

**Netley Cottage, 10 Lower Terrace, London NW3**

## Structural Methodology Report

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**Approved By:** K Clark

**Date:** 02 June 2021

**Status:** Preliminary

**Version:** 2

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## **1.0 INTRODUCTION**

- 1.1 This report sets out the proposed structural alterations, interventions and methodology required to remodel Netley Cottage and its interconnection with Grove Lodge which it abuts immediately to the south.
- 1.2 The information herein relates solely to the structural proposals associated with the new planning application and should be read independently of our previously issued report and structural proposals which are now superseded and significantly reduced in their scope.
- 1.3 Other relevant disciplines (architecture, MEP, etc.) will be covered in separate documentation.

## **2.0 PROPOSALS**

- 2.1 It is intended to refurbish, renovate and upgrade Netley Cottage which will entail minor alterations to the superstructure of the building and creation of a new internal link to Grove Lodge, the neighbouring property also owned by the client which was recently remodelled and enlarged.
- 2.2 The structural works will entail:
  - Removal of a freestanding brickwork pier in the Ground floor kitchen in Netley Cottage
  - Formation of a door opening through an internal wall at First floor in Netley Cottage
  - Reconfiguration of internal walls at First floor in Netley Cottage
  - Formation of a door opening at Ground floor through the party wall of Netley Cottage and Grove Lodge
  - Formation of a walkway to the east and south elevations of the existing lightwell in Grove Lodge
- 2.3 Architectural plan and section drawings illustrating the proposals prepared by 4orm are provided in Appendix A against which our structural proposals have been developed.

### **3.0 EXISTING BUILDINGS: NETLEY COTTAGE AND GROVE LODGE**

- 3.1 Netley Cottage is a Grade II Listed two storey residential building located within the Hampstead Conservation Area in The London Borough of Camden.
- 3.2 The property comprises loadbearing masonry walls supporting traditional timber joist & board floors and cut timber roofs, and both it plus the properties adjacent to it – Grove End to the north, Grove Lodge to the south and Admiral’s House to the east – are the result of various campaigns of construction spread over several periods reaching right up to the present day. The genesis and development of Netley Cottage, Grove End, Grove Lodge and Admiral’s House is described in detail in the Heritage Appraisal report prepared for Netley Cottage by Portico Heritage Ltd in March 2020, to which the reader is referred.
- 3.3 Grove Lodge is located immediately to the south of Netley Cottage and shares a party wall with it. The residential building is also Grade II listed and comprises loadbearing masonry walls supporting traditional timber joist floors and cut timber roofs. It generally comprises two storeys plus a newly constructed basement and lightwell over part of the footprint of the building.
- 3.4 Neither of the buildings are situated in an area of known archaeological importance, and there are known no man made cavities; public sewers or tunnels below the footprint of the site or adjacent to it, therefore there are no implications related to these concerns for the present design.
- 3.5 The Environment Agency’s website confirms that the site is located in Flood Zone 1 zone with less than a 1 in 1000 chance of flooding each year. Since the size of the development is less than 1 hectare in area no further flood risk assessment is required.

### **4.0 STRUCTURAL STRATEGY & METHODOLOGY**

- 4.1 The structural proposals at both Netley Cottage and Grove Lodge are illustrated in drawings SSK105 and SSK106 which are provided in Appendix B.
- 4.2 Careful consideration has been given to ensuring the integrity of Netley Cottage, Grove Lodge and the adjoining properties when designing the construction proposals and construction sequence.
- 4.3 In Netley Cottage the most structurally significant alteration is the removal of the freestanding brickwork pier in the Ground floor kitchen which partially supports beams carrying the load of the First floor wall, floor and roof above.

- 4.4 Prior to any demolition works commencing both the wall and floor structure will be temporarily propped to ensure that both vertical and lateral loads are safely transmitted into the ground, following which the pier will be carefully removed and a new steel beam installed. The new steel beam has been designed to satisfy strength and serviceability requirements and will bear on new padstones set into the existing brickwork walls, thereby spreading the loads applied to the brickwork to prevent overstressing, movement or cracking.
- 4.5 Based on the data contained in a previous site investigation report a safe bearing pressure of at least 150kN/m<sup>2</sup> can be assumed for the existing ground, and the enhanced bearing loads will not cause this to be exceeded once the loads have been distributed through the height of the Ground floor walls.
- 4.6 The remaining alterations in Netley Cottage are minor from a structural perspective and will require the provision of simple temporary props to support relatively small vertical loads in order to allow the insertion of precast concrete lintels into the full thickness of the existing brickwork walls above new door openings. This same technique will also be adopted to form the door opening at Ground floor level through the party wall of Netley Cottage and Grove Lodge.
- 4.7 The relative levels between the two abutting buildings are such that a new walkway must be formed to provide a route across the existing lightwell in Grove Lodge. The walkway will run along the east and south elevations of the lightwell and will be formed from steel beams bearing in the adjacent walls of Grove Lodge infilled with a traditional timber joist floor. The steel beams will bear on padstones set into the existing brickwork walls of Grove Lodge (no padstones or beam bearings are proposed elsewhere) to spread the loads applied to the brickwork and prevent overstressing, movement or cracking.
- 4.8 A new hipped glazed rooflight will be provided to cap the lightwell. The rooflight itself will be designed and specified by a specialist glazing contractor and will be supported on a similar arrangement of steel beams and padstones bearing on padstones set into the existing brickwork walls of Grove Lodge.
- 4.9 The proposed sequence of construction will be carried out with care in a step-by-step manner, ensuring at all stages that the temporary and permanent structure provides full support both during and after the works. This method of construction minimises the risk of cracking or movement, consequently the potential for damage to adjacent neighbouring structures is minimised.

