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DESK STUDY & BASEMENT IMPACT ASSESSMENT REPORT

214 WHITBY ROAD,
RUISLIP,
HA4 9DY



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CONTENTS

	Page
EXECUTIVE SUMMARY	IV
1 INTRODUCTION	1
1.1 Terms of Reference	1
1.2 Proposed Development.....	1
1.3 Objectives	1
1.4 Scope of Works	2
1.5 Scope of Basement Impact Assessment.....	2
1.6 Supplied Documentation.....	3
1.7 Limitations	3
2 SITE SETTING & HISTORICAL INFORMATION	4
2.1 Site Information	4
2.2 Walkover Survey	4
2.3 Historical Mapping Information	5
2.4 Sensitive Land Uses	7
2.5 Radon.....	7
3 GEOLOGICAL SETTING & HAZARD REVIEW	8
3.2 Solid and Drift Geology.....	8
3.3 Geological Hazards	8
4 HYDROGEOLOGY, HYDROLOGY AND FLOOD RISK REVIEW	10
4.1 Hydrogeology & Hydrology	10
4.2 Flood Risk Review.....	12
4.3 Sequential and Exception Tests	15
4.4 Flood Resilience.....	16

5	SCREENING AND SCOPING ASSESSMENT	17
5.1	Screening Assessment	17
5.2	Scoping.....	20
6	PRELIMINARY BASEMENT IMPACT ASSESSMENT	22
6.1	Proposed Changes to Areas of External Hardstanding	22
6.2	Past Flooding.....	22
6.3	Geological Impact.....	22
6.4	Hydrology and Hydrogeology Impact	23
6.5	Impacts of Basement on Adjacent Properties and Pavement	23
7	REFERENCES.....	25

APPENDICES

APPENDIX 1 – FIGURES

APPENDIX 2 – GROUNDSURE REPORT

APPENDIX 3 – OS HISTORICAL MAPS

APPENDIX 4 – SELECT SFRA AND SWMP MAPS

EXECUTIVE SUMMARY

Fresh Consulting and Support Limited (“The Client”) has commissioned Jomas Associates Ltd (‘Jomas’), to prepare a Basement Impact Assessment for a site referred to as 214 Whitby Road, Ruislip, HA4 9DY.

The aim of this report is to assess whether the ground conditions within the local area represent an impediment to the proposed development.

It should be noted that the table below is an executive summary of the findings of this report and is for briefing purposes only. Reference should be made to the main report for detailed information and analysis.

Desk Study	
Current Site Use	The site currently comprises of a three-storey brick construction building construction building, which is currently occupied by an IT café. To the rear of the building is a small rear courtyard area of hardstanding.
Proposed Site Use	The proposed development is understood to comprise the construction of a single-storey rear outbuilding with single-level basement. No areas of soft landscaping are proposed .
Site History	On the earliest available historical map (1864), the site is shown to sit within fields/agricultural land. By the early 1960s, a terraced building is present in the north with an associated garden in the south. No significant changes are noted to the site through to the present day. The surrounding area comprised fields/agricultural land through to the 1930s. A watercourse was noted within 50m to the south of site, with a number of small ponds also in the site vicinity. From the late 1930s, the surrounding land comprised dense residential-style development.
Site Setting	The British Geological Survey indicates that the site is directly underlain by solid deposits of the Lambeth Group. The underlying the Lambeth Group is identified as a Secondary ‘A’ Aquifer. There are 3No surface water features within 250m. Yeading Brook is located 41m south of the site. The site is located within an Environment Agency Flood Zone 2. Groundsure states that the RoFRaS rating for the site is “low”. The site is not within an area benefiting from Flood Defences. Groundsure states that risk of surface water flooding as “1 in 30 year, 0.1m-0.3m”. Groundsure states that the site is within an area at “low” risk of groundwater flooding.
Potential Geological Hazards	The Groundsure data identifies a moderate risk of shrink swell clays at the site, as well as a low to moderate risk of non-coal mining. The clearance of the site, including removal of foundations and services is likely to increase the depth of Made Ground on the site. Foundations should not be formed within Made Ground or organic rich materials (i.e. Topsoil) due to the unacceptable risk of total and differential settlement.

	The presence of Made Ground derived from demolition material may be a source of elevated sulphate results associated with plaster from the previous structures. If such levels are noted, then sulphate resistant concrete may be required. A relatively shallow groundwater table should be anticipated. It is recommended that a geotechnical ground investigation is undertaken to inform foundation design.
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Screening and Scoping (Basement Impact Assessment)	
Subterranean (Groundwater) Flow	A ground investigation is recommended to confirm the ground conditions and groundwater levels (if any) beneath the site. This can then be used to confirm the relative depths of the basement to the groundwater levels.
Land Stability	The site, as with the surrounding area, is generally flat. The Groundsure report has noted that there is a “very low” risk of land instability issues for the site. The investigation should also determine the possibility of encountering groundwater and the possibility of Made Ground and/or clay. Atterberg Limits of the underlying clay should be determined by the ground investigation to establish shrink/swell potential.
Surface Flow and Flooding	The proposed basement will underlie existing hardstanding with the rear garden; there will be no significant change in surface water run-off.

Basement Impact Assessment	
Impact Assessment	Based on the above data, the small size of the proposed basement, and modern design standards, the site is considered to be at low risk from identified potential sources of flooding, and will have negligible impact on subsurface groundwater flow. The overall assessment of the site is therefore that the creation of a basement for the existing development will not adversely impact the site or its immediate environs, providing measures are taken to protect surrounding land and properties during construction. The proposed basement excavation will not be within 5m of a public pavement. However, it will be within 5m of neighbouring properties. Unavoidable lateral ground movements associated with the basement excavations must be controlled during temporary and permanent works so as not to impact adversely on the stability of the surrounding ground and any associated services. During the construction phase careful and regular monitoring will need to be undertaken to ensure that the property above, is not adversely affected. This may mean that the property needs to be suitably propped and supported. From the studies that have been undertaken so far, and subject to the findings of an intrusive investigation, it is concluded that the construction of the building should not present a problem for groundwater. The proposed development is not expected to cause significant problems to the subterranean drainage. However, should be confirmed by a ground investigation and a subsequently updated Basement Impact Assessment.
Recommended Further Work	
Works	An intrusive ground investigation is recommended to confirm the ground conditions and groundwater levels (if any) beneath the site, as well as to inform foundation design. A preliminary investigation could comprise a borehole drilled to at least 5m below the proposed depth of the basement with return groundwater monitoring.

1 INTRODUCTION

1.1 Terms of Reference

1.1.1 Fresh Consulting and Support Limited ("The Client") has commissioned Jomas Associates Ltd ('Jomas'), to prepare a Stage 1 Basement Impact Assessment (Screening & Scoping) at a site referred to as 214 Whitby Road, Ruislip, HA4 9DY.

1.1.2 To this end, this desk based assessment has been undertaken in accordance with Jomas' proposal dated 23 December 2020.

1.2 Proposed Development

1.2.1 The proposed development for this site is understood to comprise the construction of a single-storey rear outbuilding with single-level basement. No areas of soft landscaping are proposed.

1.2.2 Plans of the proposed development are included in Appendix 1.

1.2.3 For the purpose of geotechnical assessment, it is considered that the project could be classified as a Geotechnical Category (GC) 2 site in accordance with BS EN 1997 Part 1. GC 2 projects are defined as involving:

- Conventional structures.
- Quantitative investigation and analysis.
- Normal risk.
- No difficult soil and site conditions.
- No difficult loading conditions.
- Routine design and construction methods.

1.2.4 This will be reviewed at each stage of the project.

1.3 Objectives

1.3.1 The objectives of Jomas' investigation was as follows:

- To present a description of the present site status, based upon the published geology, hydrogeology and hydrology of the site and surrounding area;
- To review readily available historical information (i.e., Ordnance Survey maps and database search information) for the site and surrounding areas;
- To assess the potential impacts that the proposal may have on ground stability, the hydrogeology and hydrology on the site and its environs.

1.4 Scope of Works

1.4.1 The following tasks were undertaken to achieve the objectives listed above:

- A walkover survey of the site;
- A desk study, which included the review of a database search report (GeoInsight Report, attached in Appendix 2) and historical Ordnance Survey maps (attached in Appendix 3);
- A basement impact assessment;
- The compilation of this report, which collects and discusses the above data, and presents an assessment of the site conditions, conclusions and recommendations.

1.5 Scope of Basement Impact Assessment

1.5.1 The site lies within the remit of the London Borough of Hillingdon. The council has published a document “Local Plan Part 2 Development Management Policies” (16 January 2020). This gives detail on the issues relevant to basements within London Borough of Hillingdon, but does not go into detail as to how these issues should be assessed.

1.5.2 Consequently, Jomas has based the methodology of the BIA on the guidance given in the London Borough of Camden document “Camden Planning Guidance Basements” (CPGB) (January 2021). This document has been used as it is generally accepted that this gives the best available guidance on the practicalities regarding how to the undertake a BIA.

1.5.3 Jomas’ BIA covers most items required under CPGB, with the exception of;

- Plans and sections to show foundation details of adjacent structures – no access to adjacent properties was possible.
- Programme for enabling works, construction and restoration.
- Evidence of consultation with neighbours.
- Ground Movement Assessment (GMA), to include assessment of significant adverse impacts and specific mitigation measures required, as well as confirmatory and reasoned statement identifying likely damage to nearby properties according to the Burland Scale.
- Construction Sequence Methodology.
- Proposals for monitoring during construction.
- Drainage assessment.

1.5.4 This Jomas BIA also takes into account the Campbell Reith pro forma BIA produced on behalf of and published by the London Borough of Camden as guidance for applicants to ensure that all of the required information is provided.

1.5.5 A number of the requirements set out in the London Borough of Camden document CPGB will need to be addressed in a construction management plan, this stage is not within the scope of work that Jomas Associates have been commissioned.

1.6 Supplied Documentation

1.6.1 Jomas Associates have not been supplied with any previously produced reports at the time of writing this report.

1.7 Limitations

1.7.1 Jomas Associates Ltd has prepared this report for the sole use of Fresh Consulting and Support Limited in accordance with the generally accepted consulting practices and for the intended purposes as stated in the agreement under which this work was completed. This report may not be relied upon by any other party without the explicit written agreement of Jomas. No other third party warranty, expressed or implied, is made as to the professional advice included in this report. This report must be used in its entirety.

1.7.2 The records search was limited to information available from public sources; this information is changing continually and frequently incomplete. Unless Jomas has actual knowledge to the contrary, information obtained from public sources or provided to Jomas by site personnel and other information sources, have been assumed to be correct. Jomas does not assume any liability for the misinterpretation of information or for items not visible, accessible or present on the subject property at the time of this study.

1.7.3 Whilst every effort has been made to ensure the accuracy of the data supplied, and any analysis derived from it, there may be conditions at the site that have not been disclosed by the investigation, and could not therefore be taken into account. As with any site, there may be differences in soil conditions between exploratory hole positions. Furthermore, it should be noted that groundwater conditions may vary due to seasonal and other effects and may at times be significantly different from those measured by the investigation. No liability can be accepted for any such variations in these conditions.

