1/202 **UPPER BASEMENT PLAN AS PROPOSED**
1:100 @ A1

Notes:

Drawings are based on survey data and may not accurately represent what is physically present.

Do not scale from this drawing. All dimensions are to be verified on site before proceeding with the work.

All dimensions are in millimeters unless noted otherwise.

Purcell shall be notified in writing of any discrepancies.

N

0 1 2 5

Key

- Proposed walls / structure
- Existing walls / building fabric
- Existing fabric to be removed
- Beam over
- Extent of Existing house footprint above

NOTE: Prior to 28/08/12, drawing 202 was numbered as 200

ISSUE	DATE	DRAWN	CHECKED	DESCRIPTION
A	16 Jul 2012	MW		ARevised scheme for pre-planning application
First Issue	19 July 2011	MW	APL	

CLIENT Professor G R Flick

PROJECT Park House, 7-11 Onslow Square

DRAWING TITLE Upper Basement Plan As Proposed

SIZE & SCALE 1:100 @ A1

DRAWING STATUS ISSUED FOR PLANNING

JOB NUMBER 232260

DRAWING NO. 202

REVISION A

PURCELL

Park House, Onslow Square
Suberranean Construction Method Statement

Structural Engineering Notes on the Proposed Works to Form a New Basement and Assumed Sequence of Construction

Prepared for Professor G R Flick

September 2012

Alan Baxter

Park House, Onslow Square
Subterranean Construction Method Statement

Structural Engineering Notes on the Proposed Works to Form a New Basement and Assumed Sequence of Construction

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Appendix A – Site Plan and Summary Drawings

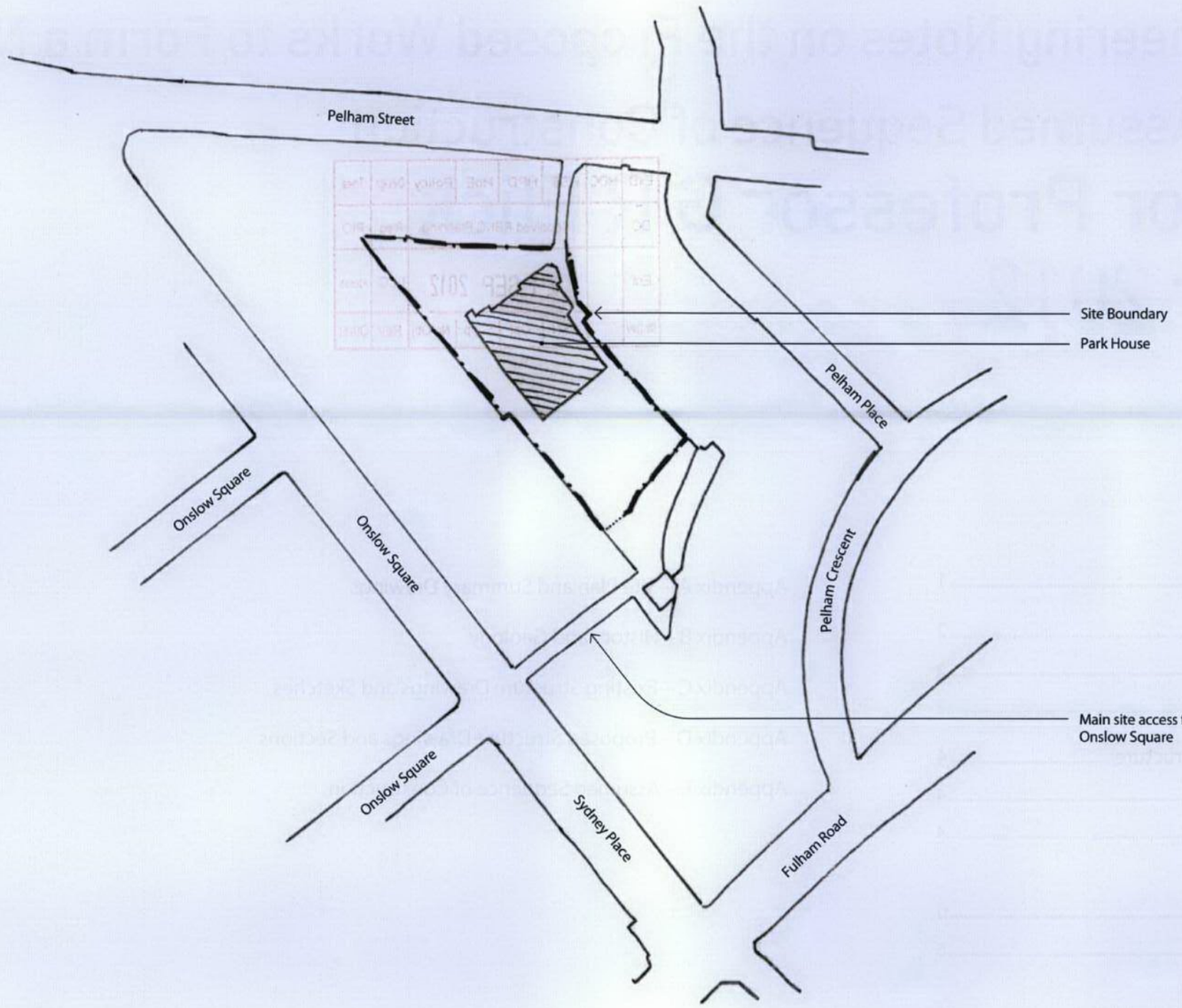
Appendix B – History and Geology

Appendix C – Existing Structure Drawings and Sketches

Appendix D – Proposed Structure Drawings and Sections

Appendix E – Assumed Sequence of Construction

Alan Baxter


Pelham Street
Site Boundary
Park House
Pelham Place
Onslow Square
Onslow Square
Pelham Crescent
Main site access from
Onslow Square
Onslow Square
Sydney Place
Fulham Road

Site Plan

1.0 Introduction

1.1 Alan Baxter and Associates LLP (ABA) have been appointed by Laxat Nominees Ltd to prepare a structural engineering appraisal of the existing structure to Park House, and to comment on the key structural engineering issues relating to the construction of a new basement extension. These notes are to be read with and form part of the Planning Application. For Construction, in due course, a contractor will put forward his own construction method statement

1.2 Park House is located within the centre of a block of terraced properties to the North of Onslow Square and approximately 50m south of South Kensington Underground Station in West London; refer to the location plan in Appendix A. The building can be split into three sections:

i) A three storey building on the North of the site, originally built as two semi-detached Victorian cottages (Pelhelm Cottage and Park Cottage);

ii) A large single storey Victorian building to the South of the site.

iii) Two post 1987 single storey 'link' buildings connecting the cottages and the studio and forming a central courtyard. A small basement housing plant forms part of the Northern link building.

Refer to drawings 1617/01/001 & 002 in appendix A.