## 5.0 MITIGATING DAMAGE, NOISE & NUISANCE

- 5.1 To prevent harm to the living conditions of neighbouring occupiers the main contractor will implement measures in accordance with The London Borough of Camden's requirements to keep impacts associated with potentially disruptive construction activities within acceptable limits for the duration of the works.
- 5.2 Such impacts include noise; vibration; dust and odours, in addition to demolition, excavation and construction-related traffic. Furthermore, the construction work associated with the proposed development will not restrict parking availability, traffic flow, road safety, residential amenity or pedestrian convenience.
- 5.3 We have developed the proposed design mindful of the above considerations to ensure that construction-related disturbance is controlled appropriately. We recommend that such measures include the following:
- Using cutting methods for demolition, such as sawing or water-jetting, to eliminate the use of high volume pneumatic and hydraulic breakers, before further breaking down of demolition materials is carried out off-site using conventional techniques.
  - Adoption of manual excavation techniques instead of diesel-powered excavators, where appropriate.
  - The use of temporary noise- and dust-reducing enclosures to contain potentially disruptive areas of the site.
- 5.4 The environmental impact of materials has been taken into account in the design of all elements, including the sourcing of materials.
- 5.5 All on-site trees have been inspected by a specialist and checked to establish the TPO's associated with them, and the proposed construction method and techniques have been developed to minimise any damage to the nearby trees during the construction process.
- 5.6 This report has been prepared on behalf of Conisbee by:



Kevin Clark BSc (Hons) PhD DIC CEng MICE Conservation Accredited Engineer (CARE)

Director & Head of Heritage Engineering

Date: 02.07.2021

**APPENDIX A            ARCHITECTURAL DRAWINGS (BY 4ORM)**

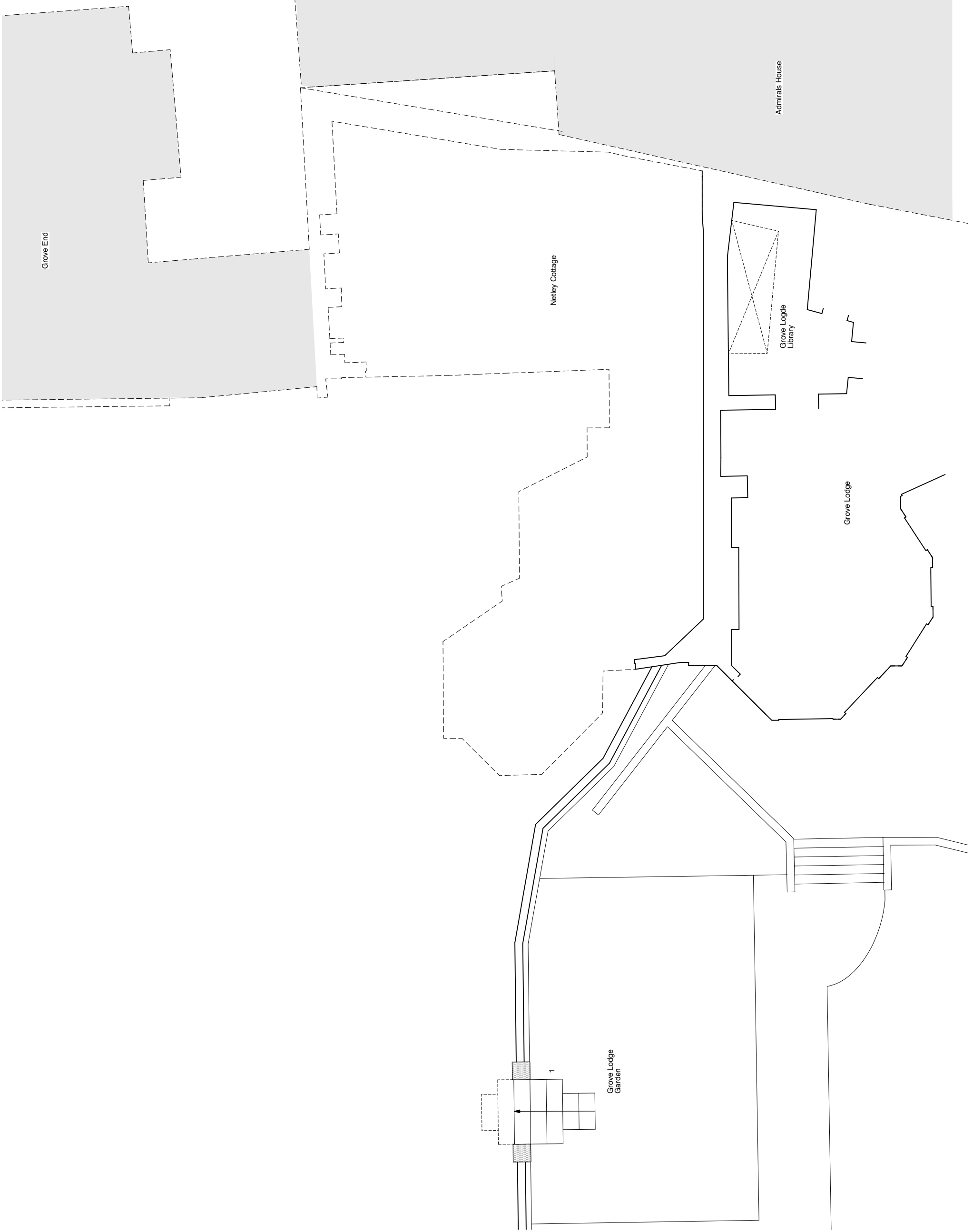
Do not scale from this drawing.  
Dimensions are to be verified on site prior to construction.

