Bier only and any liability of Ian Harban Consulting Engineers to any third party, whether in contract or in tort, is specifically excluded. Any third party finding themselves in possession of this report may not rely upon it without first obtaining the written authority of Ian Harban Consulting Engineers.

2.4 RHS refers to the right hand side of the building when viewed from Streatley Place

2.5 LHS refers to the left hand side of the building when viewed from Streatley Place.

3.0 Description, History and Proposals

3.1 The site is broadly rectangular on plan although narrowing to the rear. Existing buildings are near the LHS, RHS and rear of the site, with the frontage to Streatley Place.

3.2 The site slopes from RHS to LHS by approximately two storeys.

3.3 It is proposed to construct a three storey building on the site footprint, requiring retaining walls to the RHS and a floor level higher than the neighbouring ground to the left hand side. Architectural drawings are included in the Planning Application and are not reproduced in this report for brevity.

3.4 Access to the site is from either direction along Streatley Place, with a slope down from the Back Lane and with steps from the entrance at New End.

4.0 Site

4.1 Existing Structures

4.1.1 The existing neighbouring buildings are predominantly of loadbearing masonry construction. Existing brick boundary walls form the LHS and RHS boundaries and are understood to be Listed and must be retained.

4.1.2 All neighbouring buildings do not abut the site, the closest being 5m away from the boundary.

4.1.3 The slope of the site will require material to be excavated and temporary and permanent restraint of the brick boundary walls will be required.

4.2 Access

4.2.1 The current site access is from either end of Streatley Place. Access is both narrow and with steps from the New End road.

4.2.2 The proposed building will occupy the majority of the site footprint requiring careful consideration of site logistics and material delivery and disposal of material so off site.

5.0 Structural Proposal and Construction Methods

5.1 Structural Proposals

5.1.1 The drawings in Appendix A show the proposed concept structural cross section and construction proposals with respect to construction sequence and temporary and permanent stability of the adjacent structures.

5.1.2 It is proposed to install mini bored piles to support the proposed building and these can be used to provide temporary support to the existing site boundary walls.

5.1.3 The floor plate of the lowest and first level will be reinforced concrete to provide lateral stability to the piled walls.

5.2 Proposed Construction Method

5.2.1 The proposed sequence and method of construction needs to take account of temporary stability during construction, both of the site itself but also the neighbouring buildings.

5.2.2 The works would need to be undertaken by a contractor familiar with working in tight confines and mini piling construction.

5.2.3 More particularly the proposed structural sequence would be as follows, assuming other site set up/ welfare etc has been completed:

5.2.3.1 Isolate and make safe any existing services.

5.2.3.2 Provide site hoarding to the Streatley Place elevation and secure site.

5.2.3.3 Locally level site with terracing and form piling mat. Establish piling rig on site accessed from Back Lane End. This may require temporary local traffic restrictions at Back End, shown on Step 1 of SK01.

5.2.3.4 Step 2, locally underpin existing wall on the 3 Streatley Place boundary, in 1m long sections using traditional underpinning techniques. During this process cut piles down adjacent to wall.

5.2.3.5 Step 3, Reinforce upstand of wall as necessary and excavate to base of wall in sections, cut down piles and cast base supported onto piles.

5.2.3.6 Step 4, Excavate remainder of site down to formation, cut back piles and cast ground slab. At this stage it may be necessary to provide concrete counterfort strengthening to the existing wall on the New Court boundary.

5.2.3.7 Step 5, construct remainder of superstructure.

5.3 Construction Good Practice.

5.3.1 Local parking is limited and therefore site operatives should use the many immediate public transport connections.

5.3.2 Demolition and excavation dust on site will be controlled by the watering of work at ground floor level. Inlets to the drainage system will be protected with filters bunded with sandbags to prevent slurry runoff entering the system.

5.3.3 The Contractor will adhere to, and respect any restrictions on working hours or the enforcement of silent periods throughout the day, which may be imposed by the Local Authority, Contract Documents or the Party Wall requirements.

5.3.3 All waste Substances from the site shall be disposed of offsite, under the appropriate Duty of Care and subject to approvals/consents from the relevant statutory bodies. Recycling is to be undertaken wherever appropriate. All vehicles leaving site carrying potentially dust-generating demolition or construction waste are to be completely sheeted with tarpaulin or netting, in good condition.

5.3.4 The site is to be securely hoarded along the boundary to the public right of way. The hoarding is to be designed by the contractor's Charted Civil or Structural engineer to resist appropriate wind loadings as defined by 8S6399:2.

5.3.5 All live emergency exits and access routes on site will be maintained at all times.

6.0 Effects of Proposed Works

6.1 Neighbouring Structures

6.1.1 The proposed construction sequence has been conceived to provide lateral stability to adjacent structures and existing boundary masonry walls.