1.3 The building is not listed, but it does fall within the Thurloe/Smith's Charity conservation area.

1.4 The alterations to the existing structure proposed by the Architect include:

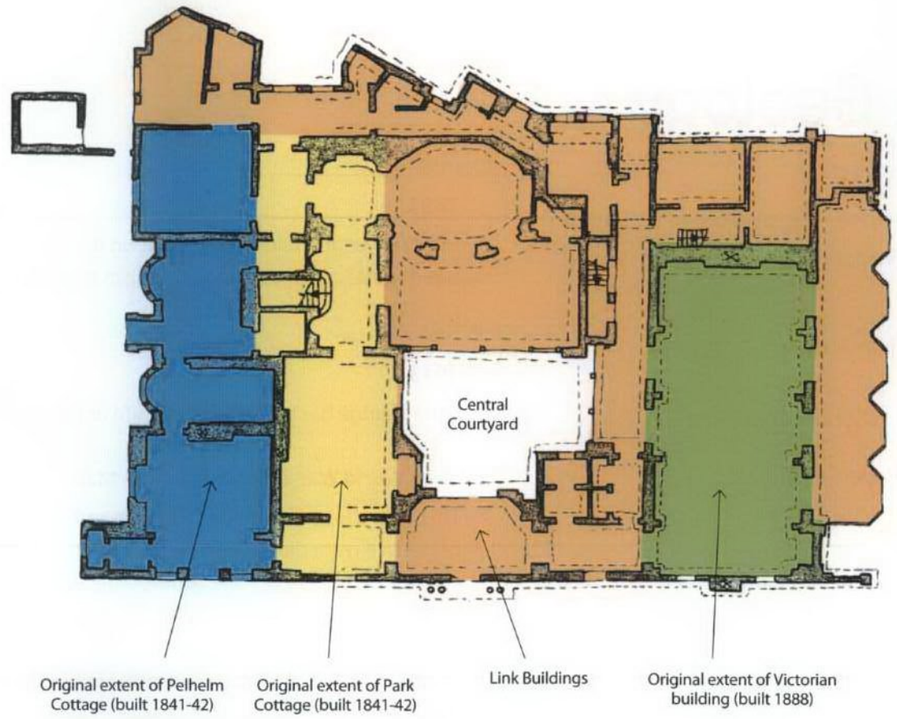
i) The removal of the existing Victorian building to the South of the site, and the link buildings.

ii) Construction of a new two storey basement on the footprint of the removed building and extending into the drive and rear garden.

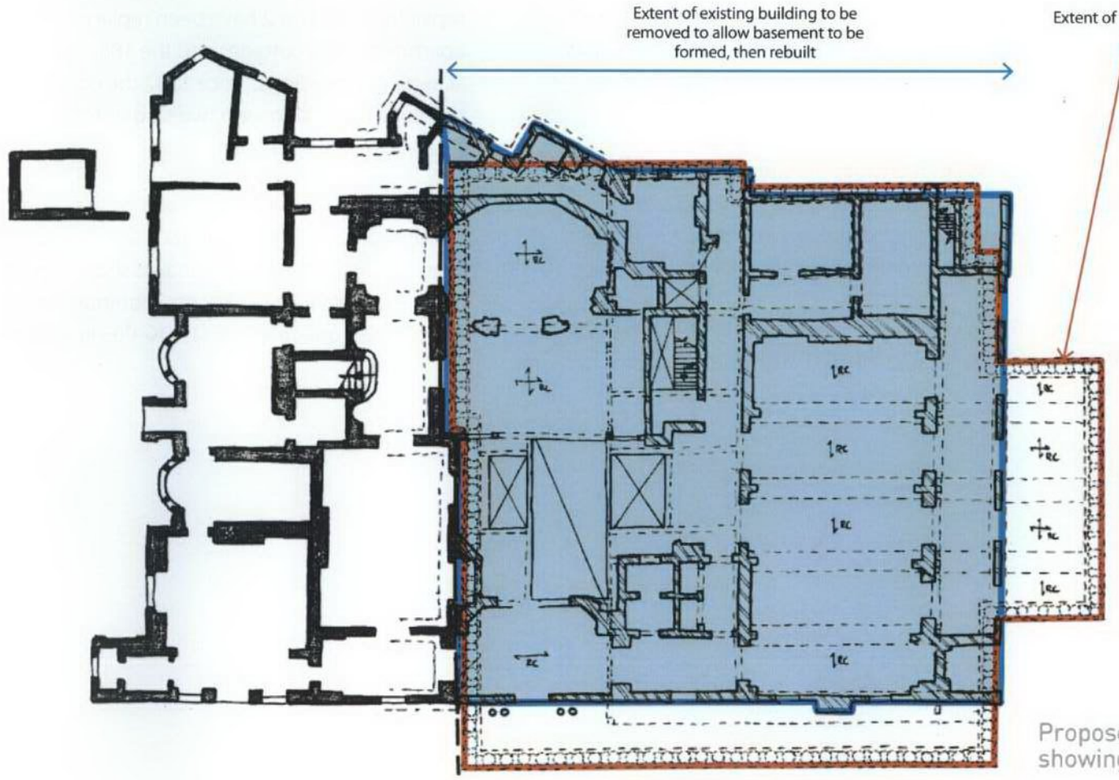
iii) Reconstructing the original buildings over the newly constructed basement.

This is summarised on drawing 1617/01/003 in appendix A.

1.5 The following notes are based on the architects proposals, two visits to the building in March 2011, a measured survey of the existing building, a site investigation carried out in August 2012, research on the site and our knowledge and experience of buildings of this age and type.



Ground Floor Plan showing phases of construction



Proposed Ground Floor Plan showing extent of works

History & Geology

1.6 History

1.6.1 This is a brief summary of the historical development of the site based on the following:

- The historical maps shown on drawing 1617/01/004 in appendix B
- The Survey of London vol. XLI, South Kensington

1.6.2 The site appears to have developed as follows:

1826

The site forms part of the Harrison and Bristow nursery, which stretches between Brompton Road to the north and Fulham Road to the south

1865

In 1841-42, two cottages were built on the site by James Bonnin. One, Pelham Cottage, as a residence for Bonnin himself. The other was called Park Cottage after its first resident, Thomas Park. These cottages currently form the two storey section of Park House to the north of the site.

The terraced properties that enclose the site along Pelham Place, Pelham Street, Pelham Crescent, Fulham Road and Onslow Square were also constructed around this time, as well as the small mews building to the rear of no. 7 Onslow Square.

South Kensington Station and the associated underground train lines have been constructed to the north of the site.

1894

In 1888 a large building was built on the site to the south of the original cottages, separated from them by a stone paved courtyard.

1913

Little change has occurred to the site or the area surrounding it.

1945 World War 2 Bomb Damage Map

This map shows that five of the terraced buildings to the West of the site were damaged beyond repair. Ten of the terraced properties around the site suffered general blast damage. The buildings on the site are not noted as having suffered any damage.

1987

The original terraced houses that were damaged beyond repair in World War 2 have been replaced with new blocks of apartments. The cottages and the 1888 building are still shown as separate dwellings. Since 1987 the cottages have been joined to the 1888 building with two single storey link buildings to create a central courtyard.