Notes

KEY:

▨ - Proposed partitions

1) New garden steps connection between  
Netley Cottage and Grove Lodge



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**HANS VERSTUYFT ARCHITECTEN**

Project

Netley Cottage

Drawing Title

Proposed Lower Ground Floor

Plan

Drawing Status

PLANNING

Date

AUG 2020

Scale @ A1

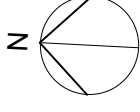
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Drawn

JW

Drawing Number

4134-P.102



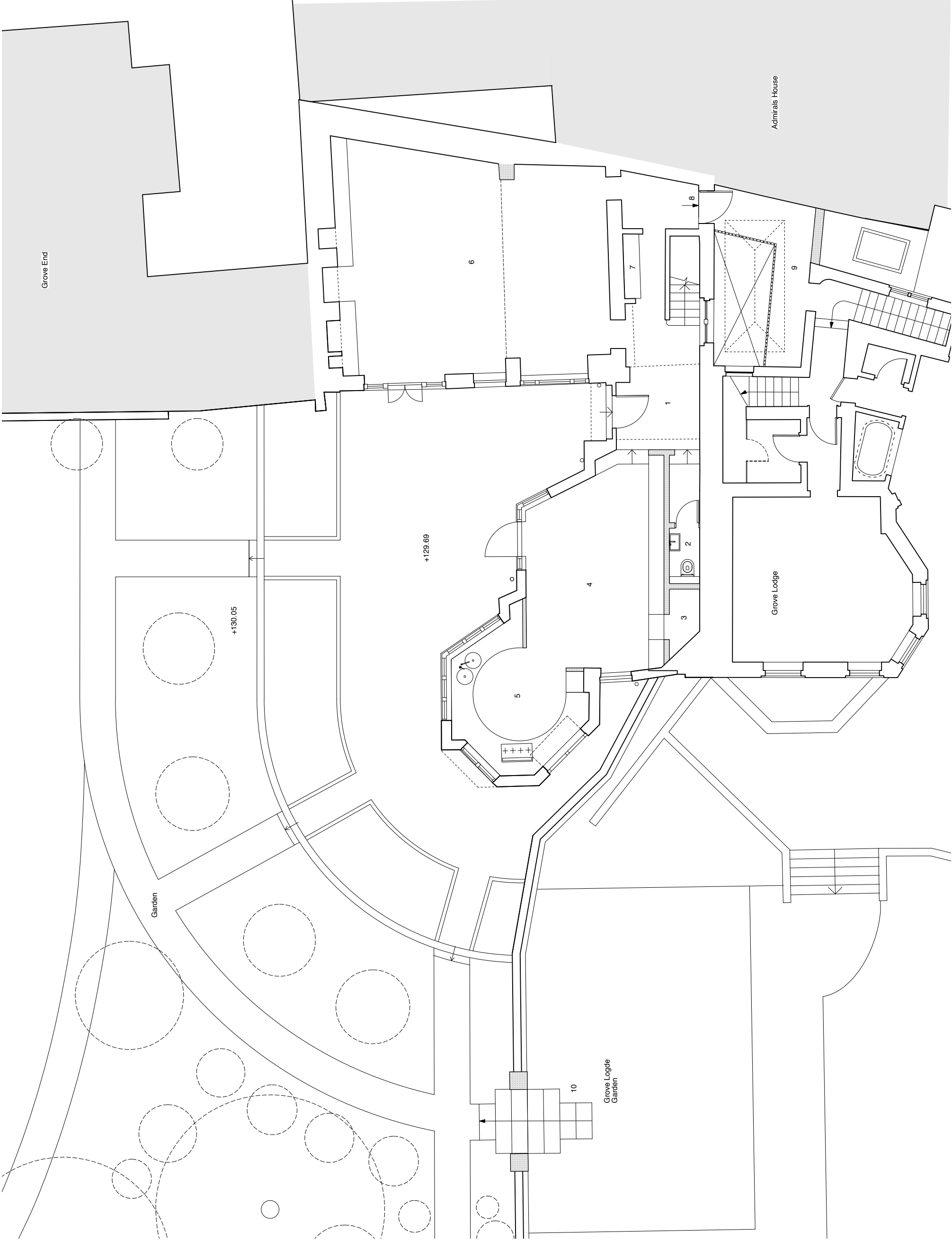
Do not scale from this drawing.  
Dimensions are to be verified on site prior to construction.

Notes

KEY:

■ - Proposed partitions

- 1) Entrance
- 2) Cloak Room
- 3) Store
- 4) Dining Room
- 5) Kitchen
- 6) Sitting Room
- 7) Cloaked Room
- 8) New doorway connection made to mezzanine level of Grove Lodge
- 9) New mezzanine level
- 10) New garden steps connection between Netley Cottage and Grove Lodge



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Project

Netley Cottage

Drawing Title

Proposed Ground Floor

Plan

Drawing Status

PLANNING

Date

AUG 2020

Scale @ A1

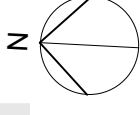
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Drawn