1.7.4 ***This report is not an engineering design and the figures and calculations contained in the report should be used by the Structural Engineer, taking note that variations may apply, depending on variations in design loading, in techniques used, and in site conditions. Our recommendations should therefore not supersede the Engineer's design.***

2 SITE SETTING & HISTORICAL INFORMATION

2.1 Site Information

2.1.1 The site location plan is appended to this report in Appendix 1.

Table 2.1: Site Information

Name of Site	-
Address of Site	214 Whitby Road, Ruislip, HA4 9DY
Approx. National Grid Ref.	511292 , 186625
Site Area (Approx)	0.02ha
Site Occupation	IT café
Local Authority	London Borough of Hillingdon
Proposed Site Use	Construction of a single-storey with single-level basement outbuilding to the rear of the existing structure, and minor internal alterations to the existing structure

2.2 Walkover Survey

2.2.1 A site walkover survey was undertaken by Jomas Associates on 16 June 2021.

Table 2.2: Site Description

Area	Item	Details
On-site:	Current Uses:	Site consists of a three-storey brick construction building, which is currently occupied by an IT café. To the rear of the building is a small paved courtyard area.
	Evidence of historic uses:	No evidence of historic uses observed on site.
	Surfaces:	The site comprises the footprint of the existing building, a hardstanding rear paved courtyard , and the internal cover is expensive tiling.
	Vegetation:	There are weeds growing around the boundaries of the rear garden.
	Topography / Slope Stability:	The site and surrounding areas are observed to be level. The majority of the rear garden, is set down 0.62m lower than the existing ground floor. A series of small retaining walls surround this area.

SECTION 2

SITE SETTING & HISTORICAL INFORMATION

Area	Item	Details
	Drainage:	Site appears to be connected to normal drainage facilities. Some pooling of water was noted within the rear garden, within the area that is set down lower than the existing ground floor level.
	Services:	Site appears to be connected to all normal services.
	Controlled waters:	No controlled waters were observed on site.
	Tanks:	No tanks were observed on site.
Neighbouring land:	North:	Residential and commercial (restaurants, dry cleaners and a barbers).
	East:	Residential, vape shop, off licence and church.
	South:	Fields, residential and a stream (Yeading Brook).
	West:	Residential.

- 2.2.2 Key features noted during the walkover are shown on a site walkover plan in Figure 2, together with site photos, in Figure 3.

2.3 Historical Mapping Information

- 2.3.1 The historical development of the site and its surrounding areas was evaluated following the review of a number of Ordnance Survey historic maps, procured from Groundsure, and these are provided in Appendix 3 of this report.
- 2.3.2 A summary produced from the review of the historical map is given in Table 2.3 below. Distances are taken from the site boundary.

Table 2.3: Historical Development

Dates and Scale of Map	Relevant Historical Information	
	On Site	Off Site
1864 1:10,560 1865 1:2,500	Site is undeveloped and sits within fields/agricultural land. A field boundary crosses across the south-east corner of the site.	The surrounding area up to 1.5km from site comprises almost entirely fields/agricultural land. A narrow watercourse is located approximately 50m south of site. A number of small ponds are located within 750m of the site, the nearest of which is roughly 100m north.
1881 – 1883 1:10,560	No significant changes noted.	No significant changes noted.

SECTION 2

SITE SETTING & HISTORICAL INFORMATION

Dates and Scale of Map	Relevant Historical Information	
	On Site	Off Site
1894 – 1896 1:2,500 1894, 1897 1:10,560	No significant changes noted.	No significant changes noted.
1912, 1920 1:10,560 1914 1:2,500	No significant changes noted.	Railway lines are located roughly 1km north and south-west of site.
1935 1:2,500 1:10,560	No significant changes noted.	No significant changes noted.
1938 1:10,250 1939 – 1940 1:2,500	Site is still undeveloped but no longer sits in land of agricultural use.	Surrounding land is now dense residential-style development. The small pond ~100m north of site is no longer present.
1959, 1961 1:2,500 1960 1:10,560 1961 1:1,250	Site comprises a terraced building in the north with associated garden in the south.	Watercourse to the south of site is shown to be 'Yeading Brook'.
1966 – 1967 1:10,560	No significant changes noted.	No significant changes noted.
1974 1:1,250 1:10,000	No significant changes noted.	No significant changes noted.
1990 1:1,000 1991 1:1,250	No significant changes noted.	No significant changes noted.
2001, 2010, 2021 1:10,000 2003 1:1,250	No significant changes noted.	No significant changes noted.

- 2.3.4 Aerial photographs supplied as part of the Groundsure Enviro+GeoInsight report range from 1999 to 2019. These generally show the site and immediate surrounding area to be in the same configuration as the historical maps from a similar time.

2.4 Sensitive Land Uses

2.4.1 No sensitive land uses were identified within 1km of the site.

2.5 Radon

2.5.1 The site is reported not to lie within a Radon affected area, as less than 1% of properties are above the action level.

2.5.2 Consequently, no radon protective measures are necessary in the construction of new dwellings or extensions as described in publication BR211 (BRE, 2015).

3 GEOLOGICAL SETTING & HAZARD REVIEW

3.1.1 The following section summarises the principal geological resources of the site and its surroundings. The data discussed herein is generally based on the information given within the Groundsure Report (in Appendix 2).

3.2 Solid and Drift Geology

3.2.1 Information provided by the British Geological Survey (BGS) indicates that the site is directly underlain by solid deposits of the Lambeth Group.

3.2.2 The BGS describes the Lambeth Group as consisting of:

“Vertically and laterally variable sequences mainly of clay, some silty or sandy, with some sands and gravels, minor limestones and lignites and occasional sandstone and conglomerate.”

3.2.3 No artificial deposits are reported within 100m of the site, but given the sites identified history, a depth of Made Ground should be expected.

3.3 Geological Hazards

3.3.1 The following are brief findings extracted from the Groundsure Enviro+GeoInsight Report, that relate to factors that may have a potential impact upon the engineering of the proposed development.

Table 3.1: Geological Hazards

Potential Hazard	Site check Hazard Rating	Details	Further Action Required?
Shrink swell clays	Moderate	Ground conditions predominantly high plasticity	Yes
Running sands	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly	No
Compressible deposits	Negligible	Compressible strata are not thought to occur	No
Collapsible Deposits	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present	No
Landslides	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered	No
Ground dissolution soluble rocks	Negligible	Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present	No
Coal mining	None	The study site is not located within the specified search distance of an identified coal mining area	No
Non-coal mining	Low/moderate	Chalk – small scale underground mining may have occurred; mine adits, shafts and tunnels may be present. Potential for localised difficult ground	No

Potential Hazard	Site check Hazard Rating	Details	Further Action Required?
		conditions are at a level where they should be considered. However, no evidence of known workings shown within 500m of site and based on anticipated significant depth to chalk this is considered unlikely.	
3.3.2		The Enviro+GeolInsight report notes the following: • No natural cavities within 500m of the site • No historical surface ground working features within 250m of the site • No historical underground working features within 1km of the site	
3.3.3		The clearance of the site, including removal of foundations and services is likely to increase the depth of Made Ground on the site.	
3.3.4		Foundations should not be formed within Made Ground or organic rich materials (i.e. Topsoil) due to the unacceptable risk of total and differential settlement.	
3.3.5		The presence of Made Ground derived from demolition material may be a source of elevated sulphate results associated with plaster from the previous structures. If such levels are noted, then sulphate resistant concrete may be required.	
3.3.6		The potential impacts of shallow groundwater should be considered during foundation design. The affects that this may have include (but are not limited to): • Permanent excavations – i.e. for items such as basements and drainage. This is likely to need waterproofing / tanking and may have flotation issues. • Temporary excavations – likely to affect side stability especially where the excavations are formed in granular materials. • Soakaways – likely to affect the permeability and therefore the effective use of soak-away drainage. • Concrete classification on the site (in accordance with BRE SD-1) due to the potential for a mobile groundwater table. • May require dewatering or groundwater exclusion techniques to be used. • Foundation design – likely to reduce the allowable bearing capacity that could be achieved in the superficial deposits.	
3.3.7		Cohesive deposits of the Lambeth Group are located beneath the site, which may be affected by shrinking and swelling as a result of water uptake of nearby trees.	
3.3.8		It is recommended that a geotechnical ground investigation is undertaken to inform design.	
3.3.9		This should include Atterberg limit laboratory testing to confirm soil shrinkability.	

4 HYDROGEOLOGY, HYDROLOGY AND FLOOD RISK REVIEW

4.1 Hydrogeology & Hydrology

4.1.1 General information about the hydrogeology of the site was obtained from the MAGIC website.

Groundwater Vulnerability

4.1.2 Since 1 April 2010, the EA's Groundwater Protection Policy uses aquifer designations that are consistent with the Water Framework Directive. This comprises;

- **Secondary A** - permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers;
- **Secondary B** - predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers.
- **Secondary Undifferentiated** - has been assigned in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.
- **Principal Aquifer** – this is a formation with a high primary permeability, supplying large quantities of water for public supply abstraction.
- **Unproductive Strata** - These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.

Source Protection Zones (SPZ)

4.1.3 In terms of aquifer protection, the EA generally adopts a three-fold classification of SPZs for public water supply abstraction wells.

- Zone I - or 'Inner Protection Zone' is located immediately adjacent to the groundwater source and is based on a 50-day travel time. It is designed to protect against the effects of human activity and biological/chemical contaminants that may have an immediate effect on the source.
- Zone II - or 'Outer Protection Zone' is defined by a 400-day travel time to the source. The travel time is designed to provide delay and attenuation of slowly degrading pollutants.
- Zone III - or 'Total Catchment' is the total area needed to support removal of water from the borehole, and to support any discharge from the borehole.

SECTION 4

HYDROGEOLOGY, HYDROLOGY AND FLOOD RISK REVIEW

Hydrogeology

- 4.1.4 The baseline hydrogeology of the site is based on available hydrogeological mapping, including the BGS online mapping, and generic information obtained from the Groundsure Report.
- 4.1.5 The available data indicates that the geology of the area consists of the Lambeth Group. It is considered that a groundwater table may be encountered within these deposits.

Hydrology

- 4.1.6 The hydrology of the site and the area covers water abstractions, rivers, streams, other water bodies and flooding.
- 4.1.7 The Environment Agency defines a floodplain as the area that would naturally be affected by flooding if a river rises above its banks, or high tides and stormy seas cause flooding in coastal areas.
- 4.1.8 There are two different kinds of area shown on the Flood Map for Planning. They can be described as follows:

Areas that could be affected by flooding, either from rivers or the sea, if there were no flood defences. This area could be flooded:

- from the sea by a flood that has a 0.5 per cent (1 in 200) or greater chance of happening each year;
- or from a river by a flood that has a 1 per cent (1 in 100) or greater chance of happening each year.

(For planning and development purposes, this is the same as Flood Zone 3, in England only.)

- The additional extent of an extreme flood from rivers or the sea. These outlying areas are likely to be affected by a major flood, with up to a 0.1 per cent (1 in 1000) chance of occurring each year.

(For planning and development purposes, this is the same as Flood Zone 2, in England only.)

- 4.1.9 These two areas show the extent of the natural floodplain if there were no flood defences or certain other manmade structures and channel improvements.
- 4.1.10 Outside of these areas flooding from rivers and the sea is very unlikely. There is less than a 0.1 per cent (1 in 1000) chance of flooding occurring each year. The majority of England and Wales falls within this area. (For planning and development purposes, this is the same as Flood Zone 1, in England only.)
- 4.1.11 Some areas benefit from flood defences and these are detailed on Environment

Agency mapping.