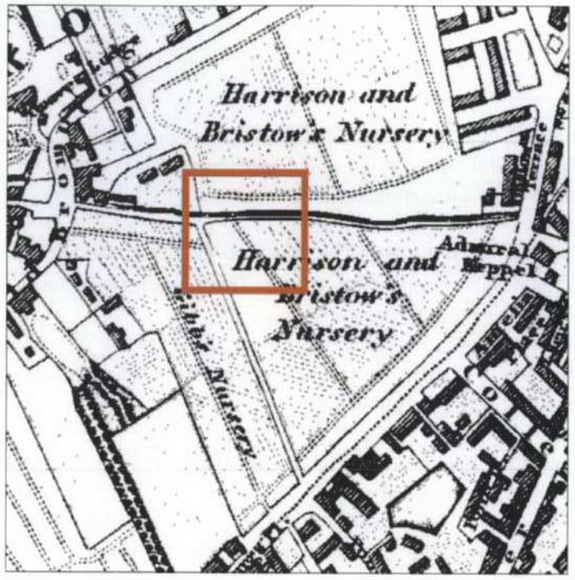
1.6.3 The site does not fall into any of the Royal Borough of Kensington and Chelsea's (RBKC) safeguarded zones of special archaeological potential as shown on figure 2.5 in the RBKC Town Planning Policy on Subterranean Development (reproduced on drawing 1617/10/005 in appendix B).

1.7 Geology

1.7.1 The local geology map for this area shows that the site lies in an area of Sand and Gravel, overlying London Clay.

1.7.2 From borehole data provided by RSK Stats during site investigation works carried out in August 2012, the sand and gravel strata extends approximately 8m deep, with around 700mm of made ground overlaying it.

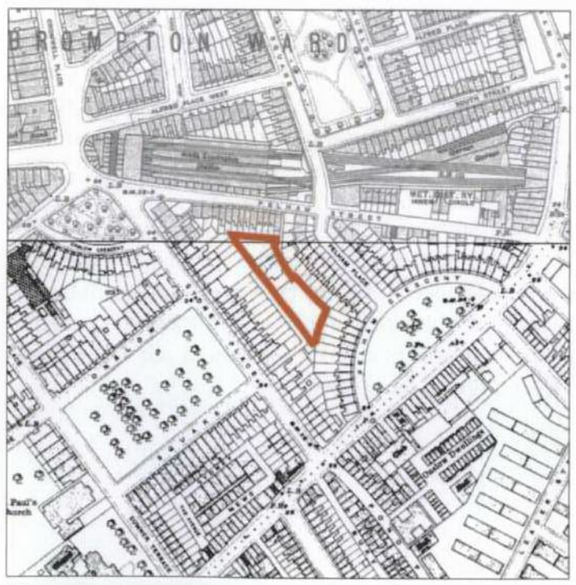
1.8 Groundwater was encountered 0.5m above the London Clay strata during the site works. This is to be monitored over the next 12 months.



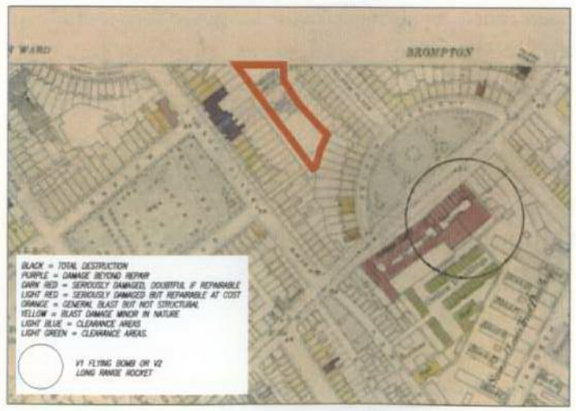
1826: The site forms part of the harrison and bristow nursery, which stretches between brompton road to the north and fulham road to the south

1865: In 1841-42 two cottages were built on the site by James Bonnin. One, pelham cottage, as a residence for bonnin himself, the other was called park cottage after its first resident, Thomas Park. These two properties currently form the two storey section of park house to the north of the site. The terraced properties that enclose the site along pelham place, pelham street, pelham crescent, fulham road and onslow square have all been constructed, as has the small mews building to the rear of no. 7 Onslow Square. South kensington station and the associated underground train lines have been constructed to the north of the site

1894: In 1888 a large building was built on the site to the south of the original cottages, separated from them by a stone paved courtyard



1914: Little change has occurred to the site or the area surrounding it



1940-45 bomb damage: World War 2 bomb damage map – this map shows that 5 of the terraced building to the south of the site were damaged beyond repair. 10 of the terraced properties around the site suffered general blast damage. The buildings on the site are not noted as having suffered any damage

1987: The original terraced houses that were damaged beyond repair in world war 2 have been replaced with new blocks of apartments. The cottages and the 1888 building are still shown as separate dwellings. Since 1987 the cottages have been joined to the 1888 buildingwith two single story link buildings to create a central courtyard

2.0
Form & Condition of the Existing Structure

2.1 Form of existing structure

2.1.1 Our understanding of the form of the existing structure is illustrated on the drawings in Appendix C. They are based on what we have seen of the structure during two visits to the building in March 2011, a measured survey of the existing building, research on the site and our knowledge and experience of buildings of this age and type.

2.1.2 The existing construction comprises of three main parts, namely

i) A three storey building on the North of the site, originally built as two semi-detached Victorian cottages;

ii) A large single storey Victorian building to the South of the site;

iii) Two post 1987 single storey 'link' buildings connecting the cottages and the studio and forming a central courtyard. A small basement housing plant forms part of the Northern link building.

Refer to drawing 1617/01/002 in appendix A.

2.1.3 The cottages comprise load bearing masonry walls, with corbelled brick foundations on unreinforced concrete strips approximately 700mm deep. A summary of the foundations exposed by the site investigation can be seen on drawing 1617/01/S02 + S03 in Appendix B. The floor structures comprise a solid ground bearing concrete slab and timber upper floors and roof. The cottages still retain parts of the original chimney stacks.

The structure to the cottages is independently stable, relying on the timber floors to act as stiff plates, transferring horizontal loading to the solid cellular brickwork walls.

2.1.4 The Victorian building to the South of the site also comprises load bearing masonry walls supporting a timber mezzanine floor and roof. The site investigation works have shown that the brickwork walls have brick corbelled foundations on an unreinforced concrete strip footing. The ground floor is a solid ground bearing slab.

The structure is also self stable, relying on the timber roof to act as a stiff plate, transferring horizontal loading to the solid cellular brickwork walls.

2.1.5 The link buildings comprise load bearing masonry walls, a solid ground bearing concrete slab and timber roof structures. The brickwork walls to the link buildings are supported on concrete strip footings.

The stability of the link buildings relies in part on their connections to the Victorian buildings.

2.1.6 The site is generally enclosed by one brick thick brickwork garden walls, approximately 1.5m tall above ground level.

2.1.7 A statutory services search has been carried out, refer to drawing 1617/61/008 for a summary. This shows that the existing underground services are all in the streets around the site except for those that service Park House itself. Refer to the M+E engineers report for all details of the proposed services to Park House.

2.2 Condition of existing structure

2.2.1 The original construction of the Victorian buildings appears to be of slightly above average quality for their age and type. Both have had previous alterations, most significantly when the two cottages were joined together and then connected to the studio building to form a single dwelling. The link buildings appear to be of a lesser quality of original construction.