JW

Drawing Number

4134-P.103





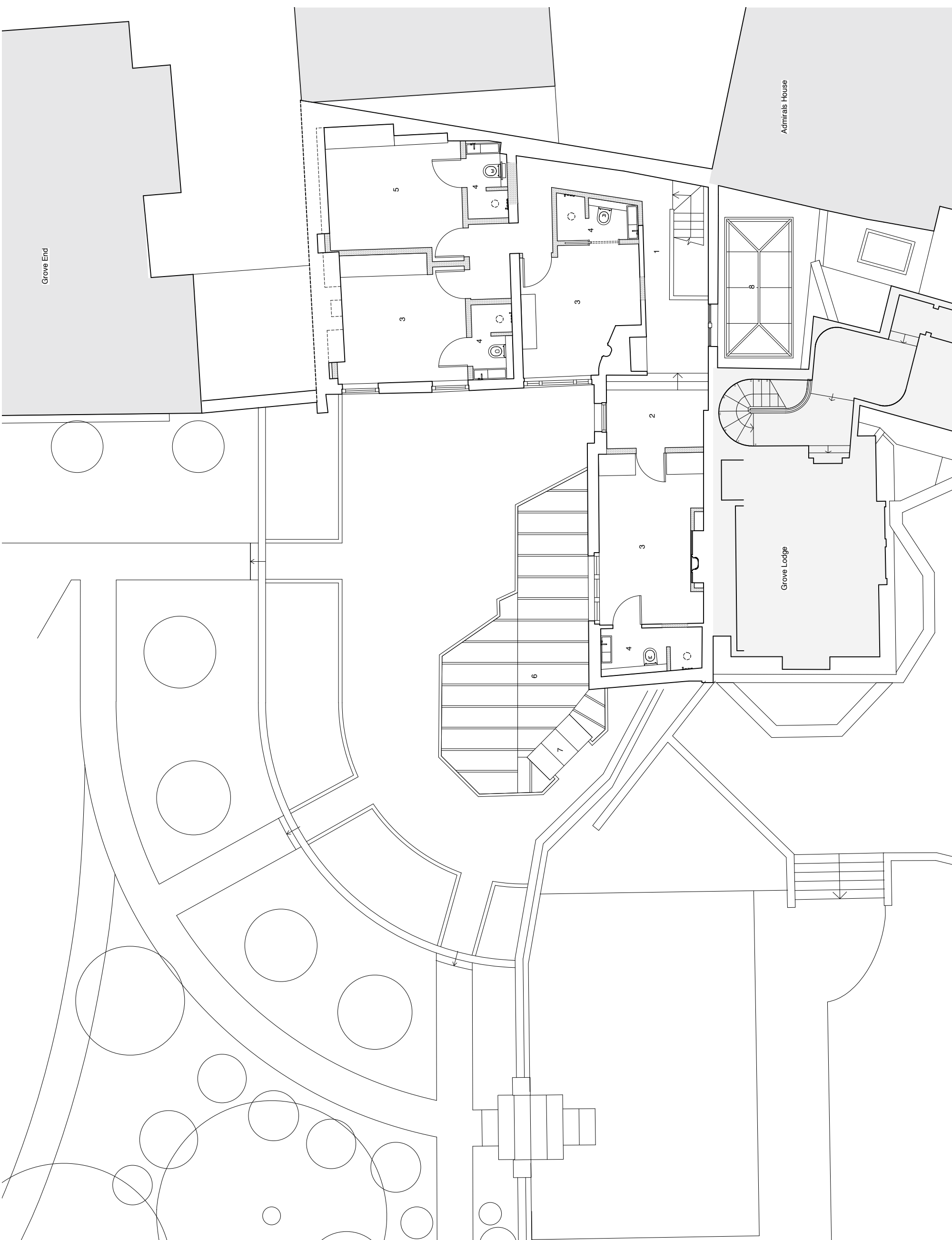
Do not scale from this drawing.  
Dimensions are to be verified on site prior to construction.

Notes

KEY:

■ - Proposed partitions

- 1) Stairhall
- 2) Gallery
- 3) Bedroom
- 4) Ensuite
- 5) Study
- 6) New lead roof covering
- 7) Repaired and enlarged roof lantern
- 8) Glass lantern over mezzanine connection



