

ElliottWood







12 Pilgrim's Lane Camden, London, NW3 1SN

Flood Risk Assessment

● 2210419-EWP-ZZ-XX-RP-C-0001

Project number	2210419
Project name	12 Pilgrim's Lane
Client	
Status	S2
Revision	P02
Date	12.12.2024

Document Control

Remarks:	Issued for Planning					
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1. Executive Summary

Elliott Wood Partnership Ltd. have prepared this Flood Risk Assessment (FRA) to support the full planning application for the proposed redevelopment of 12 Pilgrim's Lane. The site is located within the London Borough of Camden (LBC) who are also the Lead Local Flood Authority (LLFA).

The existing development is a two-storey semi-detached residential building. The site includes a garden to the south, east, and west of the building. In 2022, a planning application was approved (reference: 2022/2398/P) for the extension and refurbishment of the existing property. This incorporated a new lower ground floor, with a floor area of approximately 205m², which contained a pool, plant room, gym and new bedroom.

An updated scheme has now been proposed. Whilst the majority of the approved scheme is being kept, there have been minor amendments to massing on the right and left sides of the building, and a reduction in the footprint of the new lower ground floor. This report has been prepared to support the planning application for this updated scheme,

Flood zone information published by GOV.uk shows that the development is located within Flood Zone 1 - land and property assessed as having less than a 0.1% (1 in 1,000) annual probability of river or sea flooding in any given year.

The risk of the development flooding from fluvial or tidal sources are therefore considered to be 'low'. A review of all other potential sources of flooding has found the site to be at low risk, providing a suitable drainage scheme is in place.

This report demonstrates that the proposed development has a low probability of flooding and is considered to be in accordance with all flood risk policy at a local and national level. It is considered that the information provided within this report satisfies the requirements of the National Planning Policy Framework and local policy.

2. Introduction

This FRA will assess the risk of flooding to the site and review the impact the proposed development will have with regards to flood risk to surrounding properties. This is in line with the requirements of the National Planning Policy Framework (NPPF) 2023.

The Flood Risk Mechanisms being considered as part of this Flood Risk Assessment (FRA) are as follows:

- Rivers and Sea
- Overland Flow
- Groundwater
- Flooding from Artificial Waterbodies
- Infrastructure Failure / Sewer Flooding

3. Site Context

3.1 Site Location

The site is located on Pilgrims Lane, within Hampstead Town which is situated within the London Borough of Camden (LBC). The site centred OS grid reference is 526850E: 185679N and the total site boundary is approximately 785m² (0.0785ha). The area surrounding the site consists of residential properties with associated hard and soft landscaping.

The closest stations to the site are Hampstead Underground Station, which is approximately 575m to the west and Hampstead Heath Overground Station which is located 675m to the east. The site is bounded by Pilgrim's Lane to the west and private residential developments to the north, east and south.

The Lead Local Flood Authority (LLFA), responsible for all flood risk matters that do not relate directly to designated Main Rivers is the LBC. The Environment Agency (EA) are responsible for flood risk related to the nearby watercourses. The Statutory Sewerage Undertaker for the area is Thames Water (TW). The site is located within the Hampstead Conservation Area.

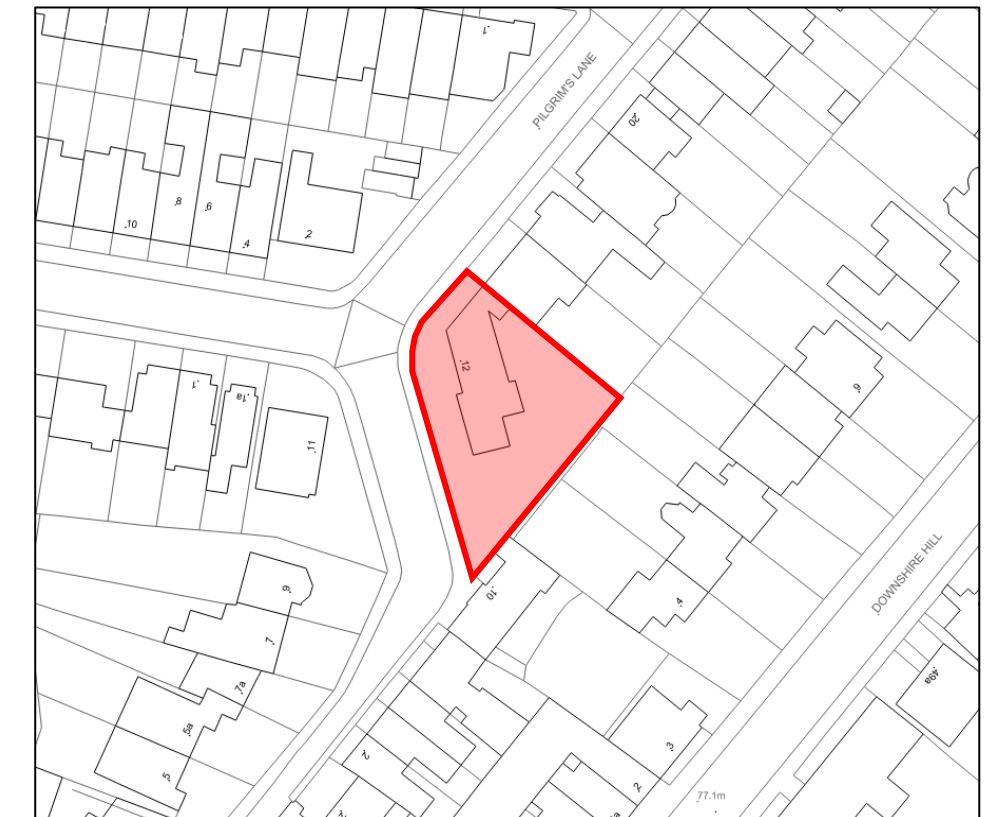


Figure 1: Site Location

3.2 Existing Development

The existing development is a two-storey semi-detached residential building, oriented south to north. The site includes a garden to the south, east, and west of the building.

Existing floor plans and elevations can be found in **Appendix A**.



Figure 2: Photograph of Existing Development

3.3 Existing Site Topography

A Measured Building Survey was undertaken by target surveys in September 2021, which can be found in **Appendix B**.

External levels show that the site is largely flat but with differing topographical features on the west and east sides of the building. The westside falls to the southeast towards the building, with levels starting at +99.90m AOD and falling to +99.70m AOD. The eastern side has a fall to the southeast away from the building, with levels starting at approximately +97.55m AOD and falling to approximately +97.25m AOD at the boundary of the garden.

3.4 Underlying Site Geology and Hydrology

3.4.1 Geology

In accordance with British Geological Survey (BGS) online mapping tool, the underlying ground conditions for the site should consist of bedrock deposits of Claygate member and London clay member, with no superficial deposits recorded. Additionally, site specific ground investigations were undertaken by Geotechnical & Environmental Associates Ltd. (GEA) in September 2021. These investigations encountered ground conditions consistent with those published in BGS records and online mapping tools. The investigations confirmed that beneath a moderate thickness of made ground (between 0.60m and 2.00m), clay was encountered. GEA's site specific borehole logs can be found in **Appendix C**.

3.4.2 Hydrology

The borehole investigations carried out by Geotechnical & Environmental Associates Ltd. (GEA) in September 2021 state that no groundwater was encountered during the borehole investigations. Standpipes were installed into a selection of the boreholes and the results indicate that the groundwater was not encountered and hence "unlikely to be encountered within basement excavations".

Note that groundwater levels are subject to variations caused by local drainage and seasonal effects.

3.5 Critical Drainage Area

A Critical Drainage Area (CDA) is a specific area of significant flood risk, characterised by the amount of surface run-off that drains into the area, the topography, hydraulic conditions of the pathway (e.g., sewer, river system), and the receptors (people, properties, and infrastructure) that may be affected. The LBC SFRA indicates that the site is located within a CDA, (Group3_010) as illustrated in Figure 3 below:

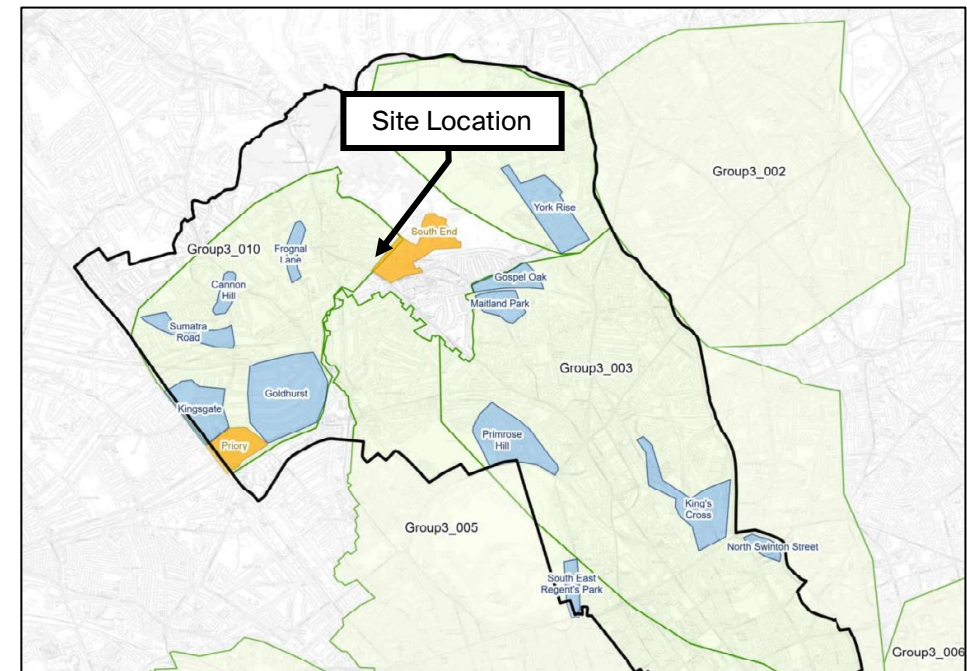


Figure 3: Extract from LBC SFRA – Critical Drainage Areas and Local Flood Risk Zones

4. Proposed Development

In 2022, a planning application was approved (reference: 2022/2398/P) for the extension and refurbishment of the existing property. This incorporated a new lower ground floor, with a floor area of approximately 205m², which contained a pool, plant room, gym and new bedroom.

An updated scheme has now been proposed. Whilst the majority of the approved scheme is being kept, there have been minor amendments to massing on the right and left sides of the building, and a reduction in the footprint of the new lower ground floor. This report has been prepared to support the planning application for this updated scheme,

The proposed development plans and elevations can be found in **Appendix D**.