- 4.1.12 Flood defences do not completely remove the chance of flooding, however, and can be overtopped or fail in extreme weather conditions.

Table 4.1: Summary of Hydrogeological & Hydrology

Feature	On Site	Off Site
Aquifer	Superficial:	-
	Solid:	Secondary 'A' Aquifer
Surface Water Features	None reported	3No Water Network (OS MasterMap) records within 250m; the nearest of which is Yeading Brook, located 41m south
		3No surface water features are reported within 250m
Discharge Consents	None reported	2No reported within 500m; both entries are recorded as sewage discharges, located 288m south-west
Flood Risk	EA Flood Zone 2	Yes
	EA Flood Zone 3	No
	RoFRaS	Low
	Historical Flood Events	None reported
	Flood Defences	There are no areas benefiting from Flood Defences within 250m of the study site
	Surface Water Flooding	The highest risk of surface water flooding on site is '1 in 30 year, 0.1m – 0.3m'
	Groundwater Flooding	There is a 'low' risk of groundwater flooding on the site

4.2 Flood Risk Review

- 4.2.1 In accordance with the NPPF Guidance, below is a review of flood risks posed to and from the development and recommendations for appropriate design mitigation where necessary. Specific areas considered are based on the requirements laid out in the "Camden Guidance for Subterranean Development" as this document is generally considered to be the most comprehensive Local Authority Guidance in the London area.

Table 4.2: Flood Risk Review

Flood Sources	Site Status	Comment on flood risk posed to / from the development
Fluvial / Tidal	The site is located within an Environment Agency Zone 2 floodplain. The risk of flooding from rivers and sea (RoFRaS) rating is low.	Proposed basement development will be formed beneath an area of existing hardstanding. Low risk.
Groundwater	The BGS considers the area to be at 'low' risk of groundwater flooding.	As SUDS will be required by NPPF, PPG and LLFA policy requirements, this is likely to be provided by surface and above ground attenuation before releasing to the existing sewer network. This will ensure that the proposed development will not increase the potential risk of groundwater flooding. Basement will be fully waterproofed as appropriate to industry standard. Low risk.
Artificial Sources	There are 3No surface water features reported within 250m of the site. No artificial sources identified from the historical map review.	Low risk.
Surface Water / Sewer Flooding	There are 3No surface water features reported within 250m of the site. Condition, depth and location of surrounding infrastructure uncertain.	As SUDS will be required by NPPF, PPG and LLFA policy requirements, these are likely to include attenuation before releasing to the existing sewer network. If permeable paving is used this would likely reduce the risk of surface water flooding. Combined, these are likely to reduce the risk of both surface and sewer flooding to both the site and surrounding properties. Basement will be fully waterproofed as appropriate to industry standard. Low risk.
Climate Change	Included in the flood modelling extents.	Development will not significantly increase the peak flow and volume of discharge from the site. Low risk posed to and from the development.

- 4.2.2 Information about the risk to the study site from flooding has been obtained from the following documents produced for London Borough of Hillingdon: Surface Water Management Plan (Capita Symonds, January 2013); and West London Strategic Flood Risk Assessment (Metis, 2018). Potential impacts to the site are discussed below.

Flooding from Fluvial/Tidal Sources

- 4.2.3 The nearest water network is located approximately 41m south of site identified as Yeading Brook. The West London SFRA does not model flood extents for this river,

however, the site is located within an EA Flood Zone 2, as well as EA flood alert and flood warning areas. In addition, no EA recorded flood outlines or EA historic flooding events are shown within 500m of site.

Groundwater Flooding

- 4.2.4 The West London SFRA indicates that the site is not within an area that is susceptible to groundwater flooding or an area that has an increased potential for elevated groundwater. The majority of the borough is underlain by Unproductive strata of the London Clay Formation, however, the site is underlain by the Lambeth Group which is a Secondary 'A' Aquifer.

Surface Water Flooding

- 4.2.5 According to the West London SFRA, the site is in an area with a risk of surface water flood depth of 600mm-900mm for a 0.1% annual chance.
- 4.2.6 In addition to this, the site lies within an EA Flood Zone 2. Based on EA mapping, the site and highways surrounding the site are in an area identified as being at risk of surface water flooding.

Sewer/Artificial Flooding

- 4.2.7 There are no historic records of flooding attributed to the sewerage network in the London Borough of Hillingdon.
- 4.2.8 The London Borough of Hillingdon Surface Water Management Plan
- 4.2.9 The West London SFRA shows the number of sewer flooding events for the postcode "HA4 9--". 21-40 properties are shown to have been impacted by flooding of sewers in the area. The SWMP (2013), states the number of properties in the area to be impacted by sewer flooding to be 12. This number is fairly average for the London Borough of Hillingdon.
- 4.2.10 The site is not shown within the maximum extent of flooding of reservoirs.

Critical Drainage Areas (CDAs)

- 4.2.11 A critical drainage area is defined in the Town and Country Planning (General Development Procedure) (Amendment) (No. 2) (England) Order 2006 a Critical Drainage Area is "an area within Flood Zone 1 which has critical drainage problems and which has been notified... [to]...the local planning authority by the Environment Agency".
- 4.2.12 They are where man made drainage infrastructure has been identified as at critical risk of failure, resulting in flooding. Such areas can be completely different or similar,

to the areas identified by the Environment Agency as at risk of natural watercourse, river and sea flooding.

- 4.2.13 17No Critical Drainage Areas (CDA) are identified within the London Borough of Hillingdon Strategic Flood Risk Assessment (SFRA). The site is not located within a CDA.

Sustainable Drainage Systems (SuDS)

- 4.2.14 The basement is proposed to be constructed beneath an area of existing hardstanding, and is therefore unlikely to significantly change the impermeable areas on site.
- 4.2.15 In accordance with the NPPF, PPG and LLFA policy requirements, sustainable drainage systems (SUDS) should be incorporated wherever possible to reduce positive surface water run-off and flood risk to other areas.
- 4.2.16 Given the expected underlying ground and hydrogeological conditions it is considered that infiltration drainage would potentially be suitable. This should be confirmed by a ground investigation.
- 4.2.17 SuDS may include the replacement of hard cover with permeable hardstanding and surface / above-ground attenuation prior to discharge to storm sewers. However, it is likely that SuDS would be restricted by the small size of the site and proximity to buildings and boundary.

Conclusion

- 4.2.18 Based on the above data, the small size of the proposed basement, and modern design standards, the site is considered to be at low risk from identified potential sources of flooding. The basement can be constructed and operated safely in flood risk terms without increasing flood risk elsewhere and is therefore considered NPPF compliant.
- 4.2.19 Excerpts of maps contained within the West London, and London Borough of Hillingdon documents (See 4.2.2) are included in Appendix 4.

4.3 Sequential and Exception Tests

- 4.3.1 The Sequential Test aims to ensure that development does not take place in areas at high risk of flooding when appropriate areas of lower risk are reasonably available.

Sequential Test: within an EA Flood Zone 2. This commercial development is considered to be “less vulnerable”, however, the development has a basement and therefore consideration should be made for it to be categorised as “more vulnerable”. Therefore deemed to pass, and an Exception Test is not required

- 4.3.2 Paragraph 19 of PPS25 recognizes the fact that wider sustainable development criteria may require the development of some land that cannot be delivered through the sequential test. In these circumstances, the Exception Test can be applied to some

developments depending on their vulnerability classification (Table D.2 of PPS25). The Exception Test provides a method of managing flood risk while still allowing necessary development to occur.

Exception Test: within an EA Flood Zone 2, “more vulnerable” development, and low risk posed to and from other sources. Exception Test not required so it passes.

4.4 Flood Resilience

4.4.1 In accordance with general basement flood policy and basement design, the proposed development will utilize the flood resilient techniques recommended in the NPPF Technical Guidance where appropriate and also the recommendations that have previously been issued by various councils.

4.4.2 These include:

- Basement to be fully waterproofed (tanked) and waterproofing to be tied in to the ground floor slab as appropriate: to reduce the turnaround time for returning the property to full operation after a flood event.
- Plasterboards will be installed in horizontal sheets rather than conventional vertical installation methods to minimise the amount of plasterboard that could be damaged in a flood event
- Wall sockets will be raised to as high as is feasible and practicable in order to minimise damage if flood waters inundate the property
- Any wood fixings on basement / ground floor will be robust and/or protected by suitable coatings in order to minimise damage during a flood event
- The basement waterproofing where feasible will be extended to an appropriate level above existing ground levels.
- The concrete sub floor as standard will likely be laid to fall to drains or gullies which will remove any build-up of ground water to a sump pump where it will be pumped into the mains sewer. This pump will be fitted with a non-return valve to prevent water backing up into the property should the mains sewer become full.
- Insulation to the external walls will be specified as rigid board which has impermeable foil facings that are resistant to the passage of water vapour and double the thermal resistance of the cavity.

5 SCREENING AND SCOPING ASSESSMENT

5.1 Screening Assessment

- 5.1.1 Screening is the process of determining whether or not there are areas of concern which require a BIA for a particular project. This was undertaken in previous sections by the site characterisation. Scoping is the process of producing a statement which defines further matters of concern identified in the screening stage. This defining is in terms of ground processes in order that a site specific BIA can be designed and executed by deciding what aspects identified in the screening stage require further investigation by desk research or intrusive drilling and monitoring or other work.
- 5.1.2 The scoping stage highlights areas of concern where further investigation, intrusive soil and water testing and groundwater monitoring may be required.
- 5.1.3 This Jomas BIA also takes into account the Campbell Reith pro forma BIA produced on behalf of and published by the London Borough of Camden as guidance for applicants to ensure that all of the required information is provided. Within the pro forma a series of tables have been used to identify what issues are relevant to the site.
- 5.1.4 Each question posed in the tables is completed by answering “Yes”, “No” or “Unknown”. Any question answered with “Yes” or “Unknown” is then subsequently carried forward to the scoping phase of the assessment.
- 5.1.5 The results of the screening process for the site are provided in Table 5.1 below. Where further discussion is required the items have been carried forward to scoping.
- 5.1.6 The numbering within the questions refers the reader to the appropriate question / section in the London Borough of Camden BIA pro forma.
- 5.1.7 It should also be noted that the London Borough of Hillingdon may not place the same importance on the issues identified in the London Borough of Camden’s guidance documents. It should be noted that the pro forma is mainly concerned with the pond chain on Hampstead Heath, if other ponds / waterbodies may similarly affect the development Jomas will indicate this.
- 5.1.8 A ground investigation is undertaken where necessary to establish base conditions and the impact assessment determines the impact of the proposed basement on the baseline conditions, taking into account any mitigating measures proposed.