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Netley Cottage

Drawing Title

Proposed First Floor

Plan

Drawing Status

PLANNING

Date

AUG 2020

Scale @ A1

1:50

Drawn

JW

Drawing Number

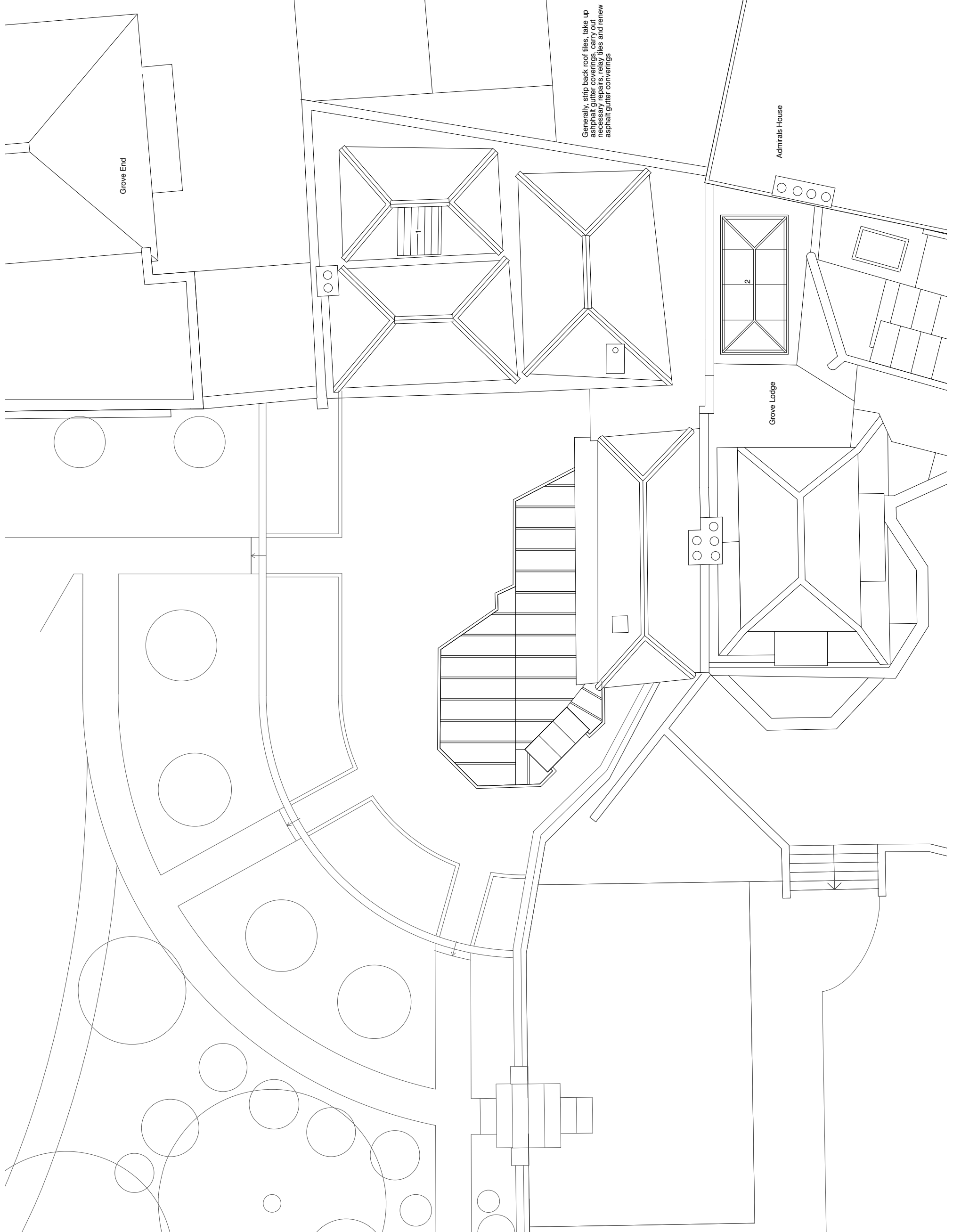
4134-P.104

Do not scale from this drawing.  
Dimensions are to be verified on site prior to construction.

Notes

KEY:

- 1) New lead dormer covering
- 2) Glass roof lantern



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Netley Cottage

Drawing Title

Proposed Roof

Plan

Drawing Status

PLANNING

Date

AUG 2020

Scale @ A1

1:50

Drawn

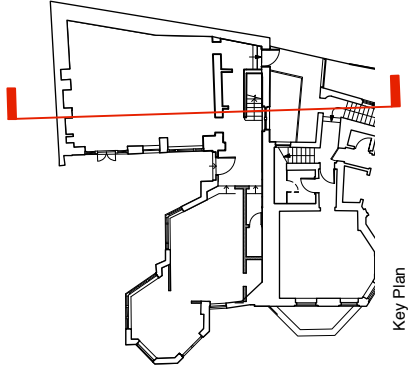
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Drawing Number

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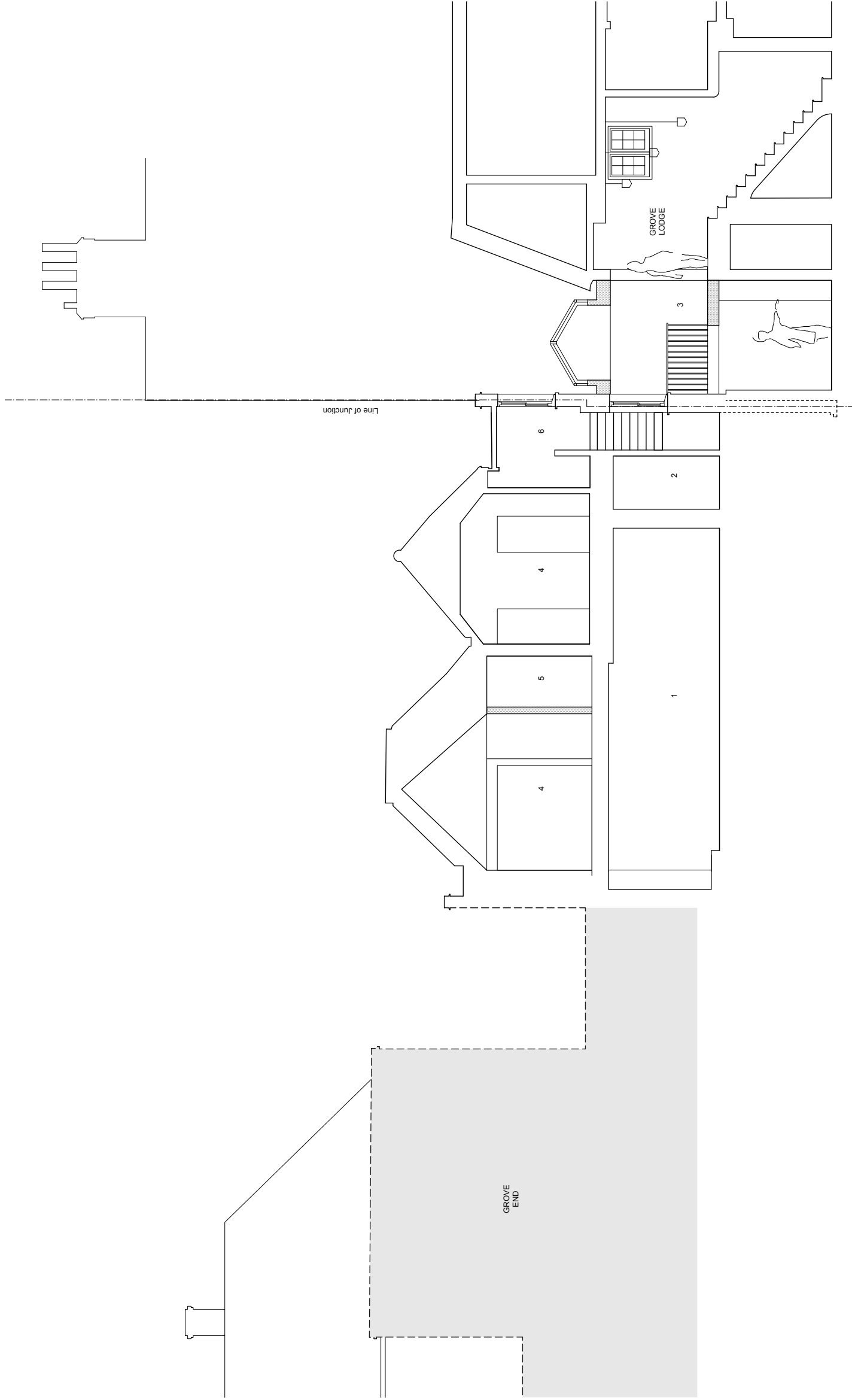
Notes