Figure 4: Proposed Development (Front Elevation)



Figure 5: Proposed Development (Rear Elevation)

5. Planning and Flood Risk Management Policy

5.1 Policy Summary

This FRA will assess the risk of flooding to the site and review the impact the proposed development will have with regards to flood risk to the surrounding properties. It is important to assess the flood risk posed to the development of this site from all sources of flooding, in accordance with National Planning Policy Framework 2023 (NPPF) requirements. The Flood Risk Mechanisms being considered as part of this FRA are as follows:

1. Fluvial and Tidal
2. Surface Water and Overland Flow
3. Groundwater
4. Flooding from Artificial Waterbodies
5. Infrastructure Failure / Sewer Flooding

This FRA has been written in accordance with GOV.uk guidelines and the National Planning Policy Framework (NPPF). The following documents have been reviewed in preparation of this flood risk assessment:

- The LBC Flood Risk Management Strategy - 2022
- The LBC Preliminary Flood Risk Assessment (PFRA) - 2017
- The LBC Surface Water Management Plan (SWMP) - 2011
- The LBC Updated Strategic Flood Risk Assessment (SFRA) – 2024
- The LBC Camden Local Plan – 2017
- Environment Agency (EA) Flood Warning Maps.
- GOV.uk Flood Risk Maps
- The London Plan (2021)

The NPPF states the following:

“Plans should take a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating from rising temperatures.”

The London Plan Policy SI 12 states the following:

“Development proposals should ensure that flood risk is minimised and mitigated, and that residual risk is addressed. This should include, where possible, making space for water and aiming for development to be set back from the banks of watercourses.”

The LBC SFRA Policy CC3: Water and Flooding states the following:

“The Council will seek to ensure that development does not increase flood risk and reduces the risk of flooding where possible.

Where an assessment of flood risk is required, developments should consider surface water flooding in detail and groundwater flooding where applicable.”

5.2 Flood Risk Vulnerability

When considering the flood risk vulnerability, in accordance with the Annex 3 of the “Flood risk and coastal change” PPG, the site at its most conservative utilisation is considered “highly vulnerable”, due to the building incorporating a basement dwelling.

Flood Zones	Flood Risk Vulnerability Classification				
	Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test required	✓	✓	✓
Zone 3a †	Exception Test required †	X	Exception Test required	✓	✓
Zone 3b *	Exception Test required *	X	X	X	✓ *

Key:
 ✓ Exception test is not required
 X Development should not be permitted

Figure 6: Flood risk vulnerability and flood zone ‘incompatibility’ table, taken from Gov.uk website.

5.3 Sequential and Exception Test

The aim of the Sequential Test is to steer new development to areas with the lowest probability of flooding. Where there are no reasonably available sites in Flood Zone 1, local planning authorities in their decision making should take into account the flood risk vulnerability of land uses and consider reasonably available sites in Flood Zone 2 & 3 (areas with a medium or high probability of river or sea flooding), applying the Exception Test if required. The Exception Test is a method to demonstrate and help ensure that flood risk to people and property will be managed satisfactorily, while allowing necessary development to go ahead in situations where suitable sites at lower risk of flooding are not available.

In accordance with Table 3 of the Planning Practice Guidance: Flood Risk and Coastal Change (illustrated in Figure 6), the Exception test is not required for “highly vulnerable” developments within Flood Zone 1, that have no further risk of flooding from any additional source. Therefore, it can be considered that the Sequential Test is also not required.

6. Sources of Potential Flooding

6.1 Fluvial and Tidal Flooding

In accordance with the GOV.uk flood maps for planning, the site is in Flood Zone 1 - land and property assessed as having less than a 0.1% (1 in 1,000) annual probability of river or sea flooding in any given year. Therefore, the risk of the development flooding from rivers and sea is ‘low’.

The Environment Agency (EA) Flood Map for Planning can be found in **Appendix E**.

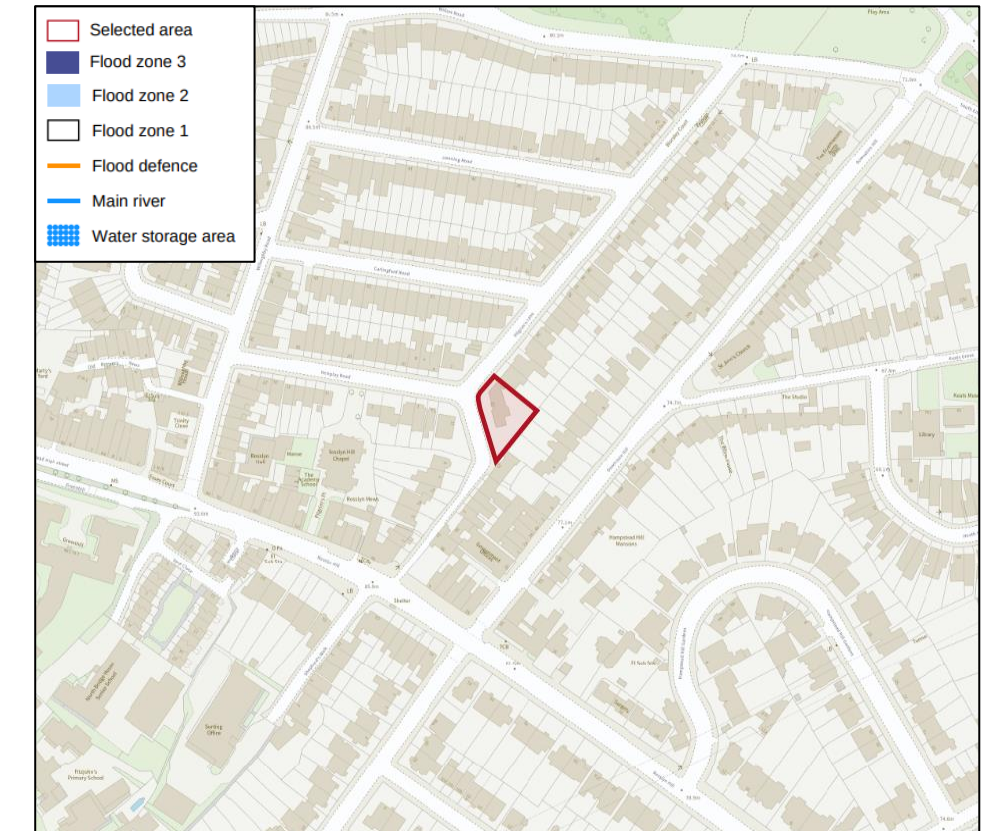


Figure 7: GOV.UK Flood Map for Planning – Flood Risk from Fluvial and Tidal Sources

6.2 Surface Water Flooding and Overland Flow

Surface water flooding occurs when intense rainfall is unable to soak into the ground or enter drainage systems, because of blockages or breakages in water pipes or where the drainage capacity has been exceeded. The extent of surface water flooding will depend upon the rainfall event, the degree of saturation of the soil, the permeability of soils and the topography of the site.

A review of the GOV.uk flood risk from surface water maps indicates that the site is at 'very low' risk of surface water flooding (area that has less than 0.1% chance of flooding each year). After review of the above information, the risk of flooding from overland surface water flow is considered to be **'low'**.

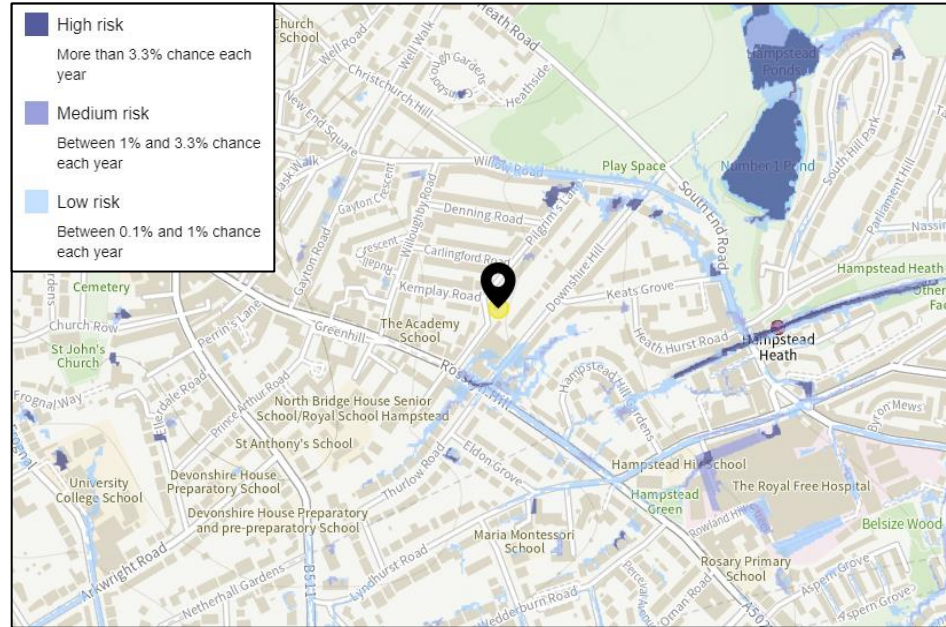


Figure 8: GOV.UK Flood Map for Planning – Flood Risk From Surface Water

6.3 Groundwater Flooding

Groundwater flooding can occur following an extended prolonged period of low intensity rainfall. The future risk from this source is more uncertain than surface water as climate change predictions indicate that although sea levels will rise, thus possibly raising groundwater levels, overall summer rainfall will decrease, therefore having a long-term effect of lowering the groundwater levels. However, long periods of wet weather are predicted to increase, and these are the type of weather patterns that can cause groundwater flooding to occur.

The LBC SFRA highlights that the site does not lie within an area for potential groundwater flooding at both basement and surface level. Given the above, the low water table, and the incorporation of fully waterproof construction techniques and a drained cavity system in line with NHBC Standards, Chapter 5.4 for the basement, the risk is considered low.

Following the implementation of the above mitigation measures, and after review of the relevant information, the risk of flooding from groundwater is considered to be **'low'**.