Table 5.1: Screening Assessment

Query	Y / N	Comment
Subterranean (Groundwater) Flow (see London Borough of Camden BIA Pro Forma Section 4.1.1)		
1a) Is the site located directly above an aquifer?	Yes	The site is directly underlain by the Lambeth Group, a Secondary 'A' Aquifer.
1b) Will the proposed basement extend below the surface of the water table?	Unknown	The basement may potentially extend below a water table within the solid deposits. This should be confirmed by a ground investigation.
2) Is the site within 100m of a watercourse, well (disused or used) or a potential spring line?	Yes	Yeading Brook is located 41m south of site.
3) Is the site within the catchment of any surface water features?	Yes	Yeading Brook – classified as having a heavily modified hydromorphological designation.
4) Will the proposed basement development result in a change in the proportion of hard surfaced/paved areas?	No	The proposed development will comprise a basement beneath existing hardstanding.
5) As part of the site drainage, will more surface water (e.g. rainfall and run-off) than at present be discharged to the ground (e.g. via soakaways and/or SUDS)?	No	The proposed development will comprise a basement beneath existing hardstanding.
6) Is the lowest point of the proposed excavation (allowing of any drainage and foundation space under the basement floor) close to, or lower than, the mean water level in any local pond (not just the pond chains on Hampstead Heath or spring line)?	Unknown	Yeading Brook is located 41m south of site. Groundwater table beneath site is unknown. This should be confirmed by a ground investigation.
Slope Stability ((see London Borough of Camden BIA Pro Forma Section 4.2)		
1) Does the existing site include slopes, natural or manmade, greater than 7 degrees? (approximately 1 in 8)	No	The site is flat and level with the main road.
2) Will the proposed re-profiling of landscaping change slopes at the property to more than 7 degrees? (approximately 1 in 8)	Unknown	Re-profiling of change of slopes is not anticipated.
3) Does the developments' neighbouring land include railway cuttings and the like, with a slope greater than 7 degrees? (approximately 1 in 8)	No	Nearest entry of a railway line is roughly 1km from site. Surrounding land use is residential and commercial shops.
4) Is the site within a wider hillside setting in which the general slope is greater than 7 degrees? (approximately 1 in 8)	No	Surrounding area is generally flat.
5) Is the London Clay the shallowest strata at the site?	No	The site is directly underlain by solid deposits of the Lambeth Group.

SECTION 5

SCREENING AND SCOPING ASSESSMENT

Query	Y / N	Comment
6) Will any trees be felled as part of the proposed development and/or are any works proposed within any tree protection zones where trees are to be retained?	No	No trees were noted on site during the walkover.
7) Is there a history of seasonal shrink-swell subsidence in the local area, and/or evidence of such effects at the site?	Unknown	The site is reported to be in area at moderate risk from shrink-swell clays. No evidence of structural distress caused by seasonal shrink / swell was noted during the external walkover.
8) Is the site within 100m of a watercourse or a spring line?	Yes	1No surface water feature within 100m: Yeading Brook 41m to the south of the site.
9) Is the site within an area of previously worked ground?	No	Site has only had the current development in place.
10) Is the site within an aquifer? If so, will the proposed basement extend beneath the water table such that dewatering may be required during construction?	Unknown	The site is directly underlain by the Secondary 'A' Aquifer of the Lambeth Group. Groundwater level should be assessed by a ground investigation prior to construction to confirm its presence.
11) Is the site within 50m of the Hampstead Heath ponds (or other waterbody)?	Yes	Yeading Brook is located 41m south of site.
12) Is the site within 5m of a highway or pedestrian 'right of way'?	No	The proposed basement is to the rear of the existing property, greater than 5m from a highway or pedestrian right of way.
13) Will the proposed basement significantly increase the differential depth of foundations relative to neighbouring properties?	Unknown	Neighbouring foundations are unknown.
14) Is the site over (or within the exclusion of) any tunnels e.g. railway lines?	No	No tunnels reported within 250m of the site.
Surface Flow and Flooding (see London Borough of Camden BIA Pro Forma Section 4.3)		
1) Is the site within the catchment of the pond chains on Hampstead Heath?	No	But Yeading Brook is located 41m south of site.
2) As part of the site drainage, will surface water flows (e.g. volume of rainfall and peak run-off) be materially different from the existing route?	No	The proposed development will comprise a basement beneath existing hardstanding and therefore surface water flow is unlikely to be affected.
3) Will the proposed basement development result in a change in the proportion of hard surfaced / paved external areas?	No	The proposed development will comprise a basement beneath existing hardstanding and therefore surface water flow is unlikely to be affected.
4) Will the proposed basement result in changes to the profile of the inflows (instantaneous and long term) of	No	The proposed development will comprise a basement beneath existing hardstanding and

Query	Y / N	Comment
surface water being received by adjacent properties or downstream watercourses?		therefore surface water flow is unlikely to be affected.
5) Will the proposed basement result in changes to the quality of surface waters being received by adjacent properties or downstream watercourses?	No	Yeading Brook is located 41m south of site. Small size of basement will have negligible impact on subsurface groundwater flow.
6) Is the site in an area identified to have surface water flood risk according to either the Local Flood Risk Management Strategy or Strategic Flood Risk Assessment or is it at risk from flooding, for example because the proposed basement is below the static water level of a nearby surface water feature?	Unknown	Site is located within an EA Flood Zone 2 and Yeading Brook is located 41m south of site. Groundwater level beneath proposed basement is currently unknown. A ground investigation is recommended to confirm.

5.2 Scoping

5.2.1 Scoping is the activity of defining in further detail the matters to be investigated as part of the BIA process. Scoping comprises of the definition of the required investigation needed in order to determine in detail the nature and significance of the potential impacts identified during screening.

5.2.2 The potential impacts for each of the matters highlighted in Table 5.1 above are discussed in further detail below together with the requirements for further investigations. Detailed assessment of the potential impacts and recommendations are provided where possible.

Subterranean (Groundwater) Flow

5.2.3 The West London SFRA indicates that the site is not within an area that is susceptible to groundwater flooding or an area that has an increased potential for elevated groundwater.

5.2.4 A ground investigation is recommended to confirm the ground conditions and groundwater levels (if any) beneath the site. This can then be used to confirm the relative depths of the basement to the groundwater levels.

Land Stability

5.2.5 The site, as with the surrounding area, is generally flat. The Groundsure report has noted that there is a “very low” risk of land instability issues for the site.

5.2.6 The recommended ground investigation should also determine the possibility of encountering groundwater and the possibility of Made Ground and/or clay. Atterberg Limits of the underlying clay should be determined by the ground investigation to assess shrink/swell potential of the soils.

Surface Flow and Flooding

- 5.2.7 The proposed basement will underlie existing hardstanding with the rear garden; there will be no significant change in surface water run-off.
- 5.2.8 As SuDS will be required by NPPF, PPG and LLFA policy requirements, this will be provided by surface and above ground attenuation before releasing to the existing sewer network. This will ensure that the proposed development will not increase the potential risk of groundwater flooding.

6 PRELIMINARY BASEMENT IMPACT ASSESSMENT

6.1 Proposed Changes to Areas of External Hardstanding

- 6.1.1 Existing areas of hardstanding include the existing building on site and hardstanding garden to the rear. The proposed development will comprise a basement beneath the existing hardstanding within the garden. As a result, there are unlikely to be significant changes in impermeable areas.
- 6.1.2 As SuDS will be required by NPPF, PPG and LLFA policy requirements, where practicable, the remaining hard surfaces will likely be replaced with permeable paving.
- 6.1.3 As a result, there is unlikely to be an increase in the proportion of hardstanding areas and it is not considered necessary to undertake further assessment in relation to the proposed changes to areas of external hardstanding.

6.2 Past Flooding

- 6.2.1 The National Planning Policy Framework sets strict tests to protect people and property from flooding which all local planning authorities are expected to follow.
- 6.2.2 When assessing the site-specific flood risk and the potential for historic flooding to reoccur the above guidance recommends that, historic flooding records and any other relevant and available information including flood datasets (e.g. flood levels, depths and/or velocities) and any other relevant data, which can be acquired are assessed.
- 6.2.3 The West London SFRA shows the number of sewer flooding events for the postcode "HA4 9--". 21-40 properties are shown to have been impacted by flooding of sewers in the area. The SWMP (2013), states the number of properties in the area to be impacted by sewer flooding to be 12. This number is fairly average for the London Borough of Hillingdon.
- 6.2.4 The West London SFRA indicates that the site is not within an area that is susceptible to groundwater flooding or an area that has an increased potential for elevated groundwater.
- 6.2.5 Groundsure reports no historical flood events within 250m of the site.
- 6.2.6 The site is therefore considered to be at low risk of flooding based on historic flooding.

6.3 Geological Impact

- 6.3.1 The published geological maps indicate that the site is directly underlain solid deposits of the Lambeth Group. This will be confirmed by the intrusive investigation.
- 6.3.2 At the depths that the basement would be constructed at the Lambeth Group is unlikely to be prone to seasonal shrinkage and swelling that arises due to changing

water content in the soil. This is due to a lack of significant vegetation capable of removing water within the zone of influence and the extensive hard cover minimising the amount of water entering the ground.

6.4 Hydrology and Hydrogeology Impact

- 6.4.1 Based on the information available at the time of writing, the risk of flooding from groundwater is considered to be low. The proposed basement is unlikely to have a detectable impact on the local groundwater regime.
- 6.4.2 Appropriate water proofing measures should be included within the whole of the proposed basement wall/floor design as a precaution.
- 6.4.3 The Lambeth Group is classed as a Secondary 'A' Aquifer but the creation of the basement is considered unlikely to have any significant impact upon the hydrogeology of the area.
- 6.4.4 Yeading Brook is located 41m south of the site, with 2No other watercourses reported within 250m. It is considered that the site may have an impact upon the hydrology of the area, and a ground investigation is recommended to confirm the depth to any water table beneath the site.
- 6.4.5 The site is located within an EA Flood Zone 2, although no EA recorded flood outlines or EA historic flooding events are shown within 500m of the site.
- 6.4.6 17No Critical Drainage Areas (CDA) are identified within the London Borough of Hillingdon Strategic Flood Risk Assessment (SFRA). The site is not located within a CDA.
- 6.4.7 Based on the above data, the small size of the proposed basement, and modern design standards, the site is considered to be at low risk from identified potential sources of flooding, and will have negligible impact on subsurface groundwater flow.

6.5 Impacts of Basement on Adjacent Properties and Pavement

- 6.5.1 The proposed basement excavation will not be within 5m of a public pavement. However, it will be within 5m of neighbouring properties.
- 6.5.2 Unavoidable lateral ground movements associated with the basement excavations must be controlled during temporary and permanent works so as not to impact adversely on the stability of the surrounding ground, any associated services and structures.
- 6.5.3 It is recommended that the site is supported by suitably designed temporary support with a basement box construction. This will ensure that the adjacent land is adequately supported in the temporary and permanent construction. Alternatively, the excavation should proceed in a manner that maintains the integrity of the ground on all sides.

- 6.5.4 Careful and regular monitoring of the structure will need to be undertaken during the construction phase to ensure that vertical movements do not adversely affect the above property. If necessary, the works may have to be carried out in stages with the above structure suitably propped and supported.
- 6.5.5 It will be necessary to ensure that the basements are designed in accordance with the NHBC Standards and take due cognisance of the potential impacts highlighted above. This may be achieved by ensuring best practice engineering and design of the proposed scheme by competent persons and in full accordance with the Construction (Design and Management) Regulations. This will include:
- Establishment of the likely ground movements arising from the temporary and permanent works and the mitigation of excessive movements;
 - Assessment of the impact on any adjacent structures (including adjacent properties and the adjacent pavement with potential services);
 - Determination of the most appropriate methods of construction of the proposed basements;
 - Undertake pre-condition surveys of adjacent structures;
 - Monitor any movements and pre-existing cracks during construction;
 - Establishment of contingencies to deal with adverse performance;
 - Ensuring quality of workmanship by competent persons.
- 6.5.6 Full details of the suitable engineering design of the scheme in addition to an appropriate construction method statement should be submitted by the Developer to the London Borough of Hillingdon.