KEY:

■ - Proposed works

- 1) Sitting Room
- 2) Store
- 3) Mezzanine connection between Netley Cottage and Grove Lodge
- 4) Bedroom
- 5) Ensuite
- 6) Stairhall



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Project

Netley Cottage

Hampstead, London NW3

Drawing Title

Proposed

Section H-H

Drawing Status

PLANNING

Date

AUG 2020

Scale @ A1/A3

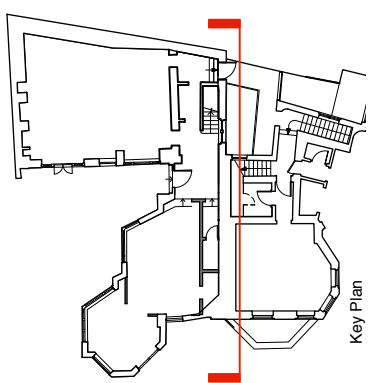
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Drawn

EW

Drawing Number

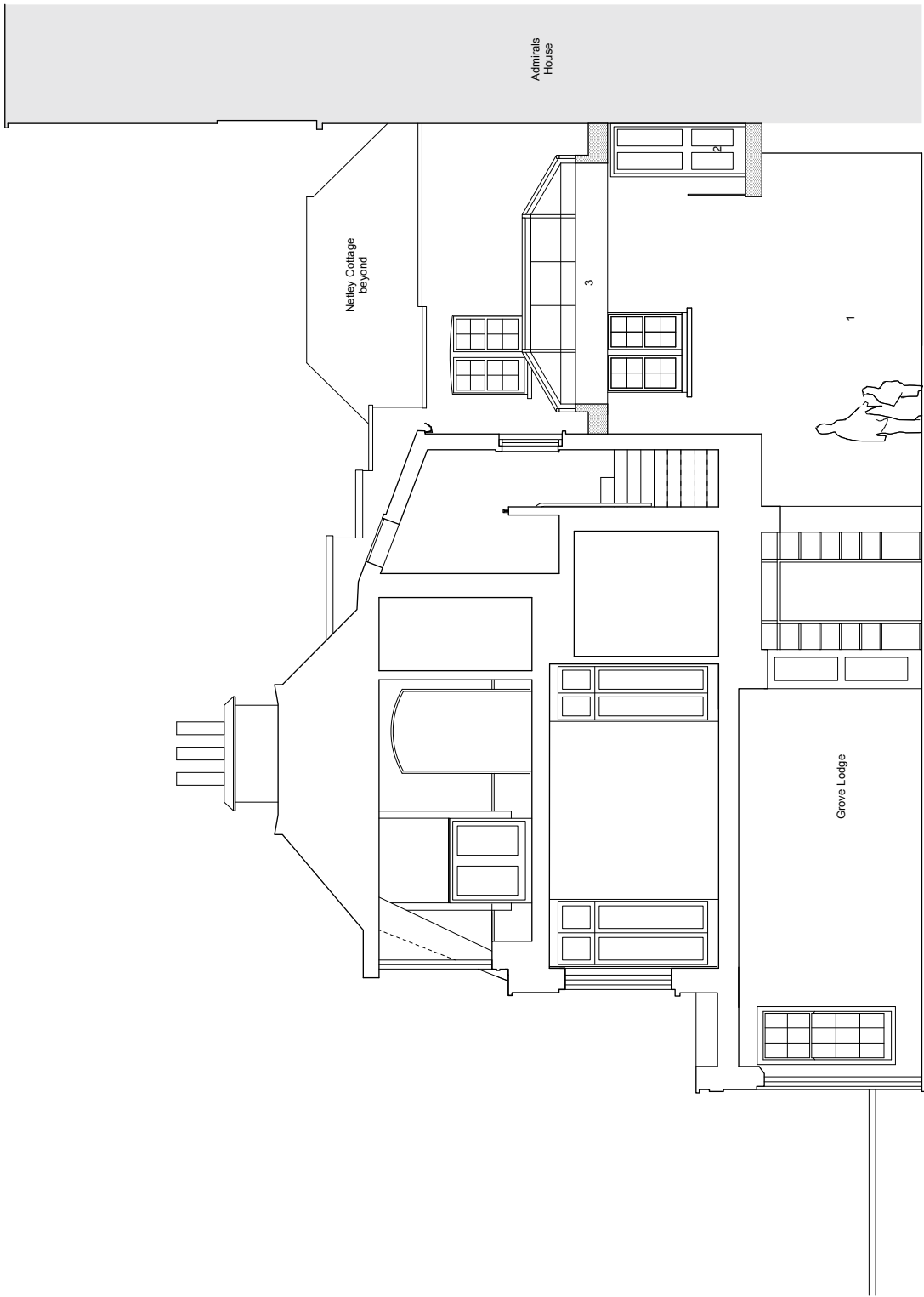
4134-P.120



KEY:

- Removal/Alteration

- 1) Library area
- 2) Mezzanine level
- 3) Glass lantern over mezzanine and library



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Project  
**Netley Cottage**  
Hampstead, London NW3  
Drawing Title  
**Proposed**  
Section M-M  
Drawing Status  
**PLANNING**

Date  
**AUG 2020**  
Scale @ A1/A3  
**1:50/100**  
Drawn  
**EW**  
Drawing Number  
**4134-P.125**

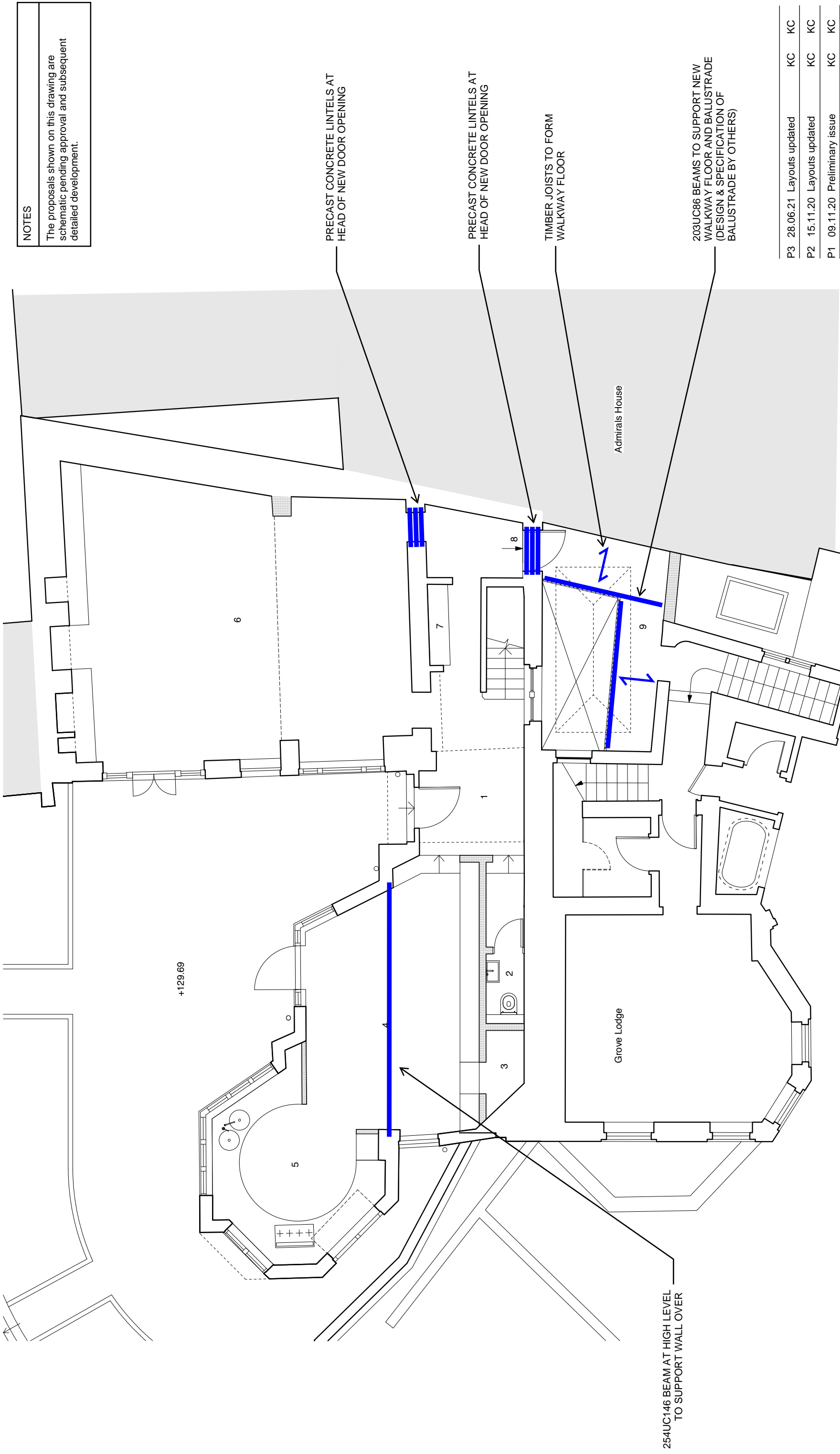


**APPENDIX B            STRUCTURAL DRAWINGS (BY CONISBEE)**

This drawing must be read in conjunction with the specification and all other relevant drawings. Do not scale from this drawing.

**NOTES**

The proposals shown on this drawing are schematic pending approval and subsequent detailed development.