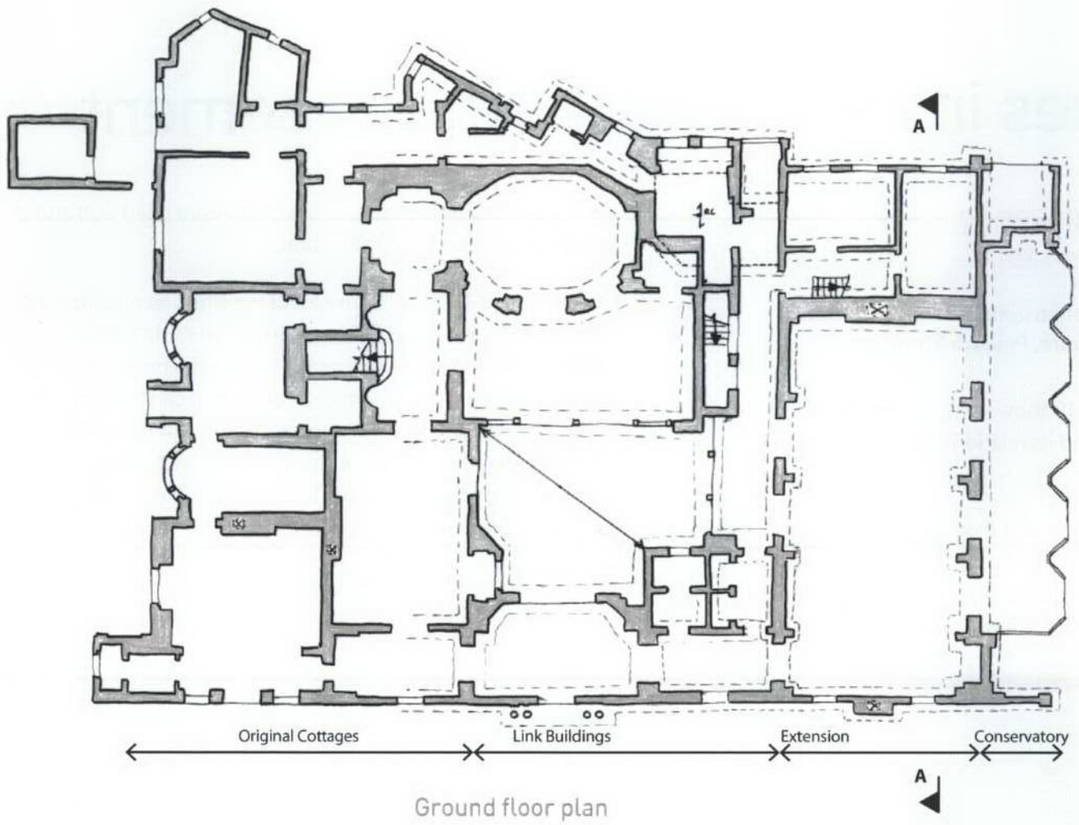
2.2.2 All of the buildings appear to be reasonably well founded at the top of a layer of sands and gravels. There was no obvious evidence of any significant settlement.

2.2.3 Overall the whole structure appears to have been reasonably well maintained over its lifetime.

2.2.4 Generally the existing buildings appear to be in good condition for their age and type.

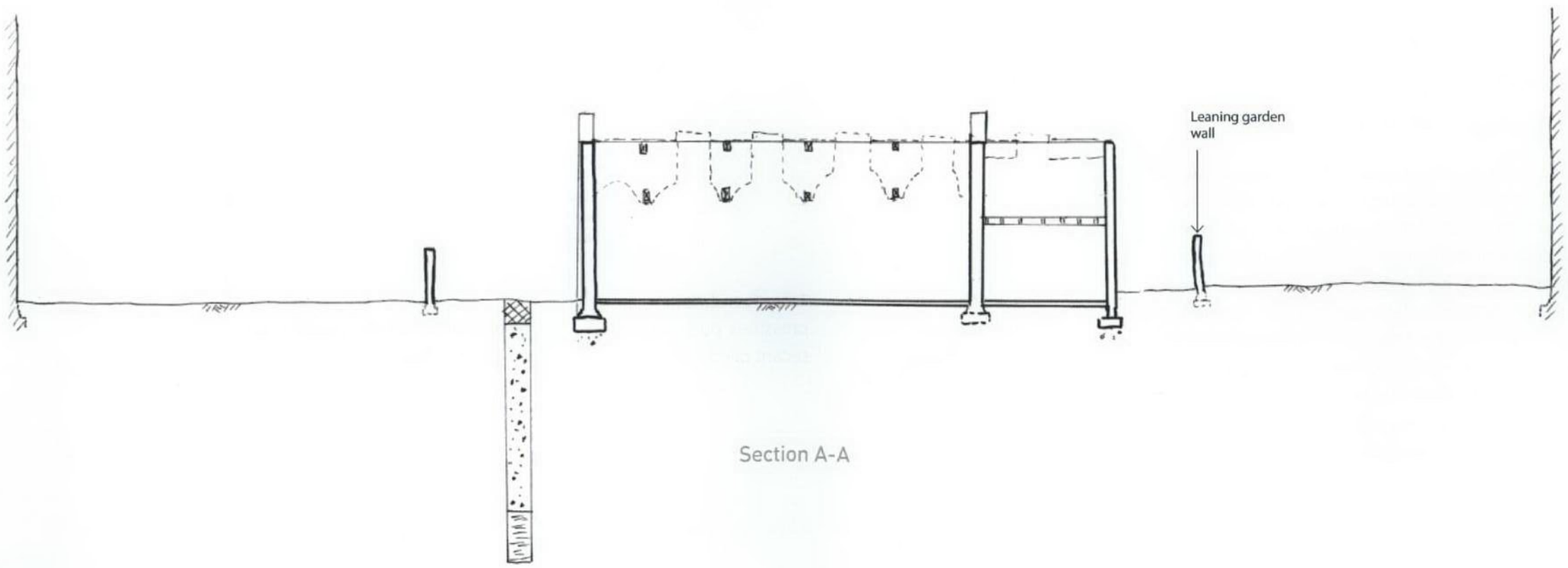
2.2.5 It is however the nature of existing buildings that they contain structural defects, some of which are hidden and may not be obvious. It is not possible to fully check and appraise every element of the existing structure, so some defects may remain hidden. Our approach to these repairs aims to mitigate structural problems and defects which we encounter during the course of our work with a view to extending the useful life expectancy of the structure. This approach cannot be judged by comparing the works undertaken with current standards of new construction and its success will also depend on proper future maintenance and repair of the building, particularly its external envelope.

2.2.6 The brickwork garden wall to the North-East of the site is bulging and leaning towards Park House. This largely appears to be physical damage from the growth of trees adjacent to the wall in the neighbouring properties. A brickwork encased concrete pier has been built on the Park House side of the party wall to try to stop this movement.



Ground floor plan

Photo of leaning garden wall



Section A-A

3.0
Proposed Alterations and Key Issues in the Design of the Basement

3.1 Proposed alterations

3.1.1 The alterations to the existing structure proposed by the Architect include:

i) The removal of the existing Victorian building to the South of the site and the link buildings.

ii) Construction of a new two storey basement on the footprint of the removed building and extending into the drive and rear garden.

iii) Reconstructing the original buildings over the newly constructed basement.

This is summarised on drawing 1617/01/003 in Appendix A. The key structural engineering issue at this stage is to study how the basement may be constructed.