7 REFERENCES

BRE Report BR211; Radon: Protective measures for new dwellings, 2015

British Standards Institution (2015) BS 5930:2015 *Code of practice for ground investigations*. Milton Keynes: BSI

Campbell Reith (March 2018) *“Pro Forma Basement Impact Assessment”*, London Borough of Camden

CIRIA C580, Embedded retaining walls – guidance for economic design

Groundsure Geo+EnviroInsight Report Ref HMD-377-7937902 June 2021

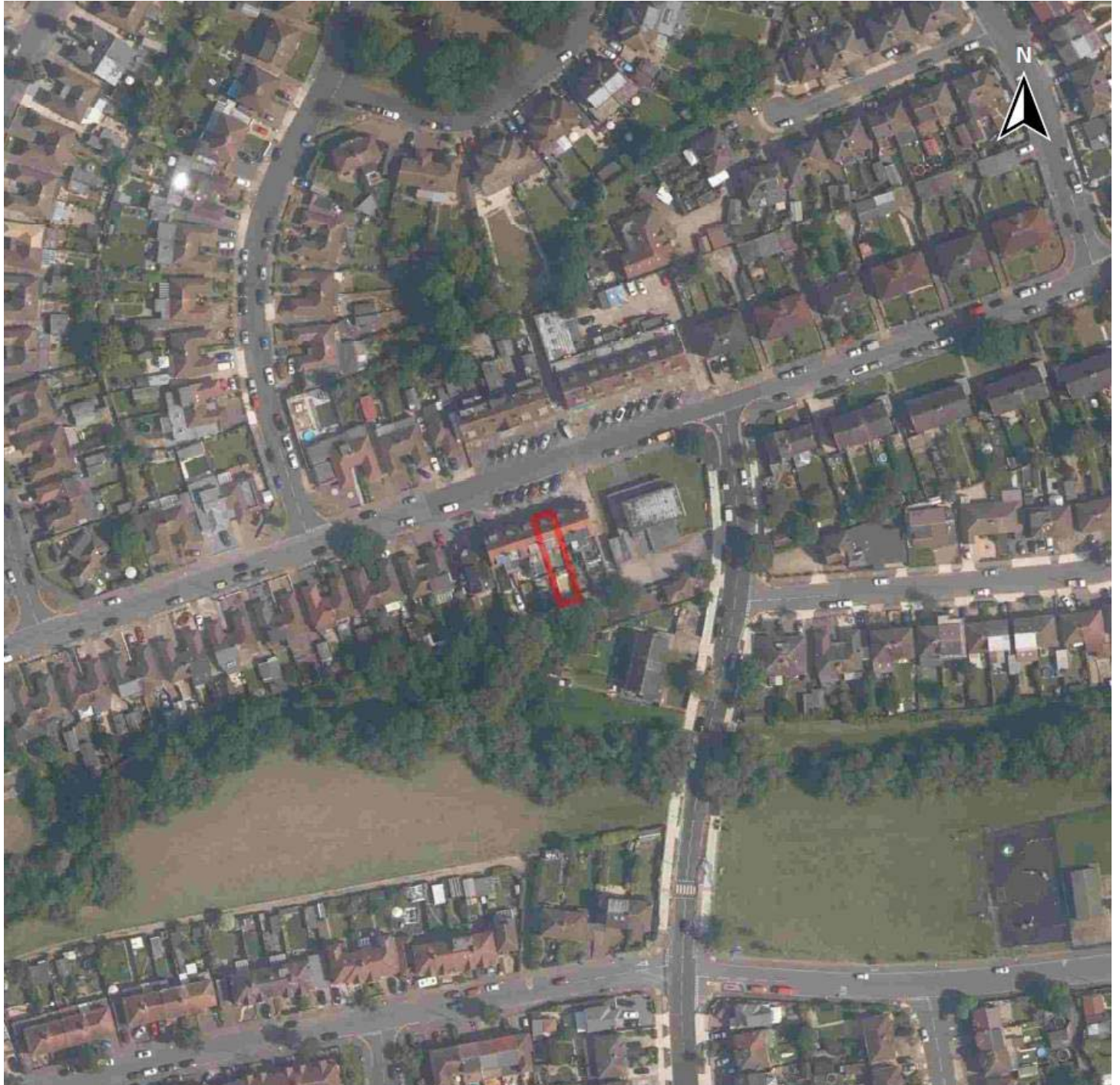
London Borough of Camden (January 2021) *“Camden Planning Guidance Basements”*

Ministry of Housing, Communities & Local Government: *National Planning Policy Framework*. February 2019

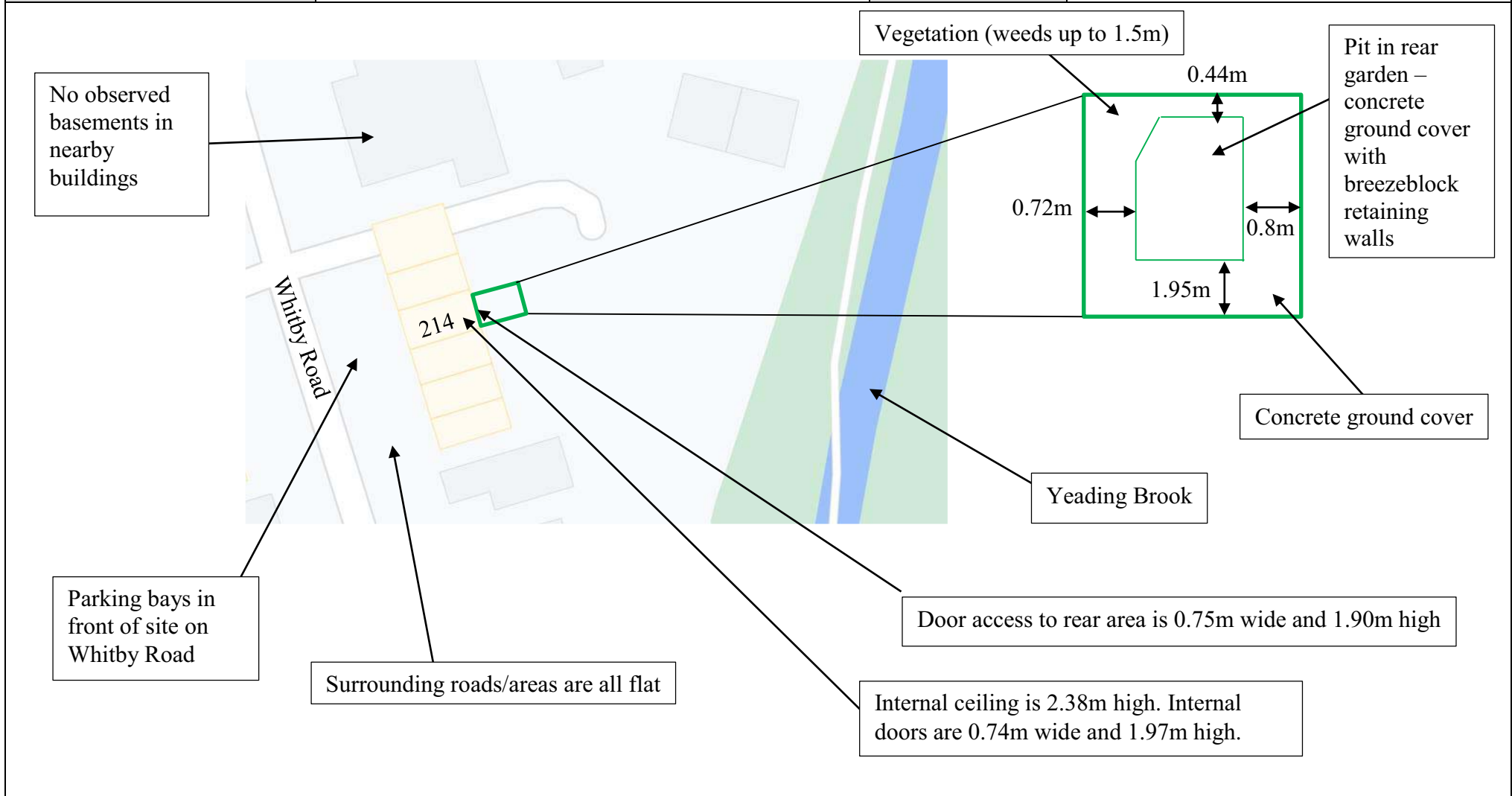
APPENDICES

APPENDIX 1 – FIGURES

PROJECT NAME	214 Whitby Road, Ruislip, HA4 9DY	CLIENT	Fresh Consulting and Support Limited
TITLE	Site Location Plan	PROJECT NO.	P3303J2328
DATE	July 2021	FIGURE	1



PROJECT NAME	214 Whitby Road, Ruislip	CLIENT	Fresh Consulting and Support Limited
TITLE	Site Constraints Plan	PROJECT NO.	P3303J2328
DATE	16 June 2021	FIGURE NO.	2



PROJECT NAME	214 Whitby Road, Ruislip	CLIENT	Fresh Consulting and Support Limited
TITLE	Site Photo Plan	FIGURE NO.	3

Photo 1: Overview of site from Whitby Road.



Photo 2: Pavement access directly outside site with parking bays.

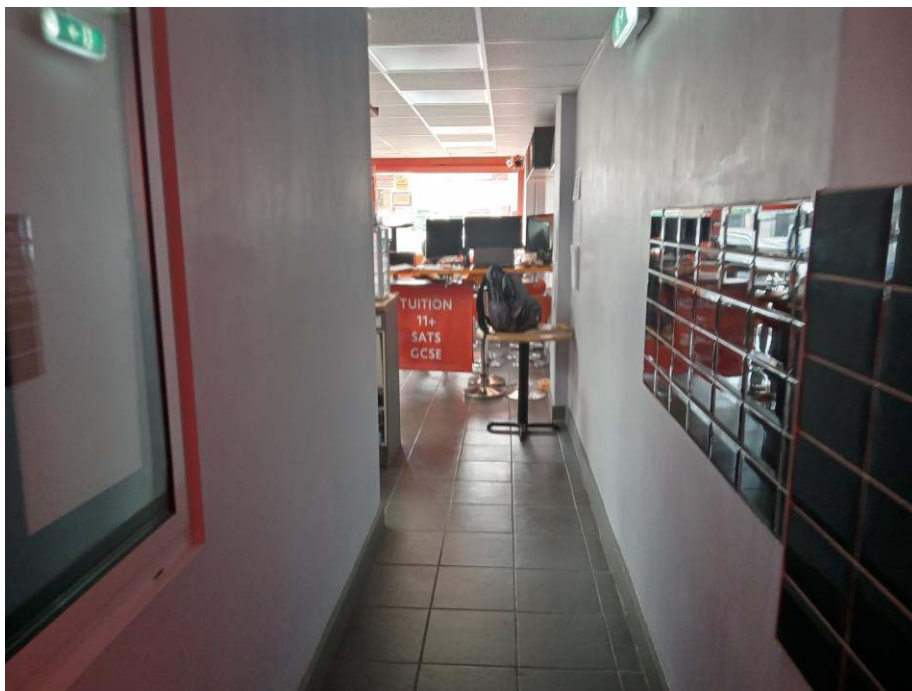


PROJECT NAME	214 Whitby Road, Ruislip	CLIENT	Fresh Consulting and Support Limited
TITLE	Site Photo Plan	FIGURE NO.	3

Photo 3: Front reception room of site.



Photo 4: Corridor access through to back of site.