6.1.2 However, with all construction of this type, the existing site boundary walls may suffer minor movement. Any settlement resulting from a properly executed scheme will be within reasonable limits and at worst may result in superficial cracking. Condition surveys should be undertaken as part of Party Wall Act requirements so that the effects of any minor movement that might occur can be monitored. We would also recommend datum level monitoring stations and targets are installed to monitor levels during the works.

6.1.3 The form of construction will also limit and lateral movement of the top of the wall, this being propped by the proposed reinforced concrete ground floor.

6.1.4 The proposed works will not affect the structural stability or integrity of the neighbouring structures.

6.2 Adjacent Trees and Root Protection

6.2.1 The proposals have been developed in way which minimises working to external areas where tree and root protection measures are required.

6.3 Pedestrian safety on Streatley Place

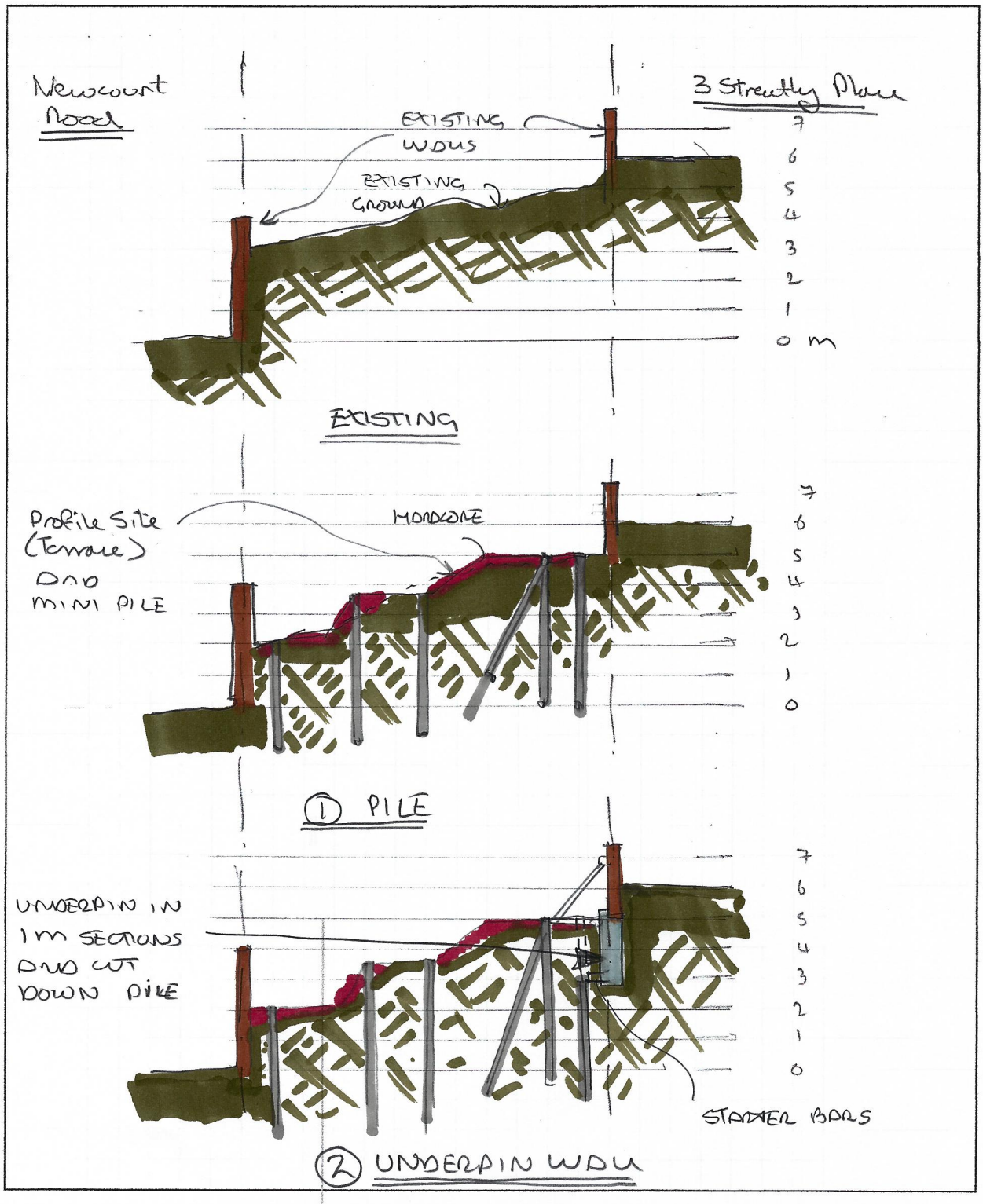
6.3.1 Spoil arising from the excavations will need to be disposed off site, using site personal to move the material down Steatley Place to the end of New End where skips can be located.