3.1.2 A number of options have been explored in determining how to form the structure to the new basement. These include underpinning the retained walls, and various forms of retaining wall (contiguous, sheet and secant piled walls). The merits of each option were considered whilst giving careful consideration to the implications on the following issues:

i) Adjacent properties

ii) Retained existing structure to Park House

iii) Groundwater

iv) Trees (refer also to the arboriculturist's report)

3.1.3 Where alterations are proposed and where possible, we aim to design these to be sympathetic to the existing structure and the overall structural action of the building. Changes to the structural action are of course inevitable in any alteration and where significant, such as is proposed here, can lead to minor movements in adjacent areas of the construction. Generally the bulk of these movements should take place during the works on site, but some may occur after construction is complete. The structural engineering proposal has been developed to mitigate significant impact. This has involved developing a design that also carefully considers the sequence of construction. See drawings 1617/01/14–19.

3.2 Key structural engineering issues in the design of the basement

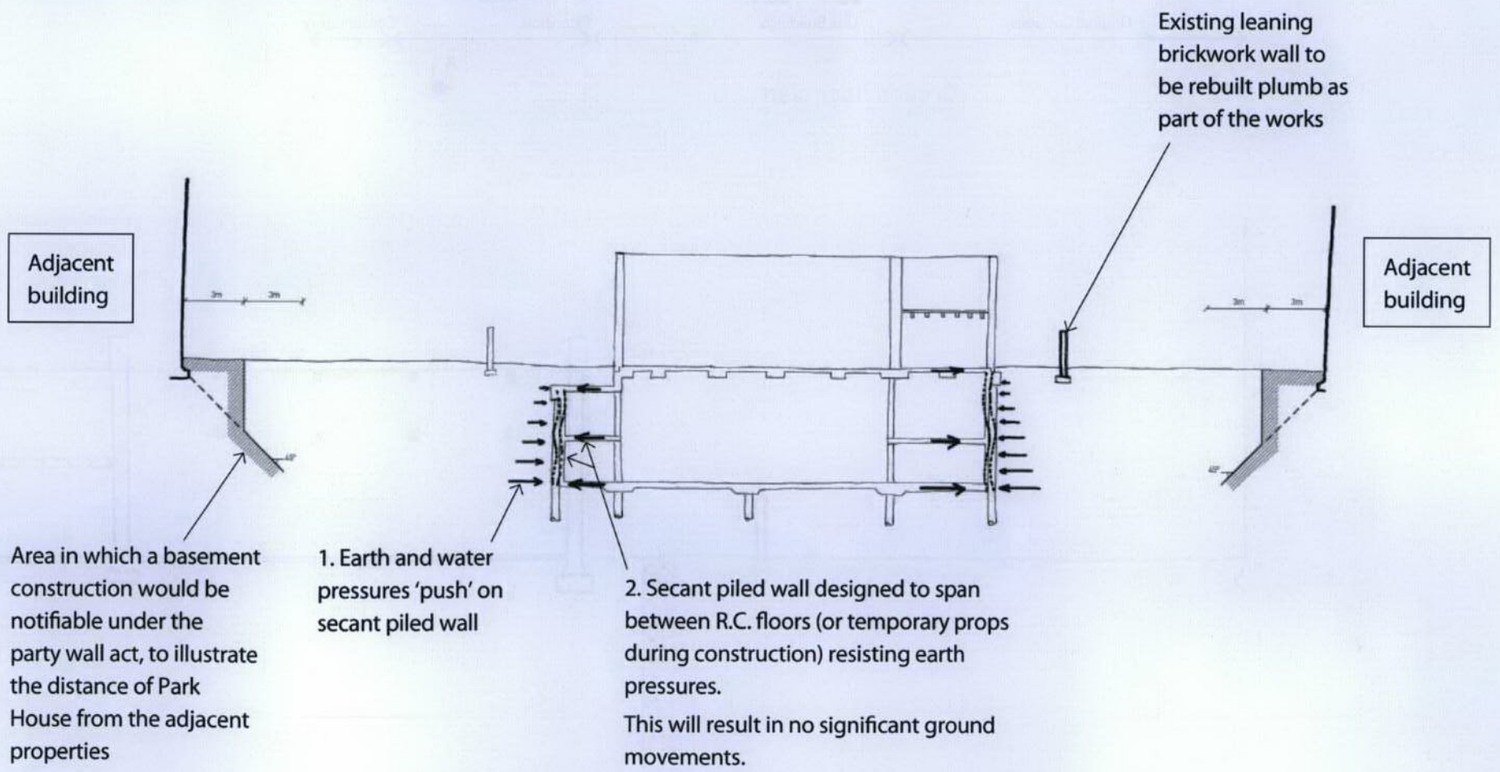
3.2.1 Effect of the basement construction on the adjacent properties in Onslow Square, Pelham Street and Pelham Place

Drawings 1617/01/18 and 19 show sections through the proposed new structure and its relationship to the existing adjacent buildings.

The distance of the new basement from the adjacent buildings is such that the excavation of the basement should not have any significant effects on the adjacent buildings. In order to limit ground movements and so further mitigate the effect of the excavation on the adjacent properties gardens it is proposed to form the basement with a secant piled wall and a propped sequence of construction.

The garden wall to the north-east of the site is leaning towards Park House, see section C-C on drawing 1617/01/018. It is likely that this wall would be affected by the proposed works, regardless of the sequence or form of construction. It is therefore proposed to remove this wall at the start of the excavation works and then re-build it once the basement construction is complete (with temporary fencing to be provided to the contractors details during the works).

As a precaution, the adjacent properties will be monitored for movement by the contractor carrying out the work.



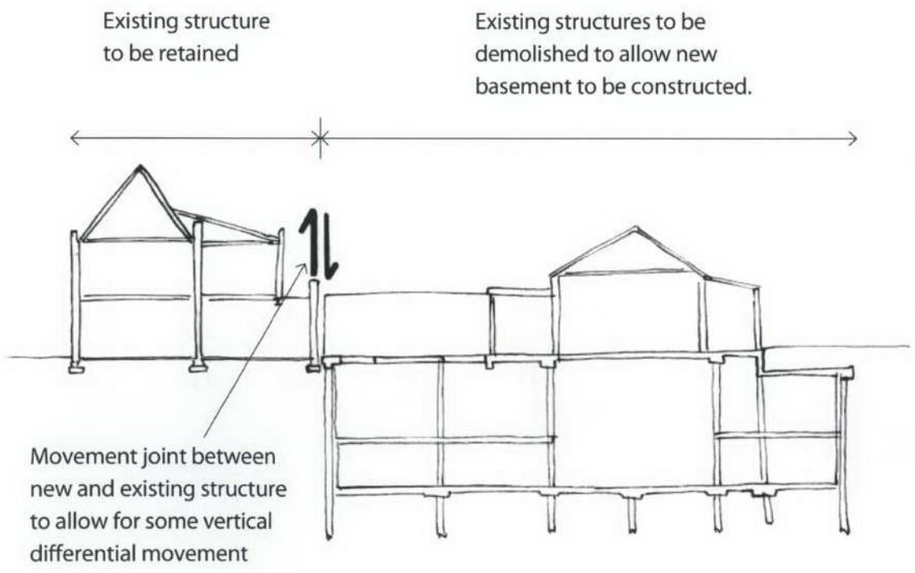
Sections showing how proposed basement resists horizontal earth pressures

3.2.2 Effect of the basement construction on the retained buildings to Park House

The retained section of the building, the two original Victorian cottages, will be retained in their current cellular form, avoiding the need for any temporary works to provide stability to the structure during the works.

The new basement adjacent to the retained structure is to be constructed with a propped secant piled wall, which will be designed to limit any significant ground movement. The new basement, and rebuilt structure over, will be designed with a settlement joint between the new and existing structures, to allow for differential vertical movement.