PROJECT NAME	214 Whitby Road, Ruislip	CLIENT	Fresh Consulting and Support Limited
TITLE	Site Photo Plan	FIGURE NO.	3

Photo 5: Rear garden access.



Photo 6: Pit in rear garden showing breezeblock retaining walls and surrounding vegetation.



PROJECT NAME	214 Whitby Road, Ruislip	CLIENT	Fresh Consulting and Support Limited
TITLE	Site Photo Plan	FIGURE NO.	3

Photo 7: Western garden boundary.



Photo 8: Eastern garden boundary.

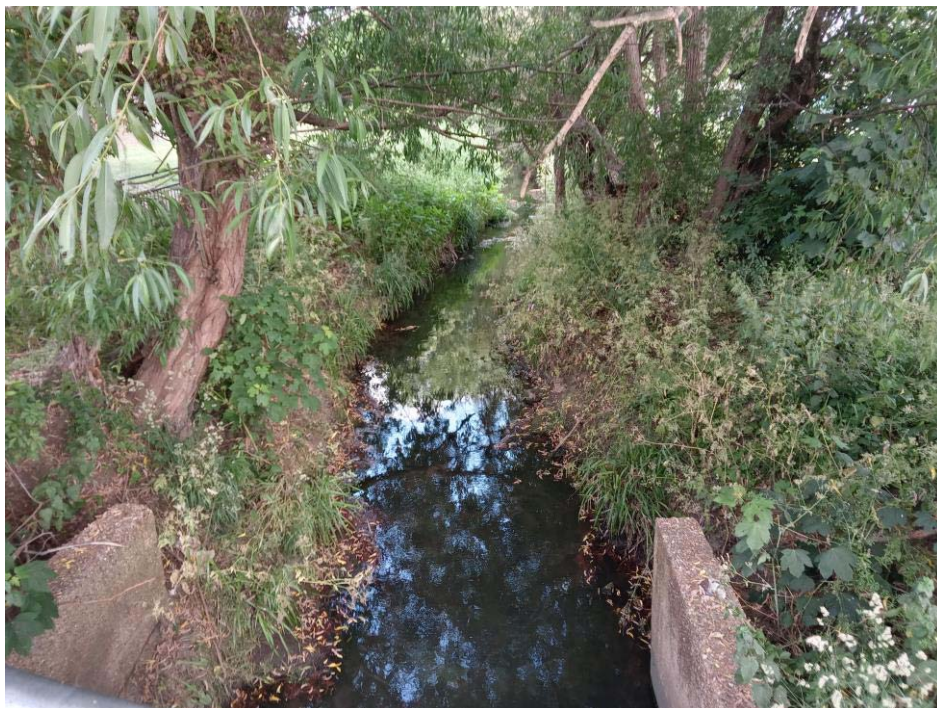


PROJECT NAME	214 Whitby Road, Ruislip	CLIENT	Fresh Consulting and Support Limited
TITLE	Site Photo Plan	FIGURE NO.	3

Photo 9: Canteen room gives access to rear garden.



Photo 10: Yeading Brook stream taken from a bridge roughly 100m south of site.



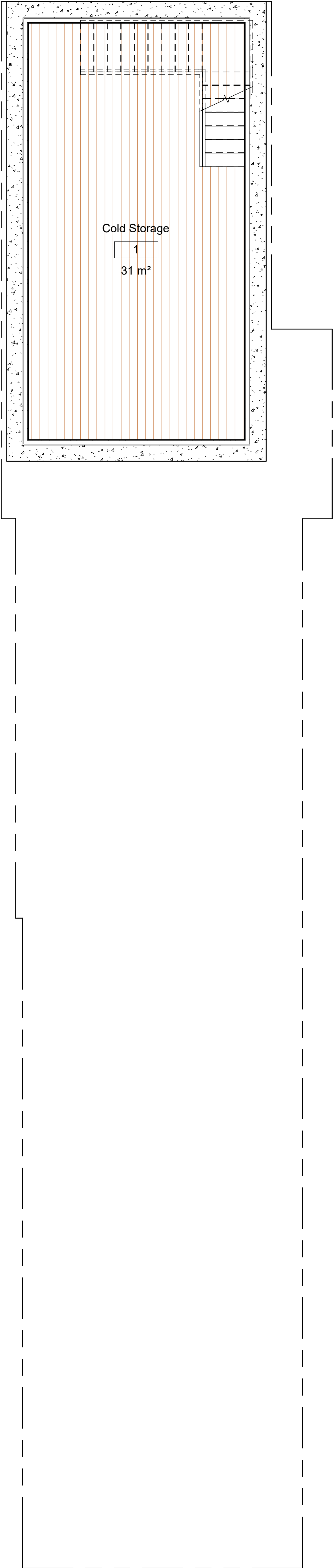
PROPOSED DRAWINGS SET

Client : Casey Farquharson		
Project : 214 Whitby Road, South Ruislip, HA4 9DY		
Drawing : Proposed Drawing Set		
Scale :	Status : Planning	Rev :
Date : 10/31/20	Dwg No : PL-DR-P2	



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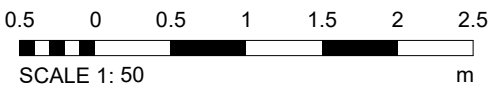
1 1.B1 Proposed Basement Level
1 : 50

Client : Casey Farquharson		
Project : 214 Whitby Road, South Ruislip, HA4 9DY		
Drawing : Proposed Basement		
Scale : 1 : 50	Status : Planning	Rev :
Date : 10/31/20	Dwg No : PL-DR-P2-00-10	

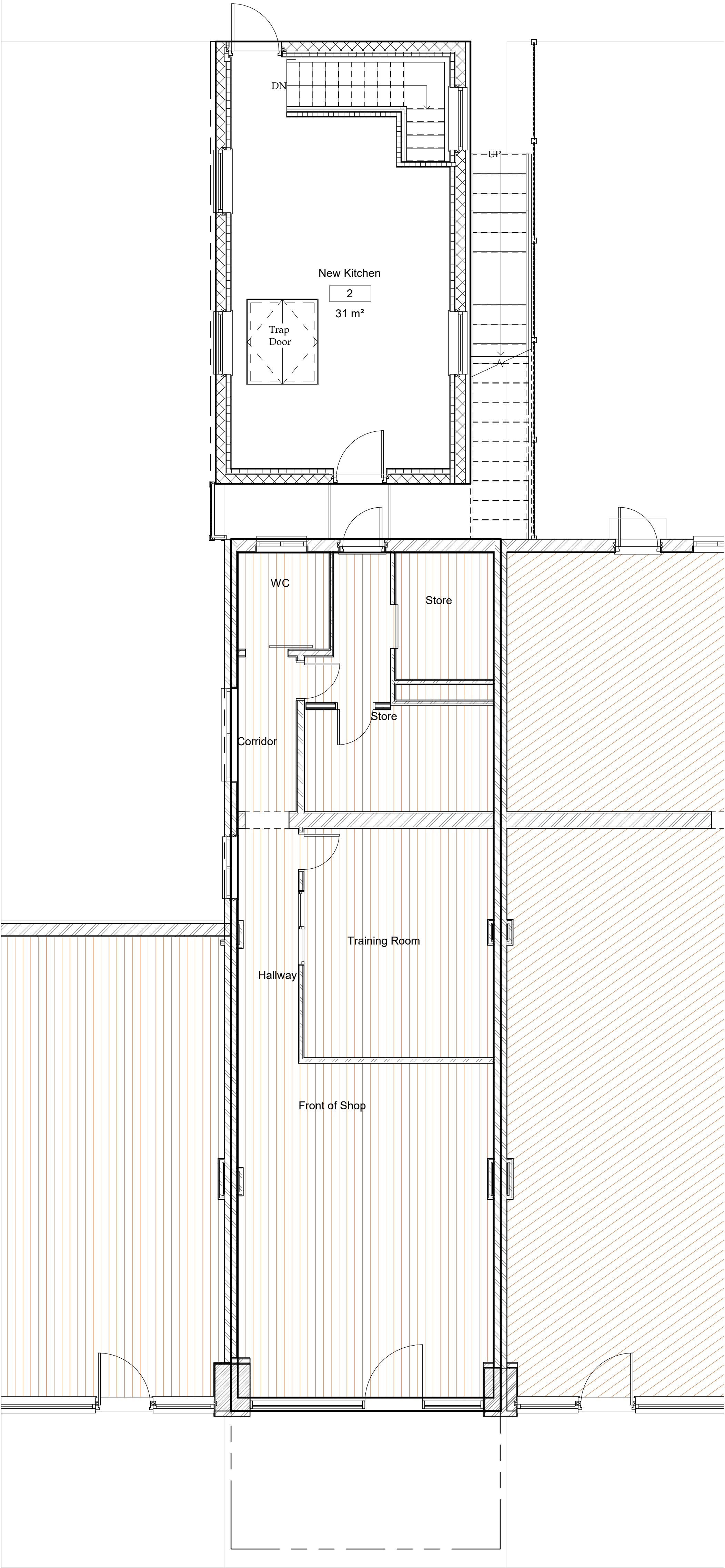


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Private Road at rear



1

1.1 Proposed Ground Floor

1 : 50

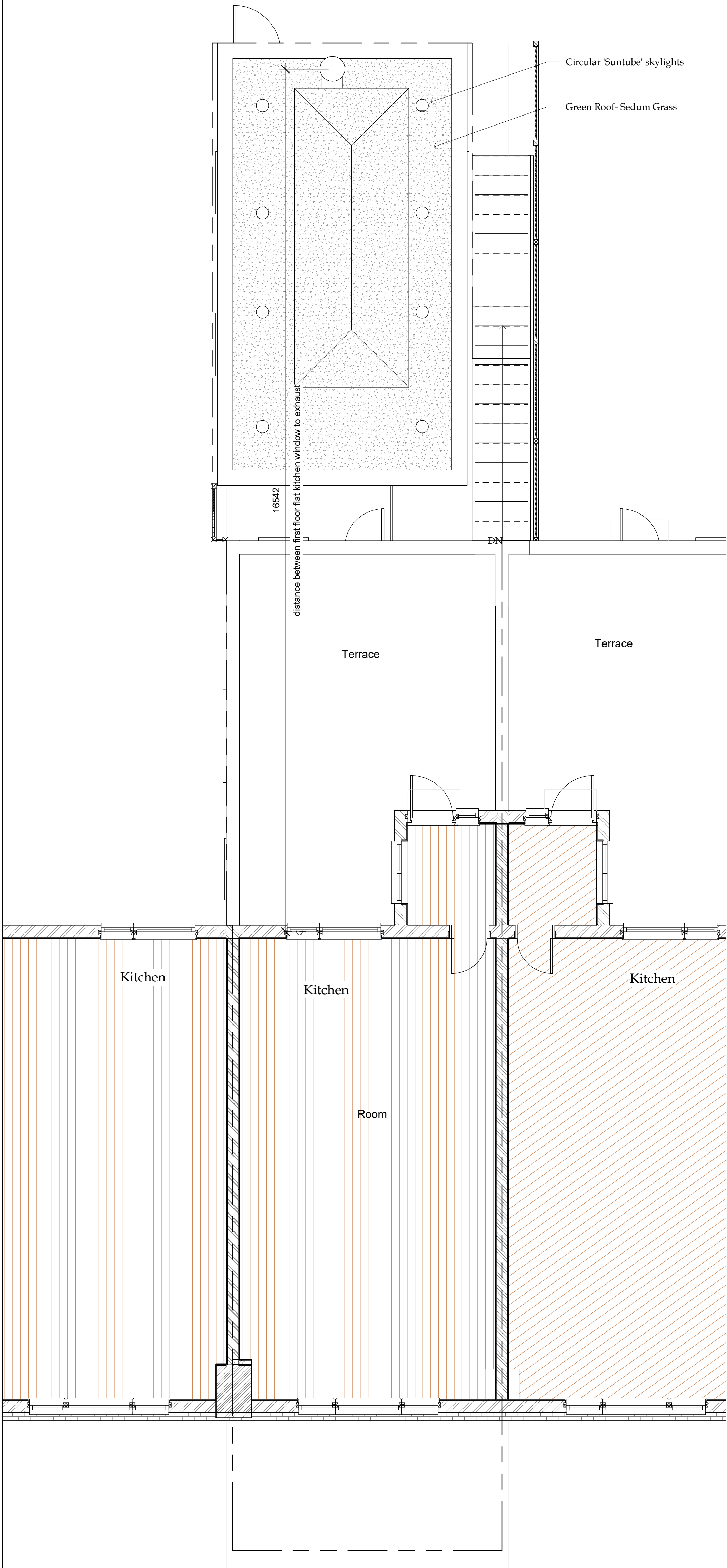
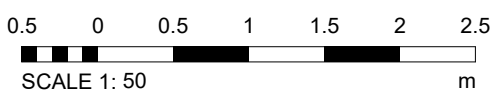
Client : Casey Farquharson
Project : 214 Whitby Road, South
Ruislip, HA4 9DY
Drawing : Proposed Ground Floor Plan