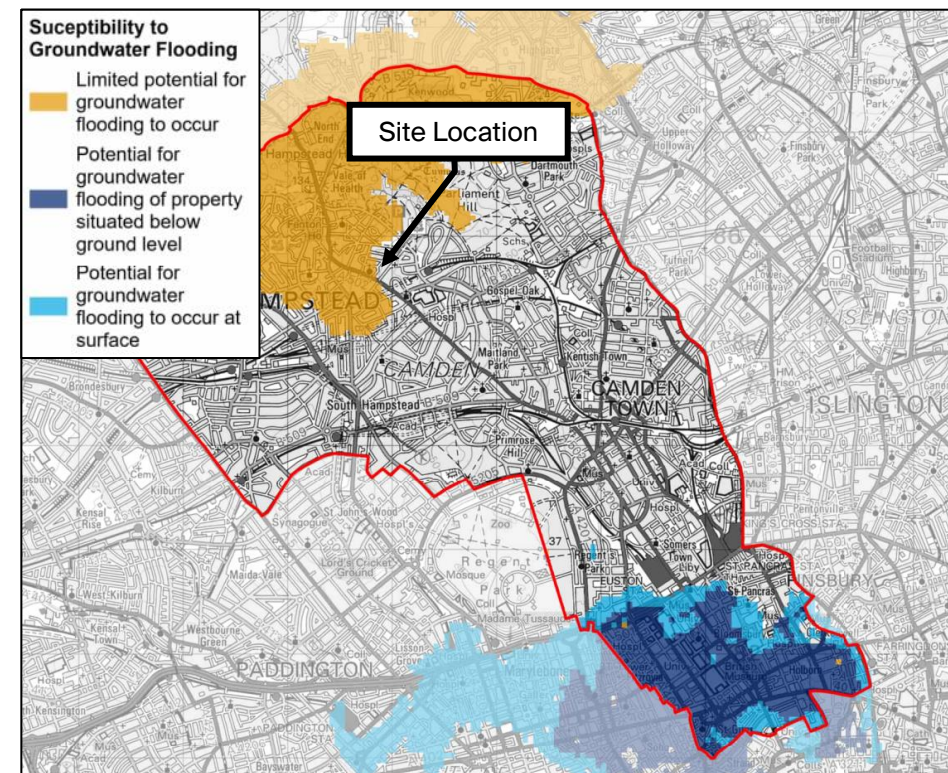


Figure 9: LBC SFRA: Susceptibility to Groundwater Flooding Map

6.4 Flooding from Artificial Waterbodies

6.4.1 Reservoir Flooding

Reservoirs are artificially created lakes that are usually formed by building a dam across a river. If one of the dams failed then water could escape from the reservoir, resulting in land or property being flooded.

The Environment Agency (EA) has mapped areas which could be subject to flooding in the event of reservoir failure. A review of the reservoir flood risk map indicates that the site is not located within a reservoir Flood Risk Zone (an area expected to flood if a local reservoir were to fail or be breached). Following review of the relevant information, the risk of flooding from artificial waterbodies is considered to be **'low'**.

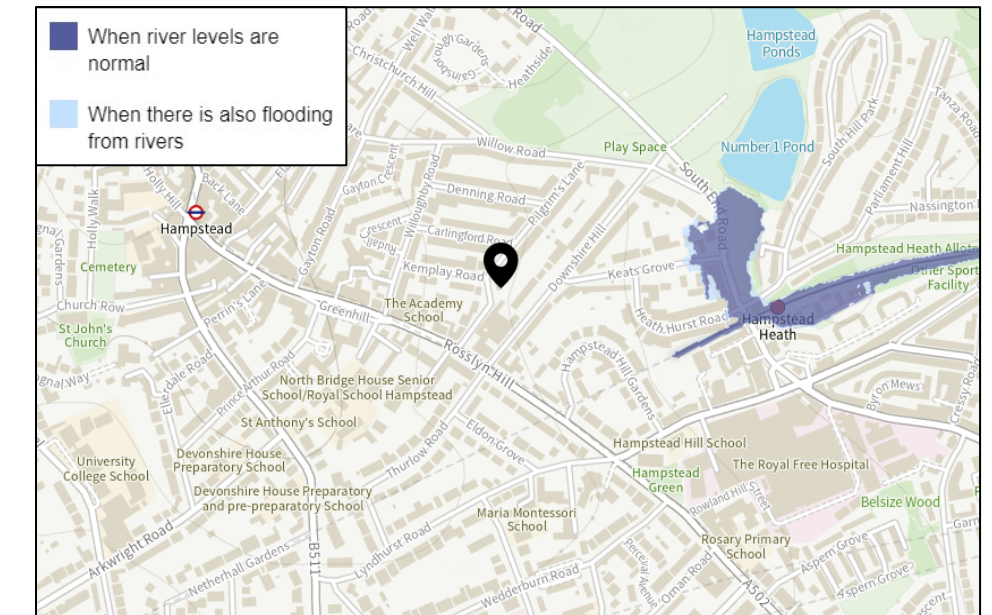


Figure 10: GOV.UK Flood Map for Planning – Flood Risk From Reservoir

6.4.2 Waterway/Canal Flooding

Both a waterway and a canal can be defined as an artificially constructed water channel. The nearest canal to the site is the Regents Canal which is located over 2.4km south of the site. The LBC SFRA states that "Canals do not pose a direct flood risk given they are regulated water bodies with controlled water levels". The LBC SFRA proceeds to state that the "the risk of flooding as a result of overtopping or breaching is low". It is therefore considered that the event of a breach of the canal bank is very unlikely, and therefore, the risk of flooding from a canal failure is considered to be **'low'**.

6.5 Infrastructure Failure and Sewer Flooding

6.5.1 Water Main Failure

A burst water main can occur at any time and can have a serious impact on both property and infrastructure. Any pipe burst can result in flooding of roads and property, however, the locations that are most at risk are considered to be low points in the topography along roads and tunnels, and locations where large water mains run along streets and open spaces. This is because flood water accumulates at low points and flows from burst water mains can be significant.

Thames Water is the principal water supply provider for the area. A copy of the Thames Water asset maps is included in **Appendix F**.

The asset maps show a single 4-inch distribution main located beneath both Pilgrim's Lane and Kemplay Road. A fire hydrant, general-purpose valve, and air valve are all situated beneath Pilgrim's Lane, in front of property number 12. Due to their size, the risk of the distribution main bursting is considered low. However, should the distribution water mains burst near the site, floodwater will be directed by road kerbs towards road gullies or follow topographic levels. In the event of a water mains burst and floods the street, the flood water will be directed by road kerbs and follow topographical levels, flowing away from the site in a western direction. To the south of the site, the flood water will be directed by road kerbs and follow topographical levels, flowing away from the site in either a north-eastern direction or a south-eastern direction along Pilgrim's Lane.

Based on the above, the site is considered to be at **'low'** risk of flooding from a potential water main burst.

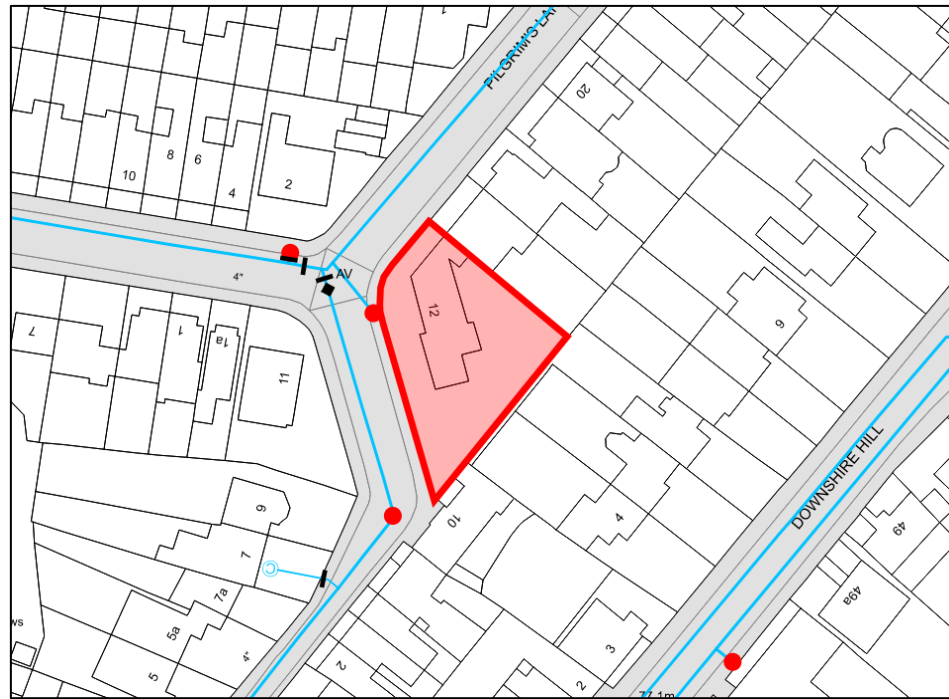


Figure 11: Extract from Thames Water Asset Records – Water Mains Map

6.5.2 Public Sewer Failure

Sewer flooding occurs when there is increased flow in a sewer which may result in the system reaching capacity and becoming overwhelmed. Sewage overflows from manholes and gullies which in turn floods land, rivers, gardens and, in extreme scenarios, commercial buildings and homes. Sewer flooding is typically caused by heavy rainfall or blockages in the system. The frequency of sewer flooding is increasing due to climate change, population growth and increased impermeable areas.

Thames Water is the principal sewerage provider for the area. A copy of the Thames Water asset maps can be found in **Appendix F** and Thames Water sewer flooding history enquiry can be found in **Appendix G**. These show that the area is served by a network of combined sewers.

The asset map indicates a 940mm x 635mm combined water sewer beneath Pilgrim's Lane, running in a north-eastern direction, with a recorded depth of 3.15m from Thames Water manhole 8606 (located adjacent to No. 12). Additionally, a 305mm diameter combined sewer runs beneath Pilgrim's Lane in a south-eastern direction, with a recorded depth of 2.04m from Thames Water manhole 8602 (situated on the southern corner of No. 12). Thames Water are responsible for operating and maintaining their sewer infrastructure, therefore the likelihood of surcharge due to blockages is expected to be low.

The LBC SFRA indicates that there are records of between 6 – 20 sewer flooding incidents within the area postcode between January 2013 and April 2023. However, flood records held by Thames Water as of November 2024 indicate that there have been no incidents of flooding in or around the site as a result of surcharging public sewers. Due to the SFRA being based on area postcodes, it has been assumed that Thames Water records are more accurate and as a result the site and its surrounding areas have no records of flooding due to surcharging public sewers. Additionally, asset records indicate the site to be at the head of two sewer runs, which would be the lowest risk part of the network.

As a result, the risk of flooding from infrastructure and sewer failure is considered to be **'low'**.