Overall, the new structure should not significantly affect the retained existing structures. The proposals discussed above are shown on drawing 1617/01/032 in Appendix D.



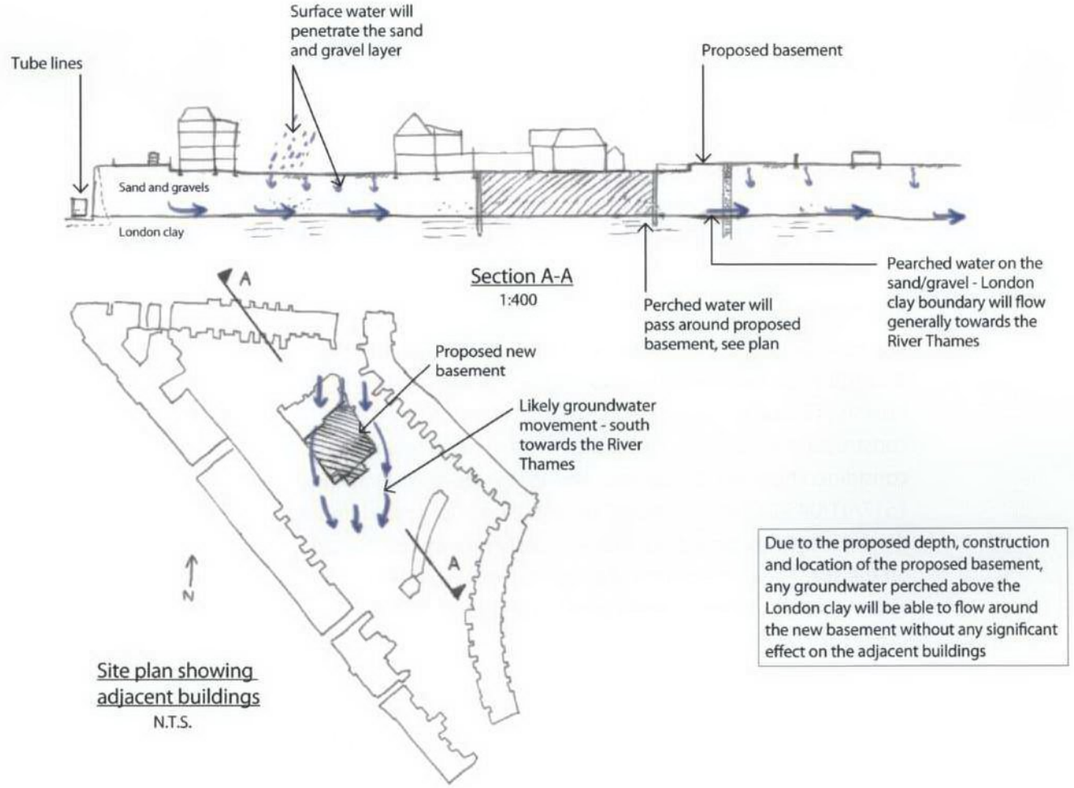
Effect of basement on the existing structure

3.2.3 Effect of the proposed basement on groundwater

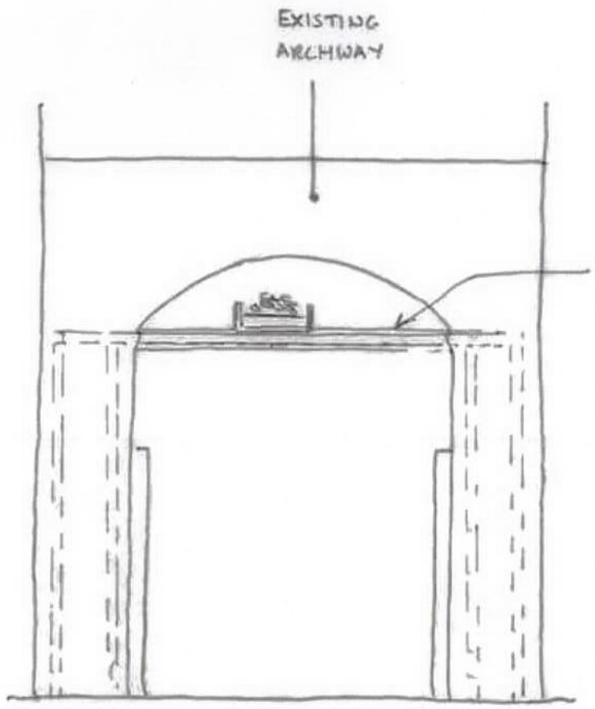
Drawing 1617/01/006 shows our understanding of the basic geology of the site.

The water level will be principally dependent on rain water permeating down from the surface. The proposed basement construction will not affect this, as the sections that extend into the existing garden will allow any rainwater that falls over its plan area to drain into the existing ground on either side of the basement.

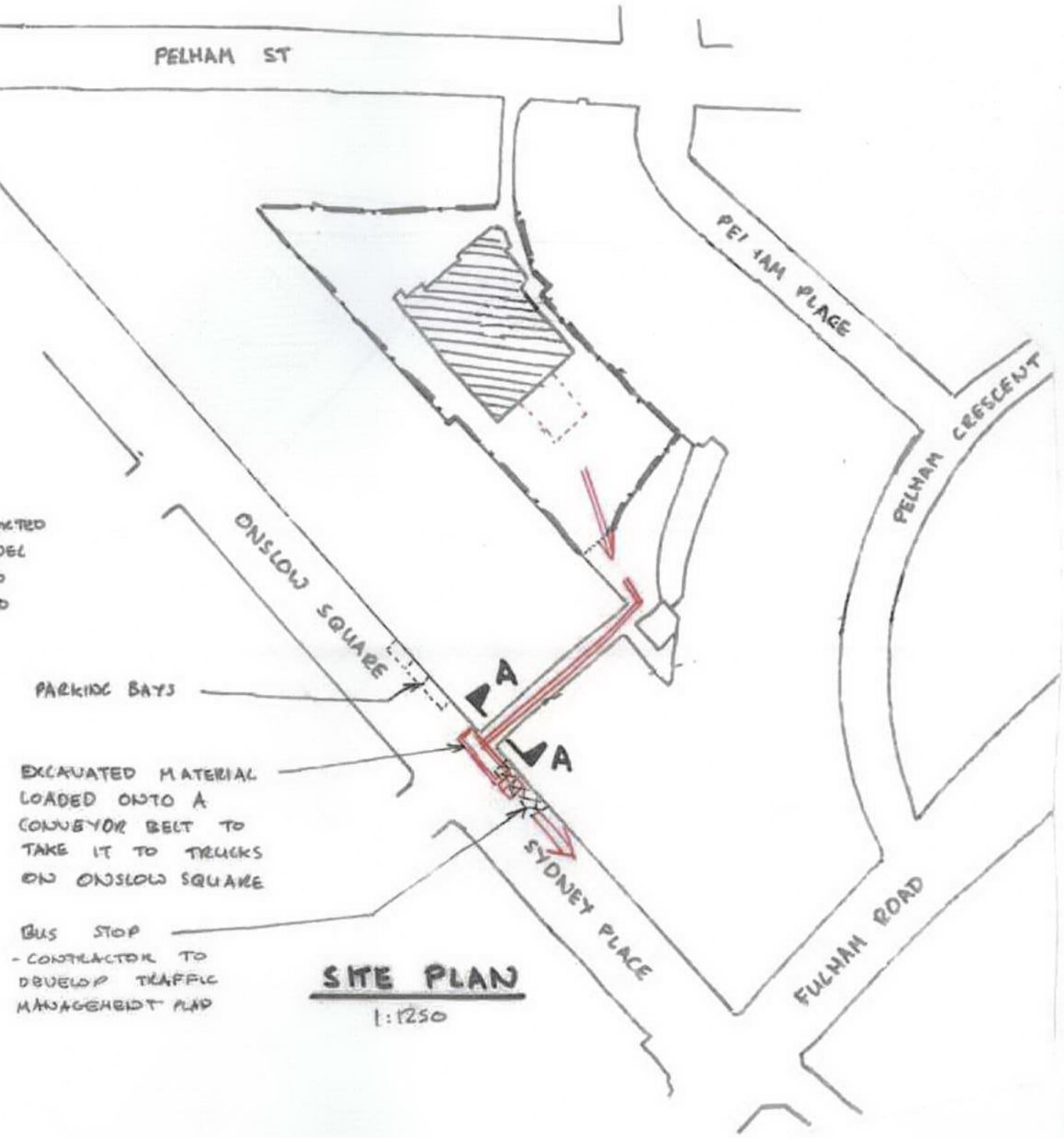
Local geology borehole records show that the top of the clay layer slopes from our site down towards the River Thames. The general flow of ground water is down from Hyde Park to the north, through the site, and into the River Thames to the south. The proposed basement is below a fully detached property with an extensive garden. Groundwater will therefore still be able to find a route around the basement without having a significant effect on the basement, as illustrated on drawing 1617/01/033.