Scale : 1 : 50	Status : Planning	Rev :
Date : 10/29/20	Dwg No : PL-DR-P2-00-11	



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1 1.2 Proposed First Floor
1 : 50

Client : Casey Farquharson

Project : 214 Whitby Road, South
Ruislip, HA4 9DY

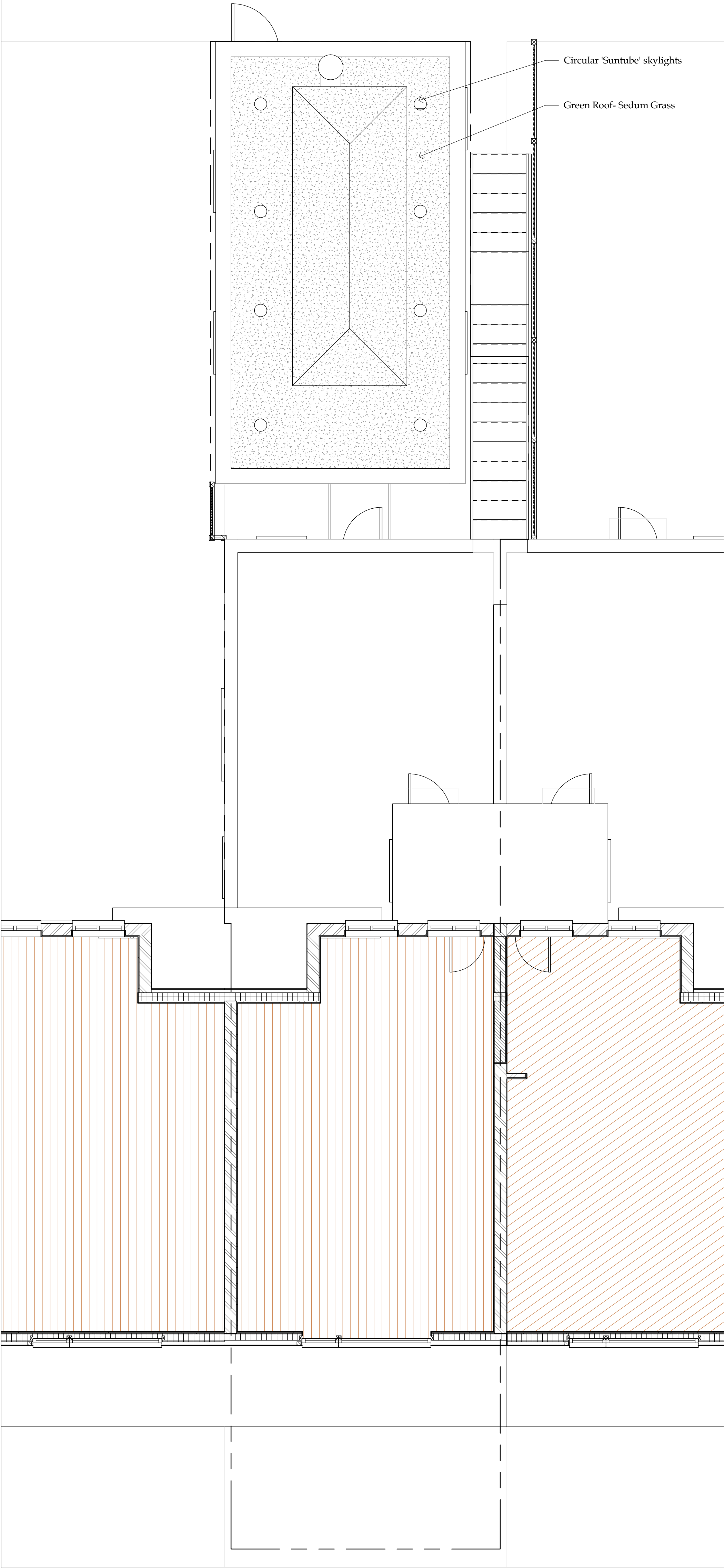
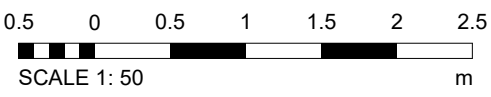
Drawing : Proposed First Floor Plan

Scale : 1 : 50	Status : Planning	Rev :
Date : 10/29/20	Dwg No : PL-DR-F2-01-12	



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1 1.3 Proposed Loft Plan

1 : 50

Client : Casey Farquharson

Project : 214 Whitby Road, South
Ruislip, HA4 9DY

Drawing : Proposed Loft Plan

Scale : 1 : 50

Status : Planning

Rev :

Date : 10/30/20

Dwg No : PL-DR-P2-RL-13



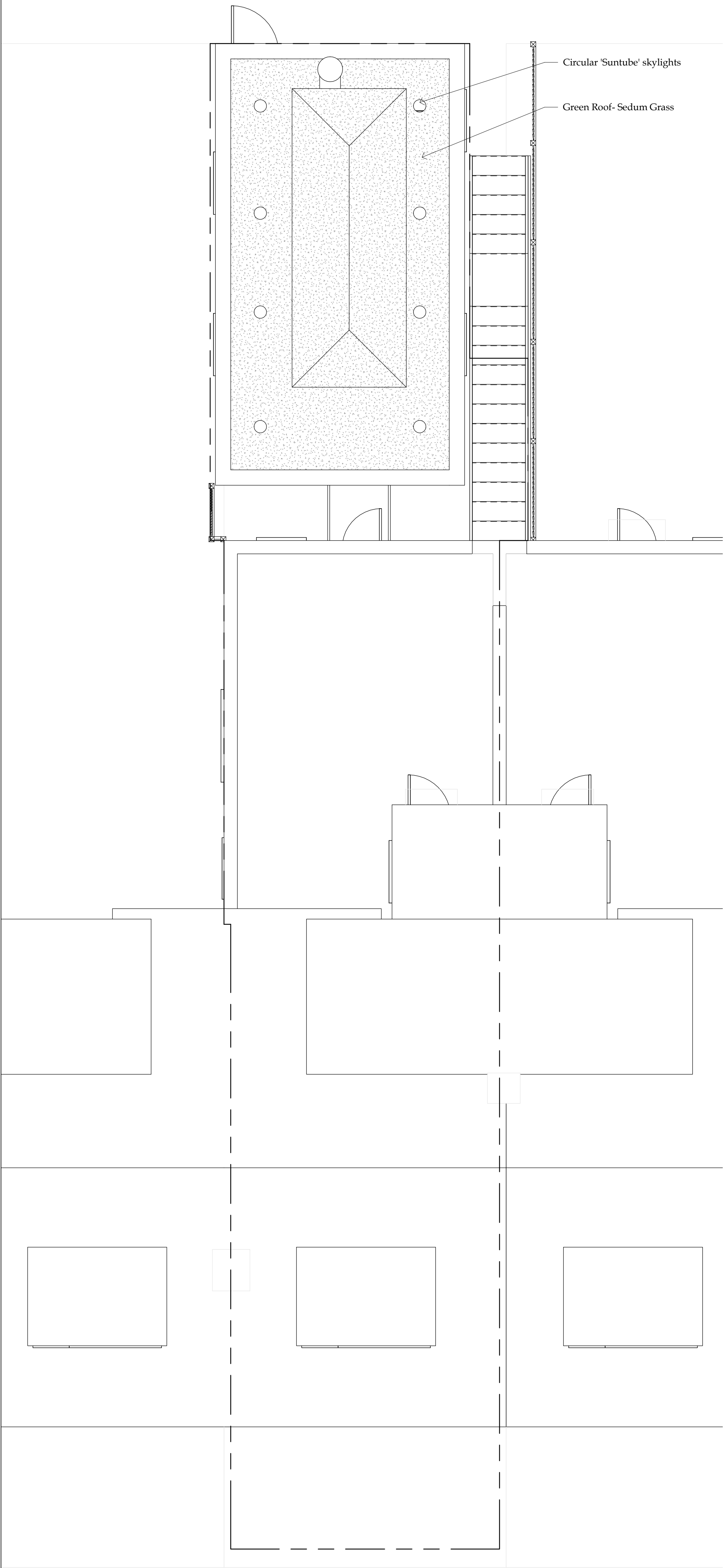
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1

1.4 Proposed Roof Plan

1 : 50

Client : Casey Farquharson

Project : 214 Whitby Road, South
Ruislip, HA4 9DY

Drawing : Proposed Roof Plan

Scale : 1 : 50

Status : Planning

Rev :