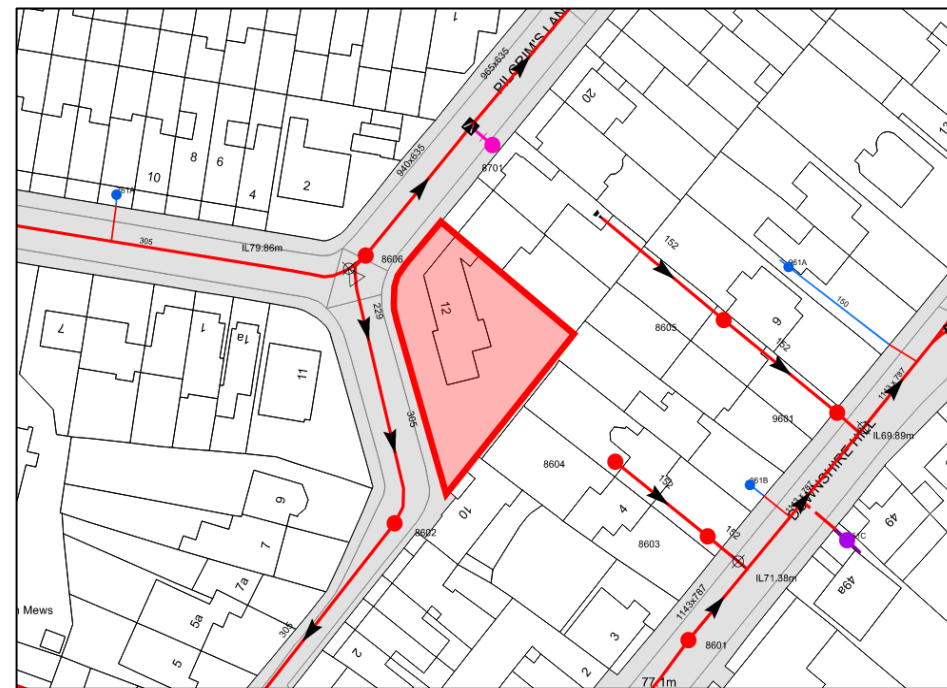


Figure 12: Extract from Thames Water Asset Records – Sewer Map

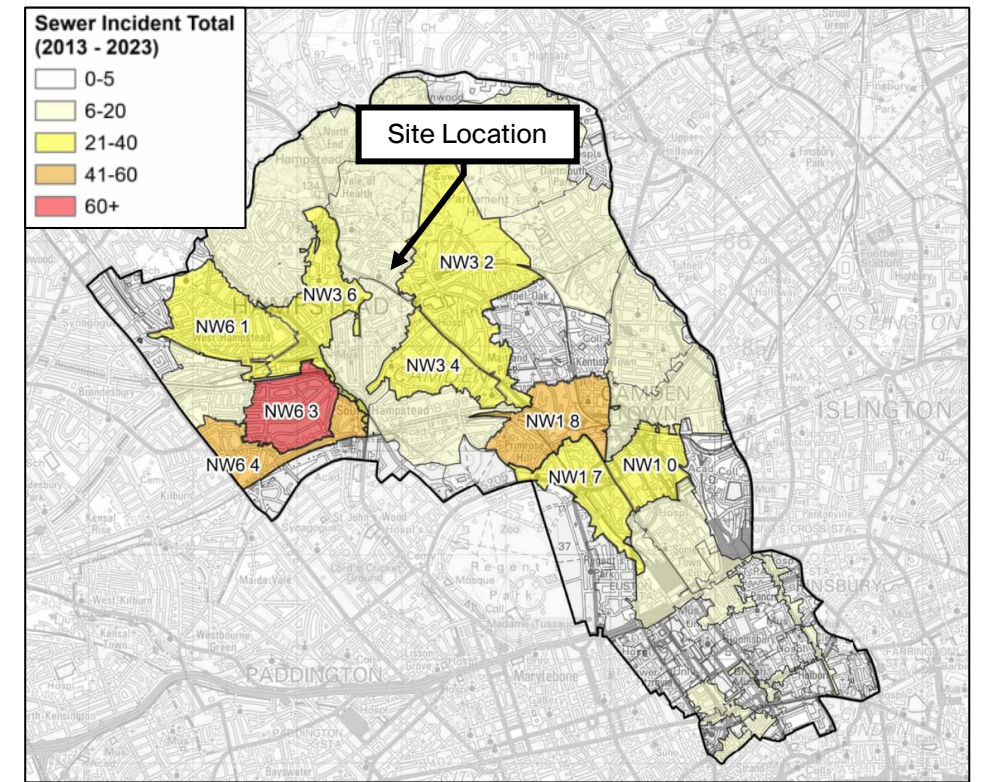


Figure 13: LBC SFRA: Reported Incidents of Sewer Flooding (January 2013 – April 2023)

6.5.3 Private Drainage

A CCTV below-ground drainage survey was undertaken by GO Drainage Services Ltd. in June 2022. This survey can be found in **Appendix H**.

The CCTV survey illustrates the existing site to be served by a combined below ground drainage network which eventually discharges via a 150mm diameter vitrified clay outfall connection to the Thames Water combined sewer located beneath Pilgrim's Lane.

It is proposed to re-use the existing demarcation manhole and combined water outfall to the Thames Water sewer, as they are deemed to be in suitable condition for reuse, provided minor remediation works are undertaken. All existing below ground drainage upstream of this manhole is considered redundant.

As a result, the risk of flooding from private drainage failure is considered to be **'low'**.

7. Conclusions

The site is located on Pilgrims Lane, within Hampstead Town which is situated within the London Borough of Camden (LBC). The site centred OS grid reference is 526850E: 185679N and the total site boundary is approximately 785m² (0.0785ha). The area surrounding the site consists of residential properties with associated hard and soft landscaping.

Flood zone information published by GOV.uk shows that the development is located within Flood Zone 1 - land and property assessed as having less than a 0.1% (1 in 1,000) annual probability of river or sea flooding in any given year. The risk of the development flooding from fluvial or tidal sources are therefore considered to be 'low'.

Flood risk from surface water, groundwater, sewers and artificial waterbodies are considered to be 'low'. The proposed development does not increase flood risk to the site or surrounding area and is considered safe from the risk of flooding for its lifetime. Therefore, this FRA concludes that the proposed development is considered to be in accordance with all flood risk policy at a local and national level and it is considered that the information provided within this report satisfies the requirements of the National Planning Policy Framework and local policy.

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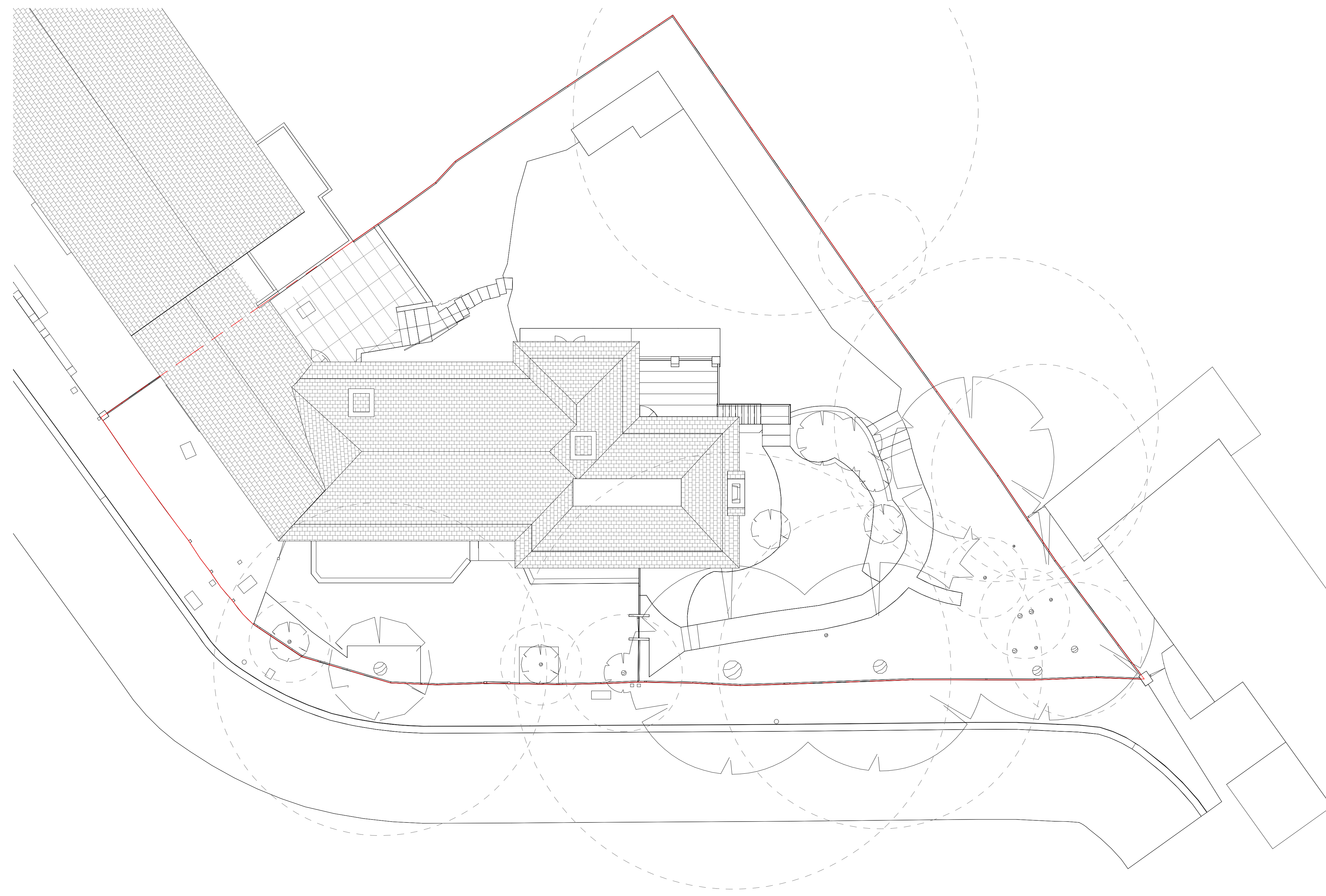
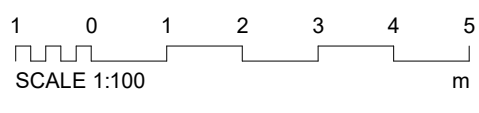
Appendices

Appendix A

Existing Development Floor Plans & Elevations

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Notes:



Existing Site Plan
 1 : 100

Rev	Description	Date	Drawn	Clkd
0	First Issue	25.05.22		



16 lambton place
 notting hill
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 e info@wolffarchitects.co.uk

status: **PLANNING**

project: **12 Pilgrim's Lane
 Hampstead, London**

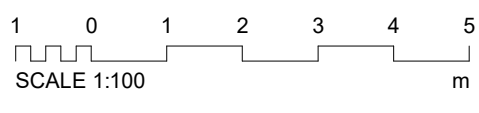
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Notes:



Existing Lower Ground Floor Plan
 1 : 100

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0	First Issue	25.05.22		



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status: **PLANNING**

project: **12 Pilgrim's Lane
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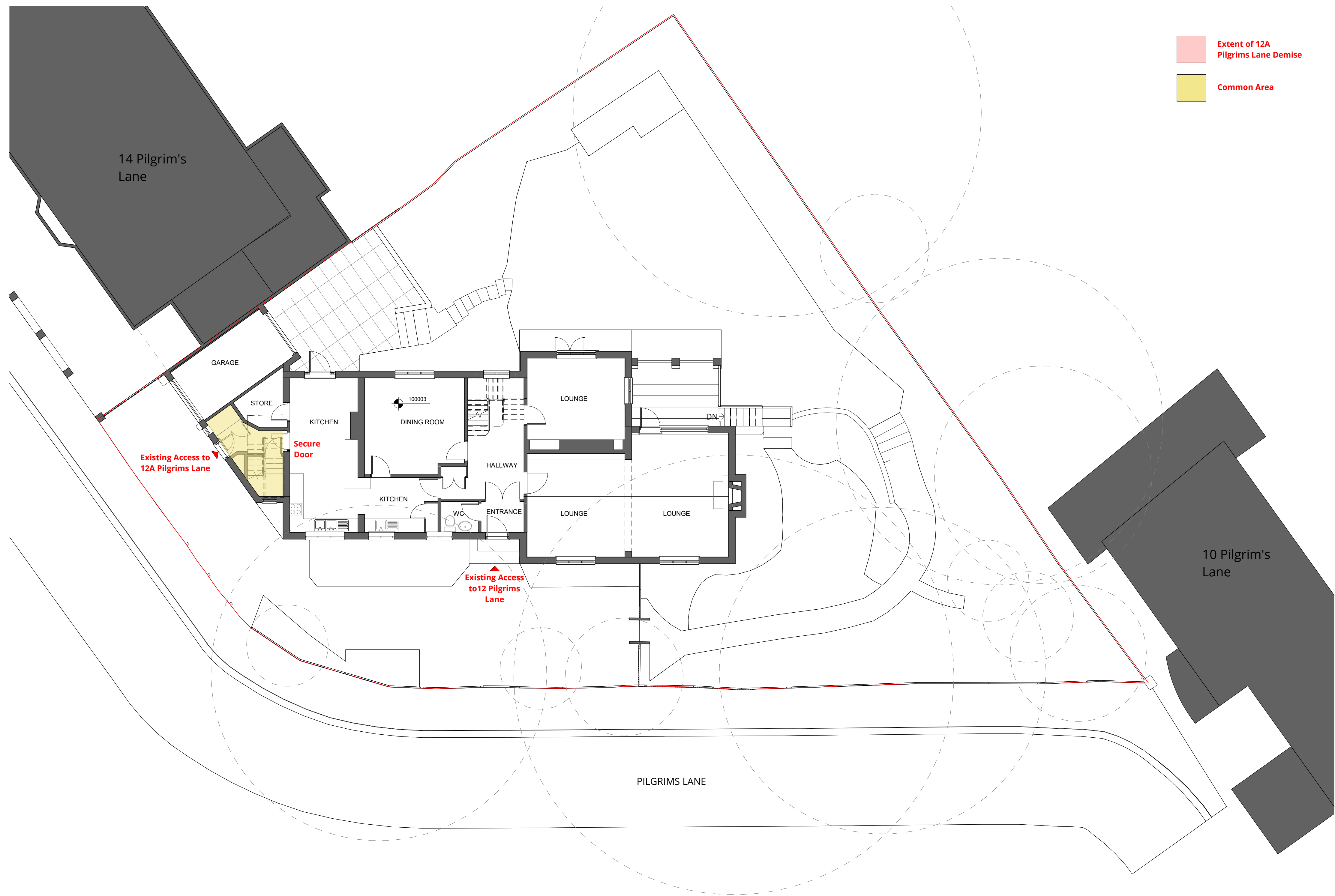
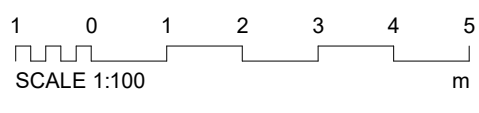
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Extent of 12A Pilgrims Lane Demise
 Common Area

Existing Ground Floor Plan
 1 : 100

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0	First Issue	25.05.22		



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project: **12 Pilgrim's Lane
 Hampstead, London**

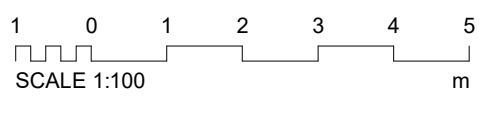
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date: **01/21/22** | scale: **1 : 100**

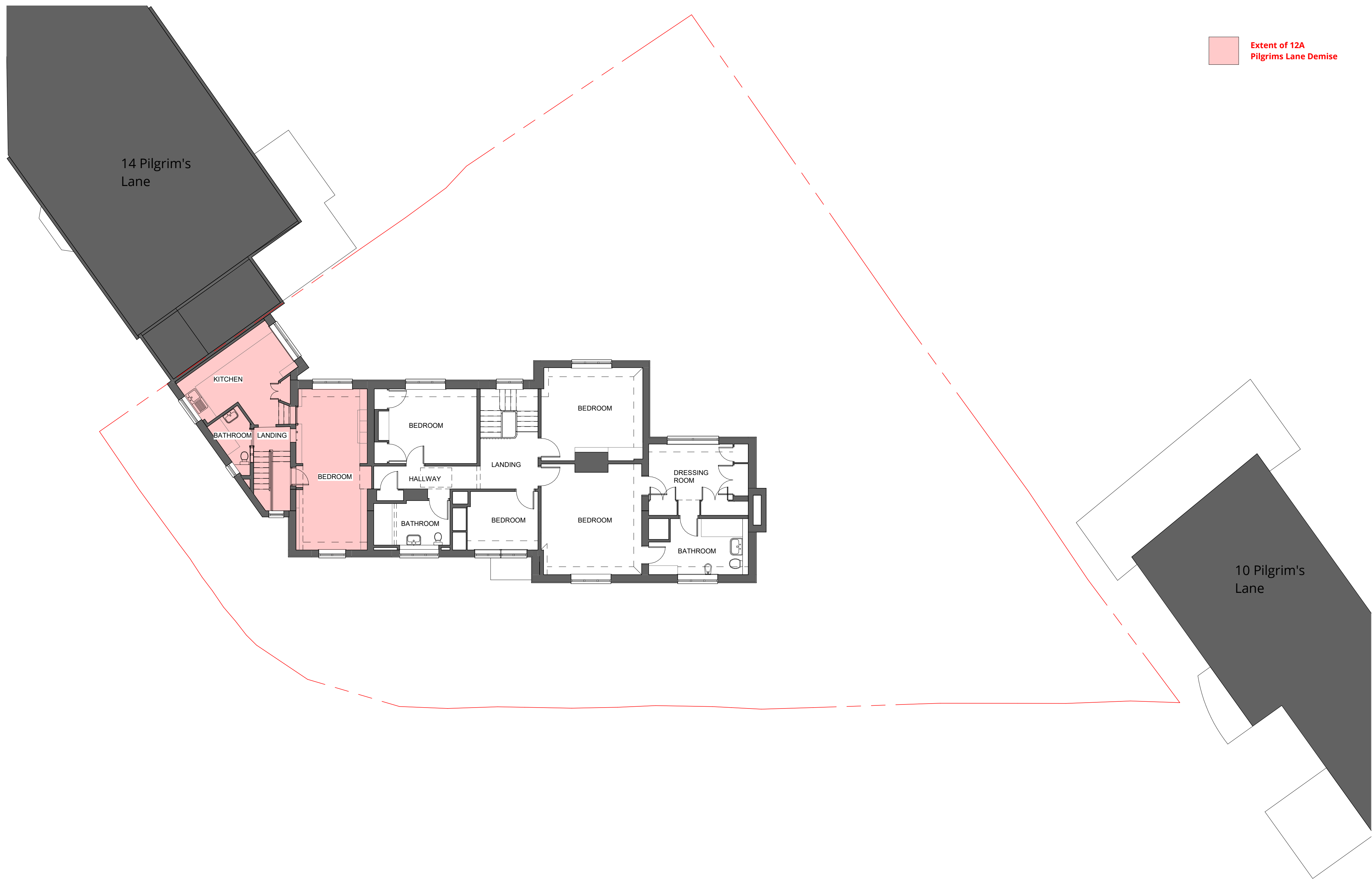
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Extent of 12A
 Pilgrims Lane Demise