Likely effects of proposed basement on ground water movement



SECTION A-A
1:50



SITE PLAN
1:1250

OPTION 1 - CONVEYOR BELT ONTO ONSLOW SQUARE

ADVANTAGES

- LARGE TRUCKS CAN BE USED ⇒ FEWER TRIPS

DISADVANTAGES

- ONSLOW SQUARE IS BUSY ROAD -
- TRAFFIC MANAGEMENT / PARKING SUSPENSIONS / PEDESTRIAN MANAGEMENT
- CONVAYER BELT COULD LIMIT ACCESS ONTO THE SITE

notes

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND THE SPECIFICATIONS.
2. THIS DRAWING SHOWS THE SEQUENCE OF CONSTRUCTION ASSUMED IN FORMULATING THE STRUCTURAL ENGINEERING DESIGN. THE CONTRACTOR IS TO DEVELOP HIS OWN PROPOSALS FOR SEQUENCE AND TEMPORARY WORKS FOR WHICH HE SHALL REMAIN ENTIRELY RESPONSIBLE.

4.7.11	ISSUED AS PART OF REPORT	TR

job
PARK HOUSE ONSLOW SQUARE

title
REMOVING MATERIAL FROM SITE OPTION 1 OF 3

drawn	checked
TR	NBA
date	scale (original - A3)
JUN '11	AS SHOWN

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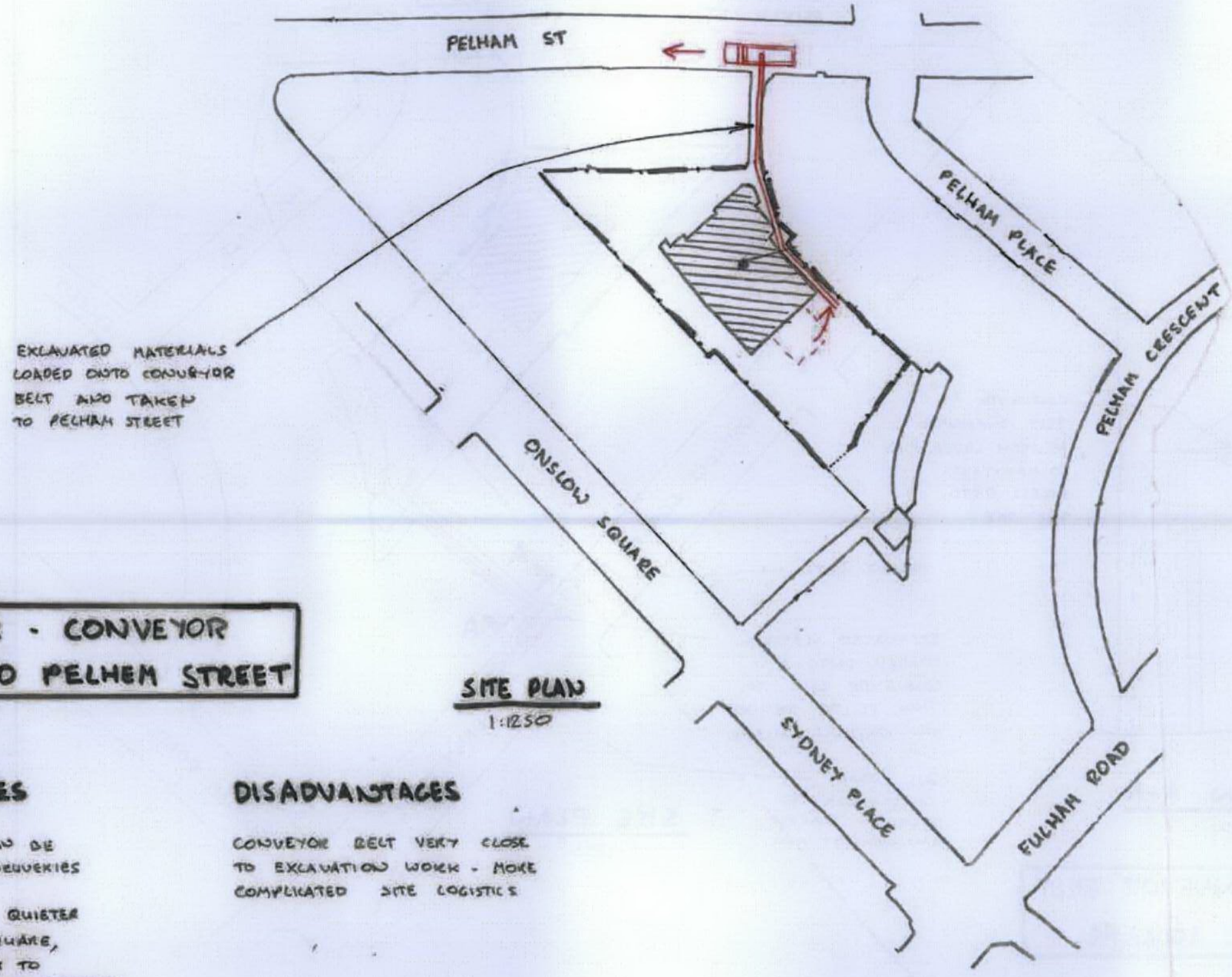
drg. no. 1617/01/045 rev. -