6.3.2 It will also be necessary for site operatives to move materials into the site along Streatley Place. The building will need to be designed to allow all materials to be moved onto site using wheel barrows or narrow self propelled barrows, only used with a banksman to ensure public interface remains safe.

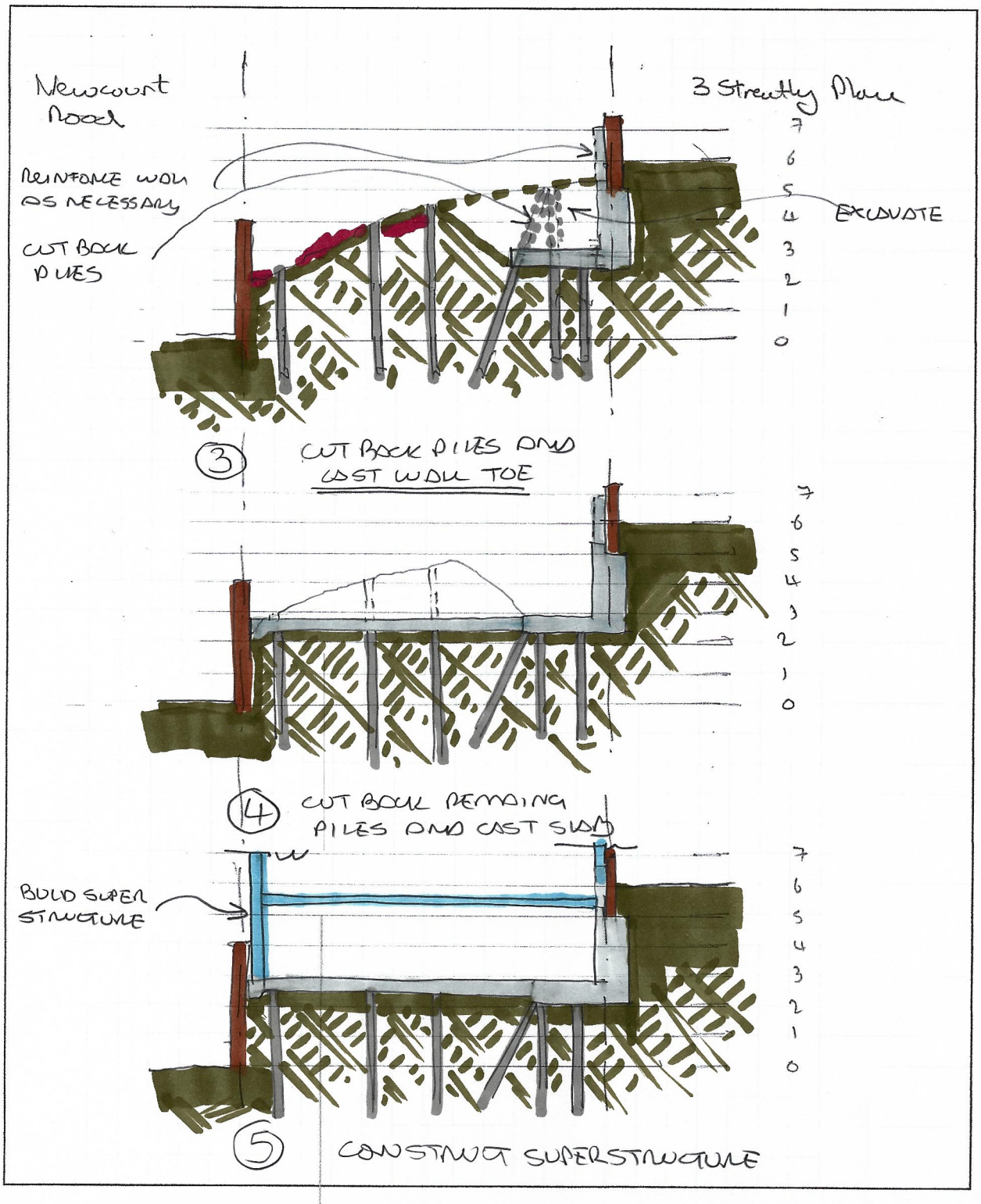
APPENDIX A

Drawings 216193 SK01 and SK02

Job Name	6 Streatly Place		
Date	Dec'16	By	IGM	Scale
Job Number	216193	Sheet Number	SK01	Rev



Job Name 6 Streatly Place		
Date Dec'16	By IGH	Scale
Job Number 216193	Sheet Number SK02	Rev



Suite 12 Borough House Marlborough Road Banbury OX16 5TH T 01295 279719 F 01295 278977 E ingenuity@ianharban.com W www.ianharban.com

I A N H A R B A N

C O N S U L T I N G E N G I N E E R S