Existing First Floor Plan
 1: 100

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0	First Issue	25.05.22		



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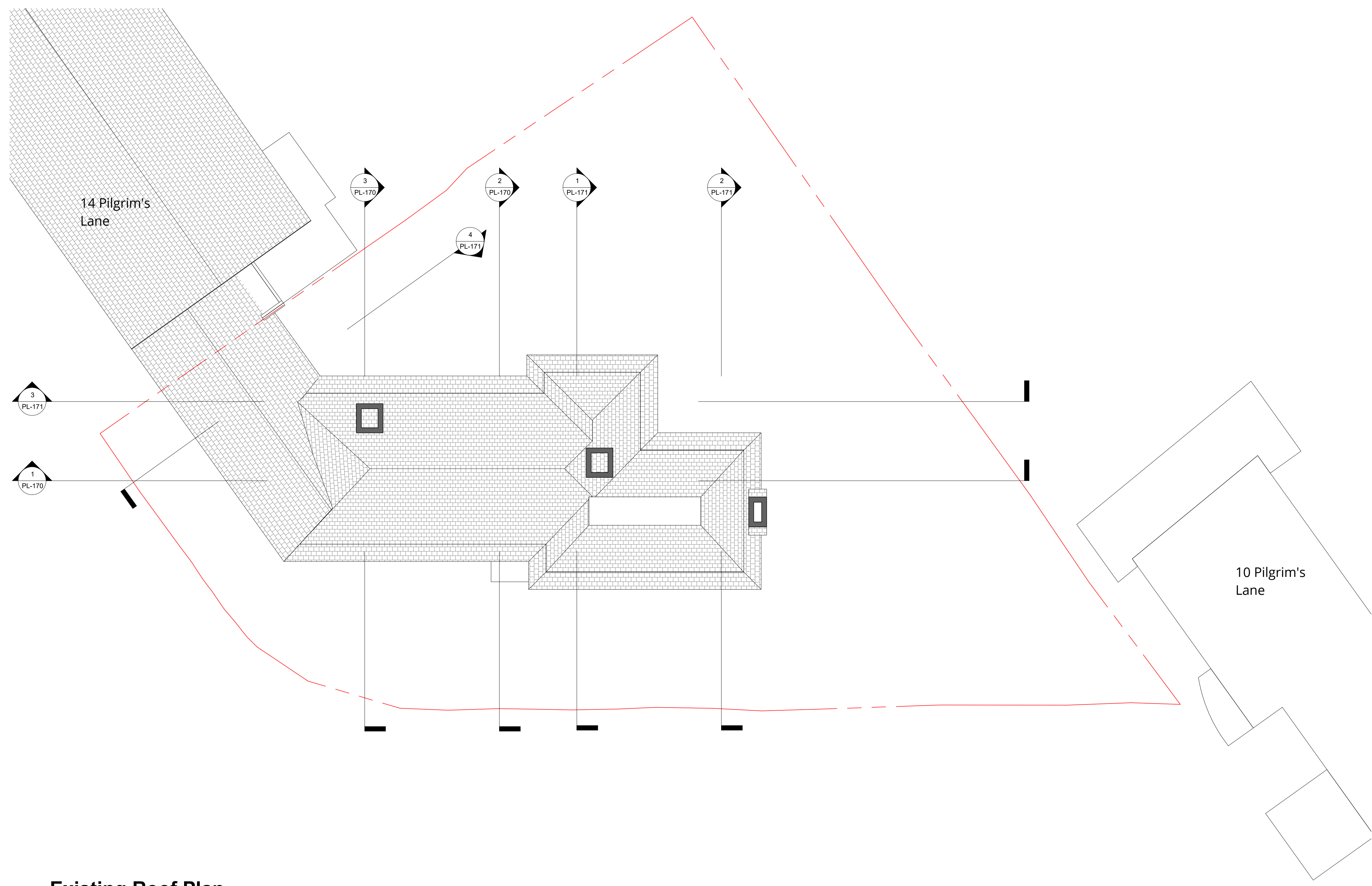
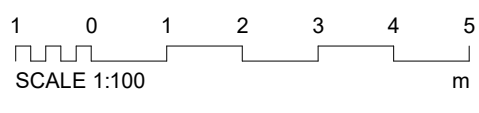
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 Plan**

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Notes:



Existing Roof Plan
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status: **PLANNING**

project: **12 Pilgrim's Lane
 Hampstead, London**

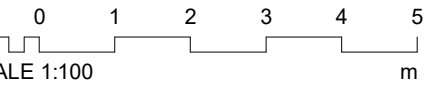
drawing title: **Existing Roof Plan**

date: **01/21/22** | scale: **1 : 100**

dwg no: **2160-PL-154** | rev no: **0**

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Notes:



South Elevation - Existing
 1 : 100



North Elevation - Existing
 1 : 100

Rev	Description	Date	Drawn	Chkd
0	First Issue	25.05.22		



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status: **PLANNING**

project: **12 Pilgrim's Lane
 Hampstead, London**

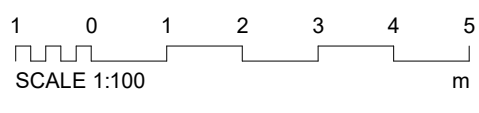
drawing title: **Existing Front & Rear Elevations**

date: **11/19/21** | scale: **1 : 100**

dwg no: **2160-PL-160** | rev no: **0**

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Notes:

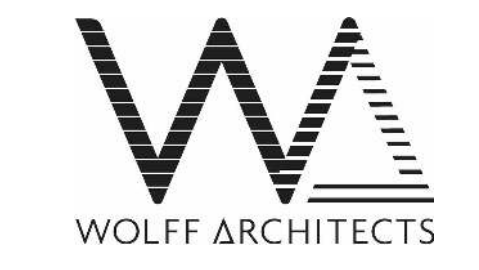


East Elevation - Existing
 1 : 100



West Elevation - Existing
 1 : 100

Rev	Description	Date	Drawn	Chkd
0	First Issue	25.05.22		



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status: **PLANNING**

project: **12 Pilgrim's Lane
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drawing title: **Existing Side
 Elevations**

date: **01/24/22** | scale: **1 : 100**

dwg no: **2160-PL-161** | rev no: **0**

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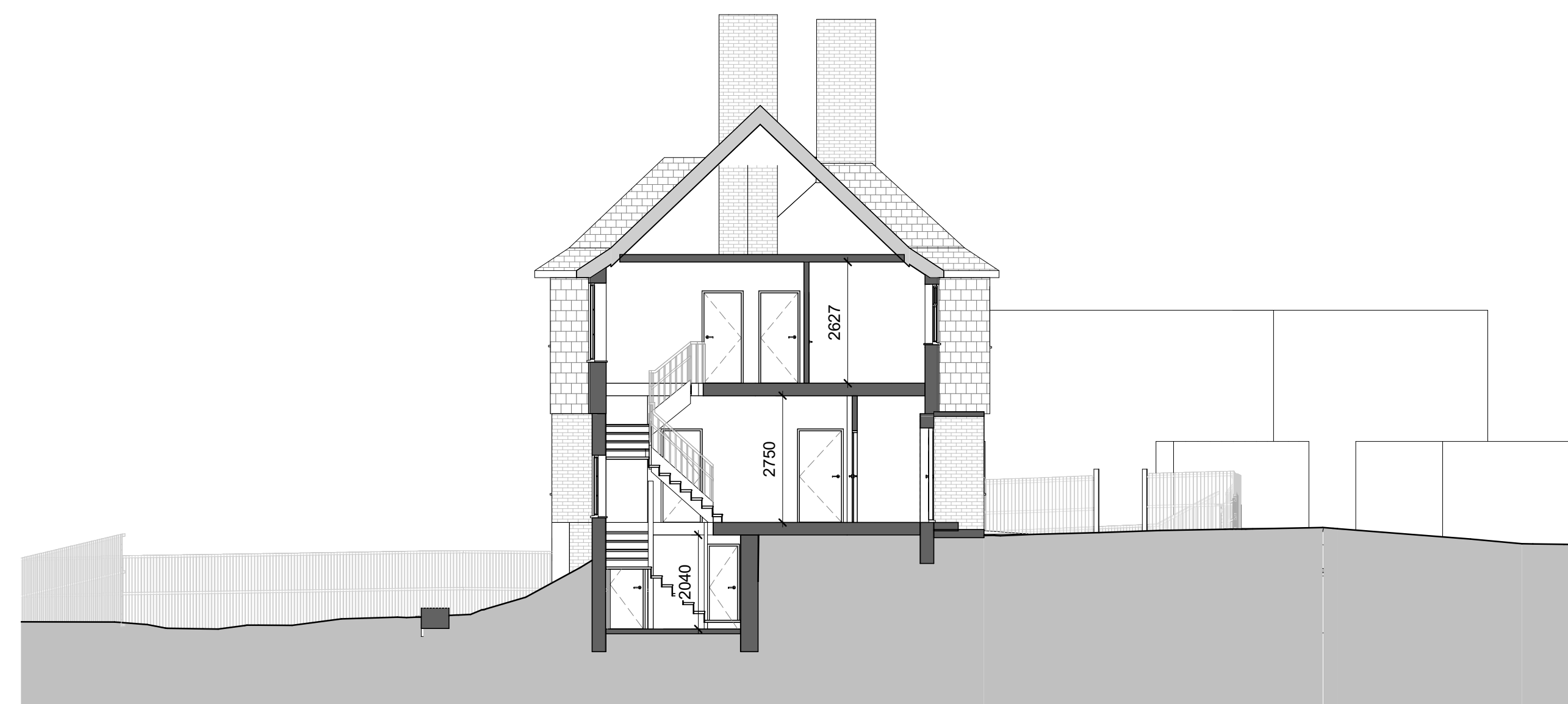
Notes:



1 0 1 2 3 4 5
SCALE 1:100 m



Section AA - Existing
1 : 100



Section BB - Existing
1 : 100



Section CC - Existing
1 : 100

Rev	Description	Date	Drawn	Clkd
0	First Issue	25.05.22		



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status: **PLANNING**

project: **12 Pilgrim's Lane
Hampstead, London**

drawing title: **Existing Sections 1**

date: **01/24/22** scale: **1 : 100**

dwg no: **2160-PL-170** rev no: **0**

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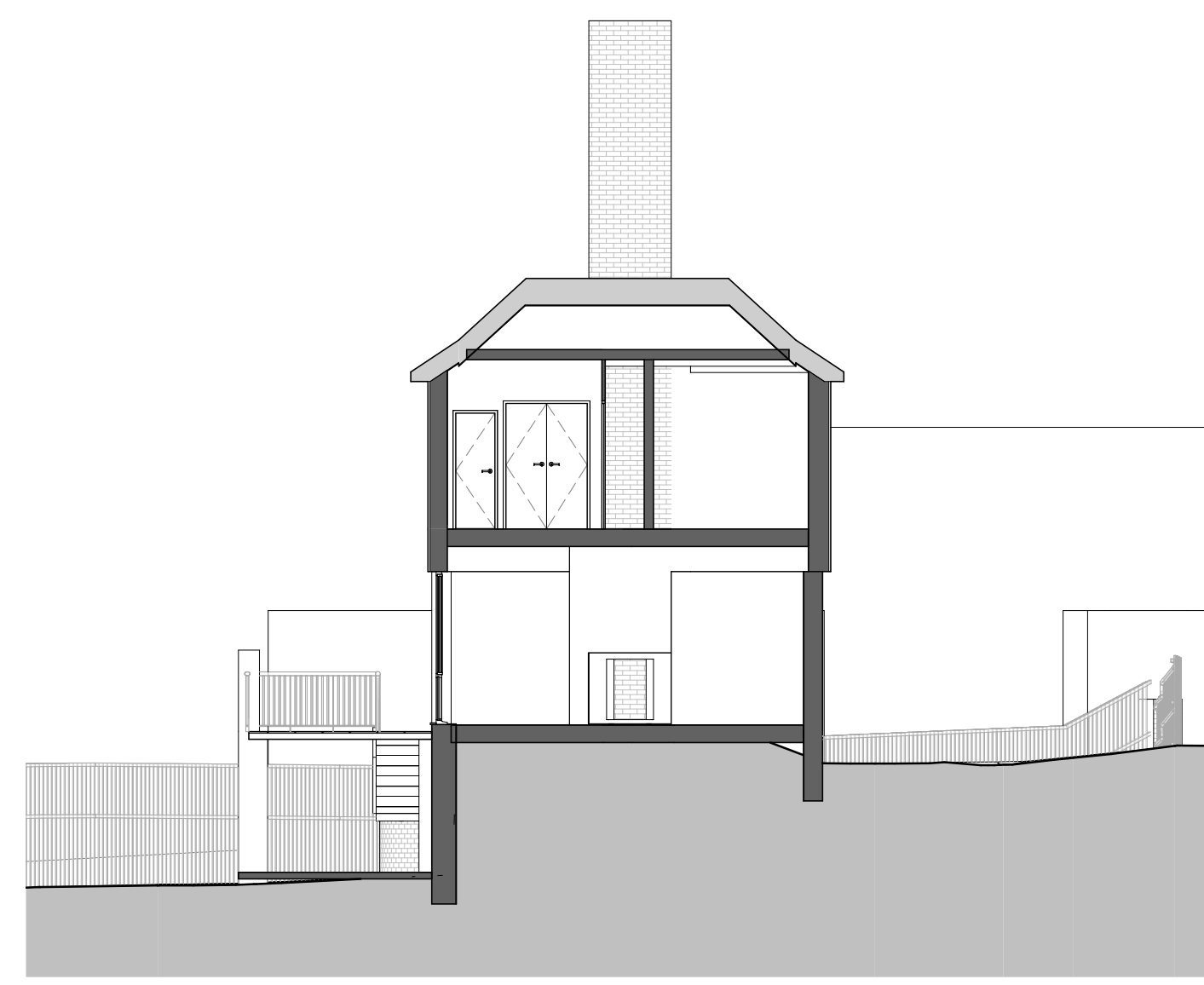
Notes:



1 0 1 2 3 4 5
SCALE 1:100 m



Section DD - Existing
1 : 100



Section EE - Existing
1 : 100



Section GG - Existing
1 : 100



Section HH - Existing
1 : 100

Rev	Description	Date	Drawn	Clkd
0	First Issue	25.05.22		



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status: **PLANNING**

project: **12 Pilgrim's Lane
Hampstead, London**

drawing title: **Existing Sections 2**

date: **01/24/22** | scale: **1 : 100**

dwg no: **2160-PL-171** | rev no: **0**

Appendix B

Measured Building Survey

NOTES

ALL LEVELS ARE IN METRES RELATED TO AN ASSUMED DATUM LOCATED ON THE GROUND FLOOR AS SHOWN (VALUE 100.00m).
THE COORDINATE GRID IS BASED ON ASSUMED VALUES.
OVERHEAD CABLES WILL BE SHOWN INDICATIVELY AND ARE SUBJECT TO SEASONAL VARIATION. THESE WILL BE MEASURED USING REMOTE METHODS.
TREE SPECIES SHOULD ALWAYS BE CONFIRMED BY A TREE SPECIALIST.
SERVICE COVERS WILL BE LIFTED AND DETAIL SHOWN WHERE POSSIBLE. ALL INFORMATION WILL BE TAKEN FROM SURFACE LEVEL ONLY.
DAMAGED COVERS OR THOSE WITHIN HIGHWAYS WILL NOT BE LIFTED. INFORMATION MAY BE OMITTED DUE TO OBSTRUCTIONS AT TIME OF SURVEY.

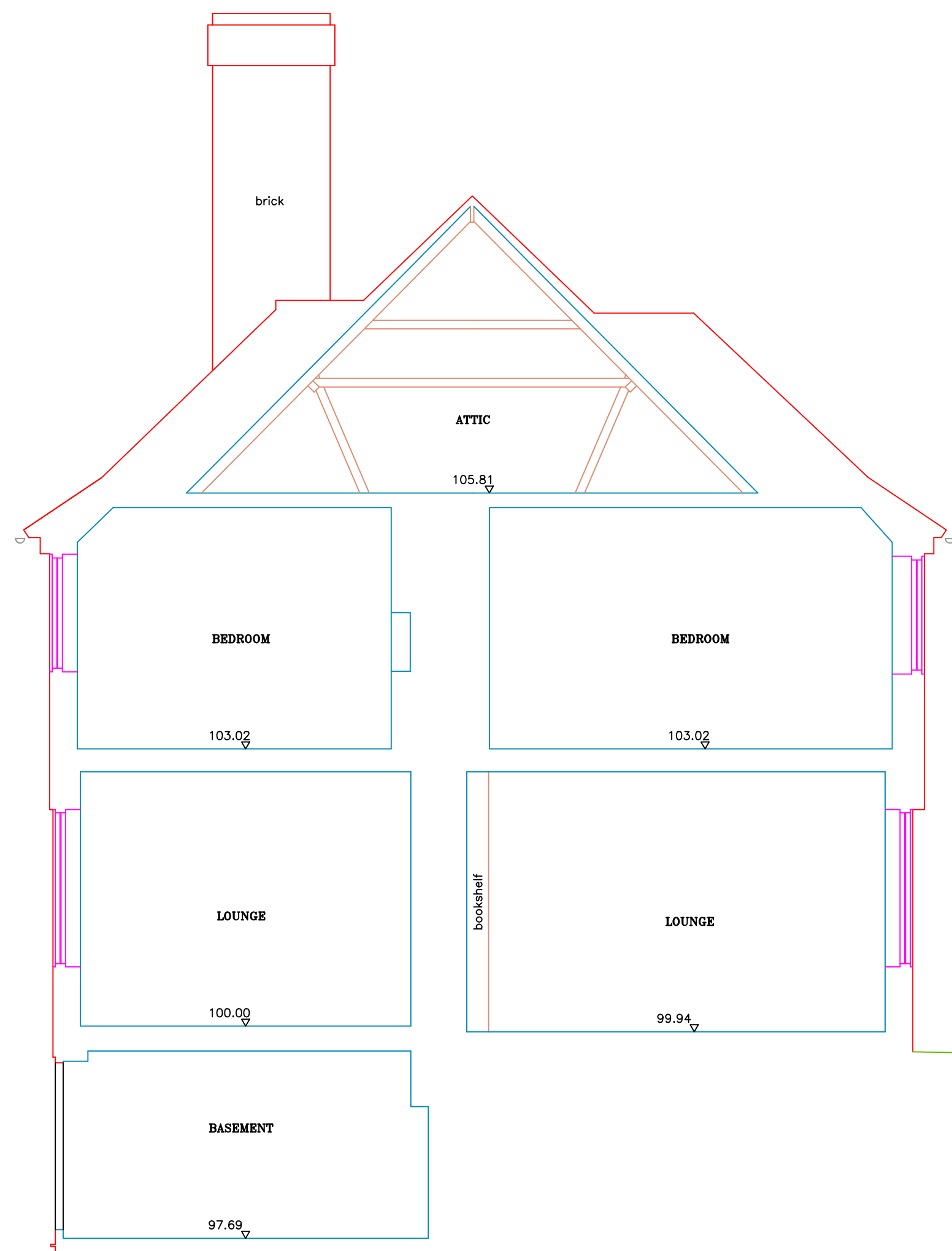
LEGEND

TOPOGRAPHICAL SURVEY KEY:-

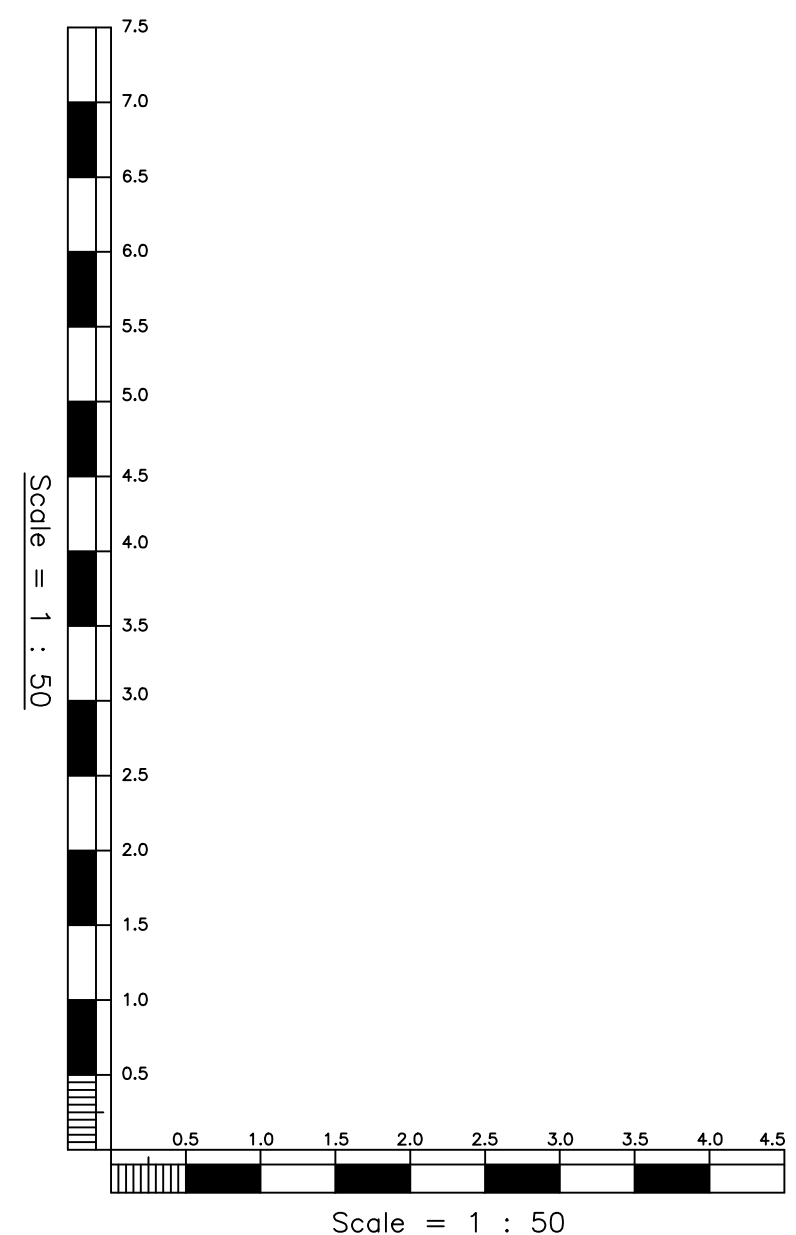
obsm	ORDNANCE SURVEY BENCH MARK	fh	FIRE HYDRANT
ibm	TEMPORARY BENCH MARK	g	GULLY
ffl	FINISHED FLOOR LEVEL	rs	ROOFING EYE
tl	THRESHOLD LEVEL	bt	BRITISH TELECOM
mh	MANHOLE COVER	ctv	CABLE TELEVISION
ic	INSPECTION COVER	conc	CONCRETE
cl	COVER LEVEL	bk	BRICK
il	INVERT LEVEL	f/b	FLOWER BED
wf	WATER LEVEL	hl	HEIGHT
bl	BED LEVEL	tow	TOP OF WALL
pd	PIPE DIAMETER	tot	TOP OF FENCE
wf	WATER FILLED CHAMBER	toh	TOP OF HEDGE
ul	UNLABLE TO LIT	ep	ELECTRICITY POLE
dc	DOWN CHAMBER	tp	TELEGRAPH POLE
g-run	GULLY RUN PIPE	lp	LAMP POST
wp	RAIN WATER PIPE	rs	ROAD SIGN
wp	WASTE PIPE	rs	ROAD SIGN
vp	VENT PIPE	sb	SKILLION
vp	WASTE PIPE	nb	NOTICE BOARD
er	EARTH ROD	c/b	CLOSEBOARD
sv	STOP VALVE	c/l	CHARLING
gv	GAS VALVE	p/r	POST & RAIL
wm	WATER METER	p/w	POST & WIRE
		r/r	IRON RAILING