SITE PLAN
1:1250

OPTION 2 - CONVEYOR BELT ONTO PELHEM STREET

ADVANTAGES

LARGE TRUCKS CAN BE USED ⇒ FEWER DELIVERIES

PELHEM STREET QUIETER THAN ONSLOW SQUARE, FEWER DISRUPTIONS TO TRAFFIC/PARKING/PUBLIC TRANSPORT PEDESTRIANS

SITE ACCESS THROUGH EXISTING ARCHWAY MAINTAINED

DISADVANTAGES

CONVEYOR BELT VERY CLOSE TO EXCAVATION WORK - MORE COMPLICATED SITE LOGISTICS

NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND THE SPECIFICATIONS.
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4.7.11	ISSUED AS PART OF PLANNING	TR

job
PARK HOUSE ONSLOW SQUARE

title
REMOVING MATERIAL FROM SITE OPTION 2 OF 3

drawn	checked
TR	WB
date	scale (original - A3)
JUN '11	AS SHOWN

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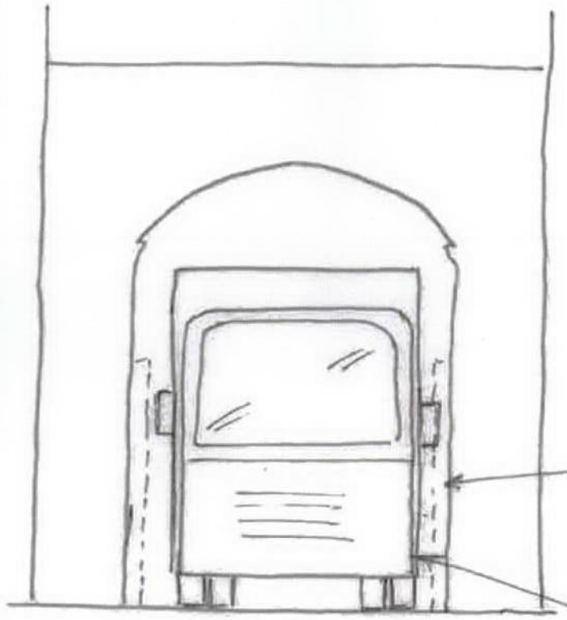
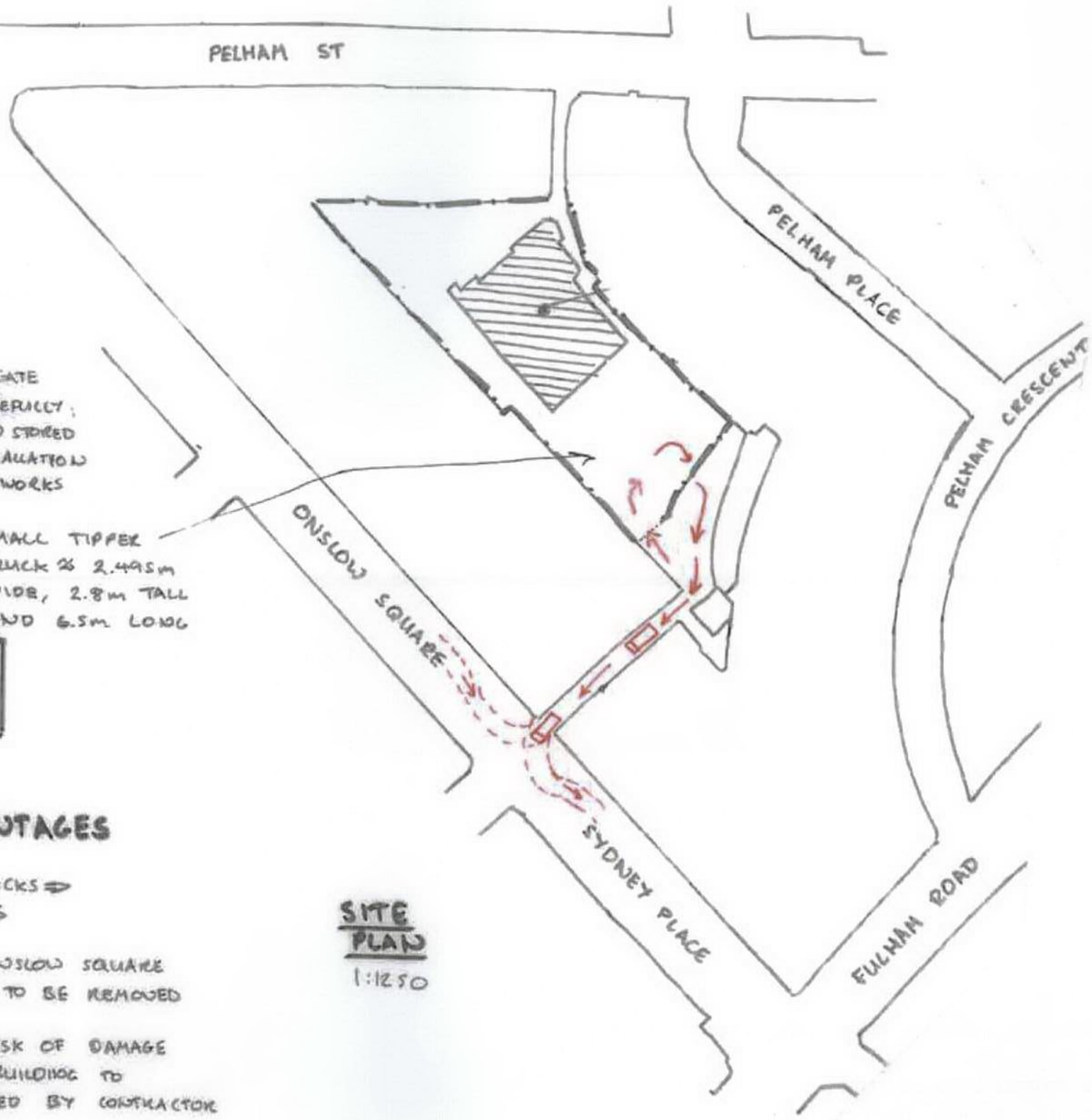


EXISTING GATE + POSTS CAREFULLY REMOVED AND STORED FOR RE-INSTALLATION AFTER THE WORKS

SECTION A-A

SMALL TIPPER TRUCK 2.495m WIDE, 2.8m TALL AND 6.5m LONG



SITE PLAN
1:1250

OPTION 3 - USE SMALLER TRUCKS

ADVANTAGES

- NO CONVEYOR BELT RESTRICTING SITE MOVEMENT
- LESS DISRUPTION TO EXISTING ROADS

DISADVANTAGES

- SMALL TRUCKS ⇒ MORE TRIPS
- GATE TO ONSLOW SQUARE WILL HAVE TO BE REMOVED
- GREATER RISK OF DAMAGE TO LISTED BUILDING TO BE MITIGATED BY CONTRACTOR

notes

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2. THIS DRAWING SHOWS THE SEQUENCE OF CONSTRUCTION ASSUMED IN FORMULATING THE STRUCTURAL ENGINEERING DESIGN. THE CONTRACTOR IS TO DEVELOP HIS OWN PROPOSALS FOR SEQUENCE AND TEMPORARY WORKS FOR WHICH HE SHALL REMAIN ENTIRELY RESPONSIBLE.

4.7.11	ISSUED AS PART OF PLANNING	T.R.

job
PARK HOUSE ONSLOW SQUARE

title
REMOVING MATERIAL FROM SITE OPTION 3 OF 3

drawn: TR
checked: NBA
date: JUN '11
scale (original - A3): AS SHOWN

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dwg. no. 1617/01/047
rev. -

Prepared by Tom Roberts
Reviewed by David Johncox
Issued September 2012

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