254UC146 BEAM AT HIGH LEVEL TO SUPPORT WALL OVER

PRECAST CONCRETE LINTELS AT HEAD OF NEW DOOR OPENING

PRECAST CONCRETE LINTELS AT HEAD OF NEW DOOR OPENING

TIMBER JOISTS TO FORM WALKWAY FLOOR

203UC86 BEAMS TO SUPPORT NEW WALKWAY FLOOR AND BALUSTRADE (DESIGN & SPECIFICATION OF BALUSTRADE BY OTHERS)

Admirals House

Grove Lodge

P3	28.06.21	Layouts updated	KC	KC
P2	15.11.20	Layouts updated	KC	KC
P1	09.11.20	Preliminary issue	KC	KC

Rev	Date	Description	Drawn	Check

Drawing Status	Project No
PRELIMINARY	200302
Date	Drawn
NOV 2020	KC
Scale	Engineer
NTS	KC
	Revision
	P3

Project	Netley Cottage, 10 Lower Terrace, London
Title	Main house Ground floor - proposed

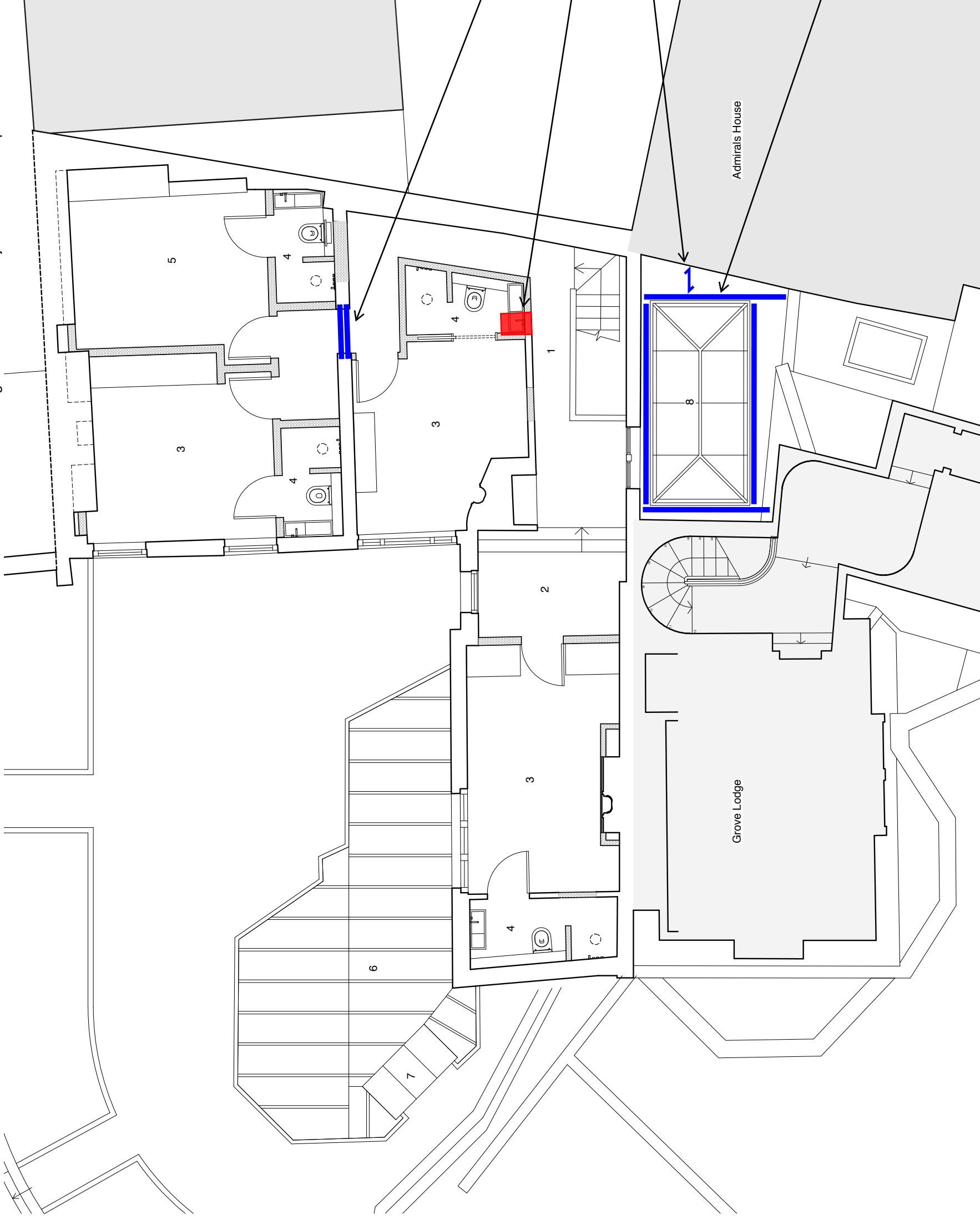
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Consulting Structural Engineers  
Consulting Civil Engineers

This drawing must be read in conjunction with the specification and all other relevant drawings. Do not scale from this drawing.

NOTES

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PRECAST CONCRETE LINTELS AT HEAD OF NEW DOOR OPENING

SUSPECTED BRICKWORK PIER: STRUCTURAL PROPOSALS IN THIS AREA TO BE CONFIRMED FOLLOWING OPENING UP TO CLARIFY EXISTING STRUCTURAL ARRANGEMENT

TIMBER JOISTS TO FORM FLAT ROOF AT PERIMETER OF ROOFLIGHT

203UC86 BEAMS TO SUPPORT NEW ROOFLIGHT (DESIGN & SPECIFICATION OF ROOFLIGHT BY OTHERS)

P3	28.06.21	Layouts updated	KC	KC
P2	15.11.20	Layouts updated	KC	KC
P1	09.11.20	Preliminary issue	KC	KC

Rev	Date	Description	Drawn	Check

Drawing Status	Project No
<b>PRELIMINARY</b>	<b>200302</b>
Date	Drawn
NOV 2020	KC
Scale	Engineer
NTS	KC
	Revision
	<b>P3</b>

Project	Netley Cottage, 10 Lower Terrace, London
Title	Main house First floor - proposed

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