MEASURED BUILDING SURVEY KEY:-

③	ROOM HEIGHT	↔	switch
—	ROOF SLOPE (DOWN)	↔↔	double switch
fs	FLOOR TO HEAD	↕	socket
fh	FLOOR TO HEAD	↕↕	double socket
uh	UNDERHEAD	⊥	thermostat
u/a	UNDERHEAD	⊥	telephone socket
u/c	UNDERHEAD	⊥	tv socket
u/c	SUSPENDED CEILING	⊗	fuse
r	ROOFPICT		
fr	FIREPLACE		
fd	FLOORBOARD		
f	FLOORBOARD		
cup'd	CUPBOARD		
elec	ELECTRICS		
rad	RADIATOR		
ht	HEATER		
hwt	HOT WATER TANK		



Datum 96.00m
SECTION A - A



STATION COORDINATES

STATION	EASTINGS	NORTHINGS	LEVEL	REMARKS

REVISIONS

Revision	Date	Remarks



SITE:	12 PILGRIM'S LANE, LONDON, NW3 1SN
CLIENT:	ALEX SHAMASH
REF:	4757/4
DATE:	SEP 2021
SCALE:	1:50@A1
SURVEYOR:	DR/DB

Appendix C

Borehole Logs



Project 12 Pilgrims Lane, London, NW3 1SN				BOREHOLE No BH1	
Job No J21282	Date 21-09-21 21-09-21	Ground Level (m OD)	Co-Ordinates ()		
Client		Engineer Elliott Wood		Sheet 1 of 1	

SAMPLES & TESTS			STRATA				Instrument / Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	
0.25	D					(1.20)	PAVING SLABS over MADE GROUND (stiff brown slightly desiccated sandy silty clay, with frequent fine to coarse gravel sized fragments of brick and flint. Occasional roots.)
0.50	D					1.20	
1.00	D					1.50	Stiff becoming firm slightly desiccated brown sandy silty clay with frequent partings of orange brown clayey sand and grey silt
1.20-1.65	D	2,3/3,3,3,4 N60 = 18				1.50	
1.85	D					(4.80)	Firm becoming stiff with depth fissured slightly sandy silty clay with frequent partings of orange brown clayey sand and grey silt. Occasional blue-grey veining. Occasional roots.
2.00-2.45	U100					4.80	
2.75	D					(4.80)	3.00 Occasional fine gravel sized selenite crystals below 3.00 m
3.00-3.45	D	2,3/2,3,3,3 N60 = 15				4.80	
3.75	D					(4.80)	4.00 Sand partings are only occasional and no roots below 4.00 m
4.00-4.45	U100					4.80	
4.75	D					(2.15)	Stiff becoming very stiff with depth fissured brown-grey silty clay with occasional partings of brown-grey sand and silt. Frequent fine crystals (mica) and occasional white shell fragments.
5.00-5.45	D	2,2/2,4,3,4 N60 = 18				2.15	
6.00	D					(2.15)	
6.50-6.95	U100					2.15	
7.50	D					(2.15)	
8.00-8.45	D	2,3/4,4,4,5 N60 = 23				2.15	

Report ID: CABLE PERCUSSION || Project: 121282 - 12 PILGRIMS LANE.GPJ || Library: GEA LIBRARY.GLB || Date: 12 November 2021

Boring Progress and Water Observations						GENERAL REMARKS
Depth	Date	Time	Casing Depth	Casing Dia. mm	Water Depth	
						Hand dug services pit to 1.20 m No groundwater encountered Standpipe installed to depth of 8.0 m

All dimensions in metres Scale 1:62.5	Method/ Plant Used CFA / Percussive sampler	Logged By AG
--	--	-----------------



Project 12 Pilgrims Lane, London, NW3 1SN				BOREHOLE No BH2	
Job No J21282	Date 21-09-21 21-09-21	Ground Level (m OD)	Co-Ordinates ()		
Client		Engineer Elliott Wood		Sheet 1 of 1	

SAMPLES & TESTS			STRATA				Instrument / Backfill	
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)		DESCRIPTION
0.25	D	1,2/2,2,2,1 N60 = 9				(0.60)	PAVING SLABS over MADE GROUND (stiff brown slightly desiccated sandy silty clay, with frequent fine to coarse gravel sized fragments of brick and flint. Occasional roots.)	
0.50	D					0.60		
0.75	D							
1.00	D							
1.20-1.65	D							
1.85	D	1,2/3,4,3,3 N60 = 18				1.50	Stiff becoming firm slightly desiccated brown sandy silty clay with frequent partings of orange brown clayey sand and grey silt	
2.00-2.45	U100							
2.75	D							
3.00-3.45	D							
3.75	D							
4.00-4.45	U100	1,2/2,3,4,4 N60 = 18				(4.80)	Firm becoming stiff with depth fissured slightly sandy silty clay with frequent partings of orange brown clayey sand and grey silt. Occasional blue-grey veining. Occasional roots.	
4.75	D							
5.00-5.45	D							
6.00	D							
6.50-6.95	U100							
7.50	D	2,3/3,4,4,6 N60 = 23				(2.15)	2.50 Occasional coarse sand to fine gravel sized selenite crystals below 2.50 m	
8.00-8.45	D							
						8.45	3.50 Sand partings are only occasional and no roots below 3.50 m	
							Stiff becoming very stiff with depth fissured brown-grey silty clay with occasional partings of brown-grey sand and silt. Frequent fine crystals (mica) and occasional white shell fragments.	

Report ID: CABLE PERCUSSION || Project: 121282 - 12 PILGRIMS LANE.GPJ || Library: GEA LIBRARY.GLB || Date: 12 November 2021

Boring Progress and Water Observations						GENERAL REMARKS
Depth	Date	Time	Casing Depth	Casing Dia. mm	Water Depth	
						Hand dug services pit to 1.20 m No groundwater encountered Standpipe installed to depth of 8.0 m

All dimensions in metres Scale 1:62.5	Method/ Plant Used CFA / Percussive sampler	Logged By AG
--	--	-----------------



Project 12 Pilgrims Lane, London, NW3 1SN				BOREHOLE No BH3	
Job No J21282	Date 24-09-21 24-09-21	Ground Level (m OD)	Co-Ordinates ()		
Client		Engineer Elliott Wood		Sheet 1 of 1	

SAMPLES & TESTS			STRATA				Instrument / Backfill	
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)		DESCRIPTION
0.50	D					(1.00) 1.00	TURF over MADE GROUND (brown sandy silty clay with frequent fine to coarse gravel sized fragments of brick, flint and rare charcoal. Occasional tree roots)	
1.30	D					(3.00)	Firm becoming stiff with depth brown mottled orange-brown fissured silty clay with partings of clayey sand and silt. Rare blue-grey veining.	
2.00	D							
2.80	D							
3.20	D						3.00 Occasional coarse sand sized selenite crystals below 3.00 m	
4.00	D					4.00		

Report ID: CABLE PERCUSSION || Project: 121282 - 12 PILGRIMS LANE.GPJ || Library: GEA LIBRARY.GLB || Date: 12 November 2021

Boring Progress and Water Observations						GENERAL REMARKS
Depth	Date	Time	Casing Depth	Casing Dia. mm	Water Depth	
						Hand dug services pit to 1.20 m No groundwater encountered Standpipe installed to depth of 4.0 m

All dimensions in metres Scale 1:62.5	Method/ Plant Used Hand-held window sampler	Logged By AG
--	--	-----------------



Project 12 Pilgrims Lane, London, NW3 1SN				BOREHOLE No BH4	
Job No J21282	Date 24-09-21 24-09-21	Ground Level (m OD)	Co-Ordinates ()		
Client		Engineer Elliott Wood		Sheet 1 of 1	

SAMPLES & TESTS			STRATA				Instrument / Backfill	
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)		DESCRIPTION
1.00	D					(2.00)	TURF over MADE GROUND (stiff desiccated slightly organic brown sandy silty clay with frequent fine to coarse gravel sized fragments of brick, flint and rare charcoal. Occasional roots)	
1.60	D					2.00		
2.10	D					(2.00)	Stiff locally firm brown mottled orange-brown fissured silty clay with partings of clayey sand and silt. Rare blue-grey veining.	
2.80	D							
3.20	D					4.00		
4.00	D							

Report ID: CABLE PERCUSSION || Project: 121282 - 12 PILGRIMS LANE GPJ || Library: GEA LIBRARY.GLB || Date: 12 November 2021

Boring Progress and Water Observations						GENERAL REMARKS
Depth	Date	Time	Casing Depth	Casing Dia. mm	Water Depth	
						Hand dug services pit to 1.20 m No groundwater encountered Borehole backfilled with arisings on completion

All dimensions in metres Scale 1:62.5	Method/ Plant Used Hand-held window sampler	Logged By AG
--	--	-----------------