Date : 10/30/20

Dwg No : PL-DR-P2-RL-14



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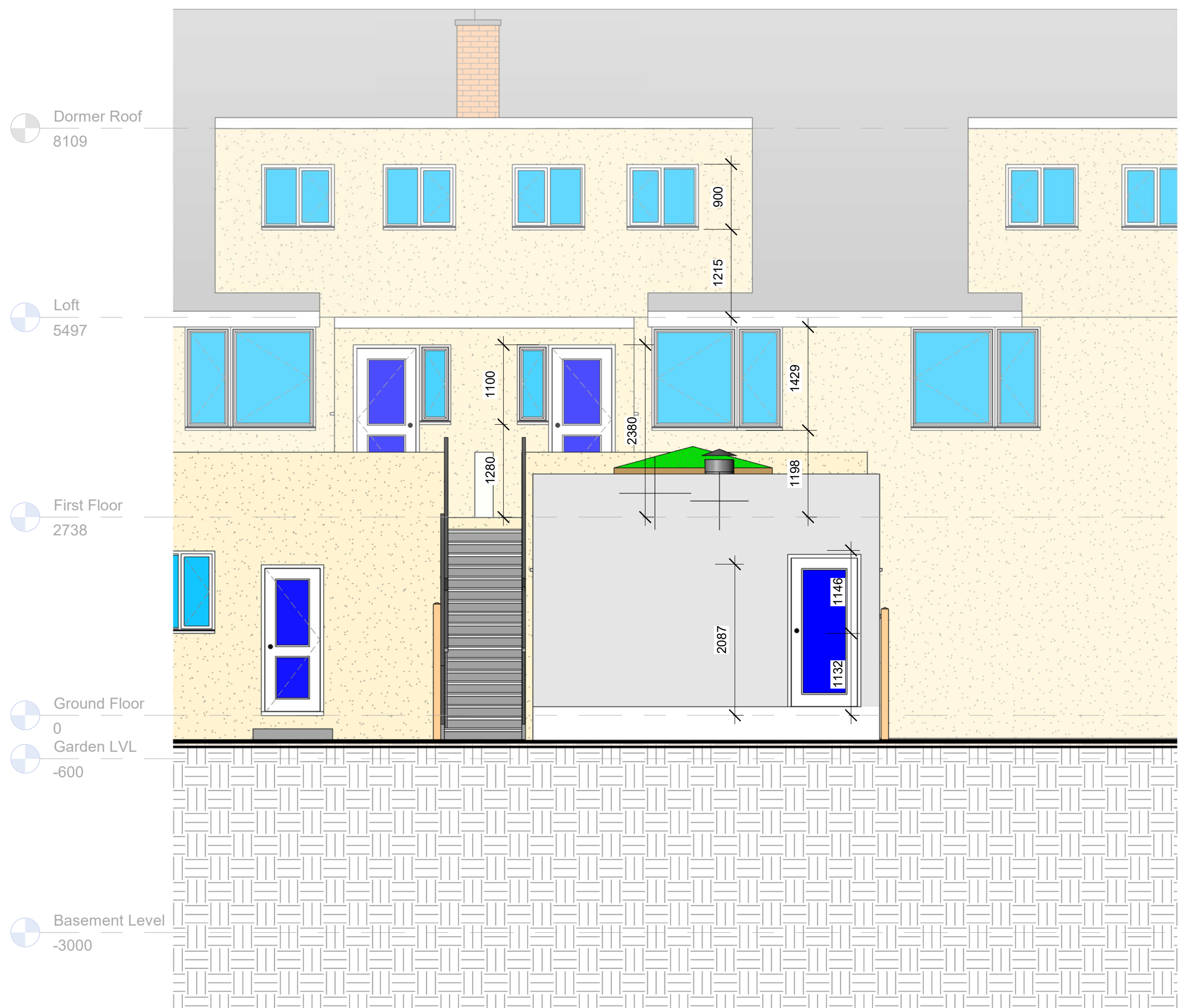
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1 Proposed Front Elevation
1 : 50



2 Proposed Rear Elevation
1 : 50

Client : Casey Farquharson

Project : 214 Whitby Road, South
Ruislip, HA4 9DY

Drawing : Proposed Front & Rear
Elevation

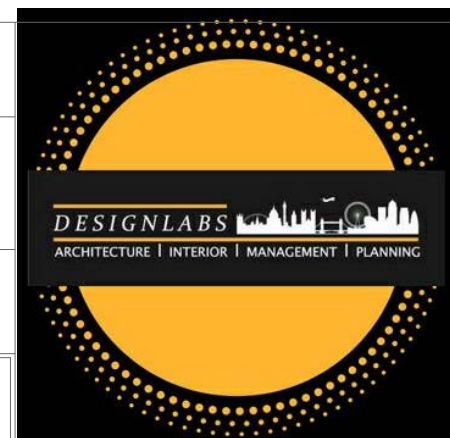
Scale : 1 : 50

Status : Planning

Rev :

Date : 10/29/20

Dwg No : PL-DR-P2-XX-70



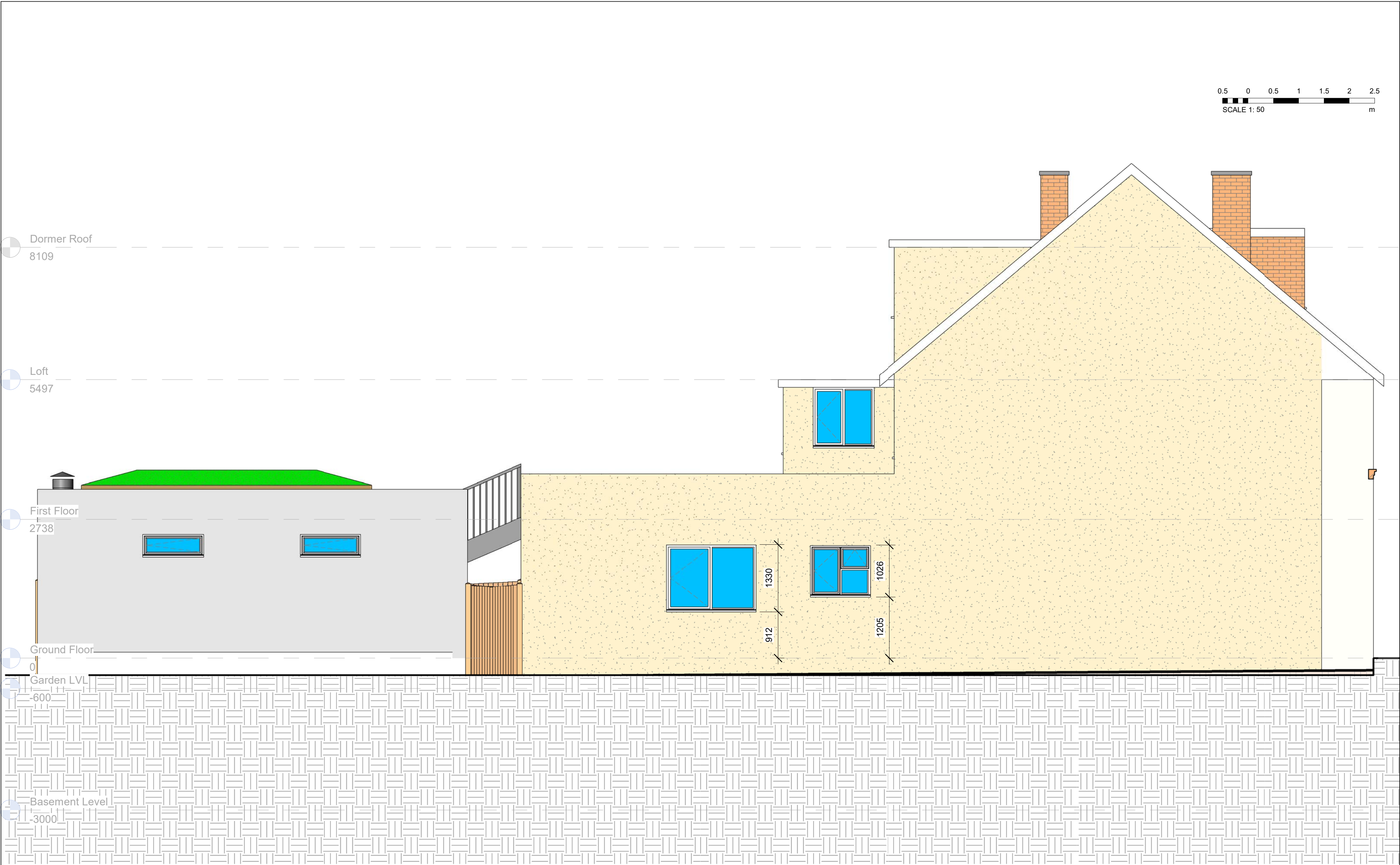
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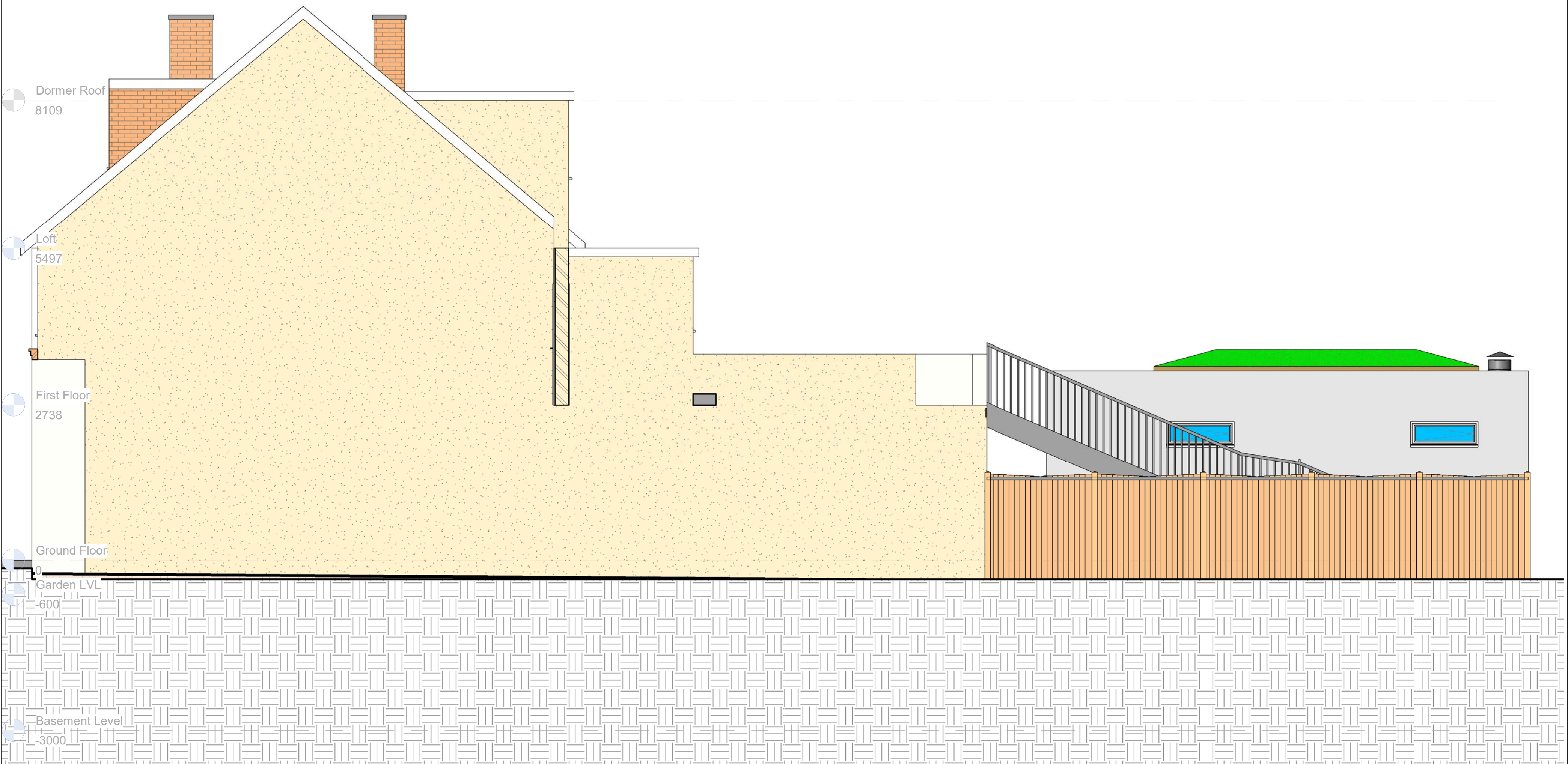
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2 Proposed LHS Elevation
1 : 50



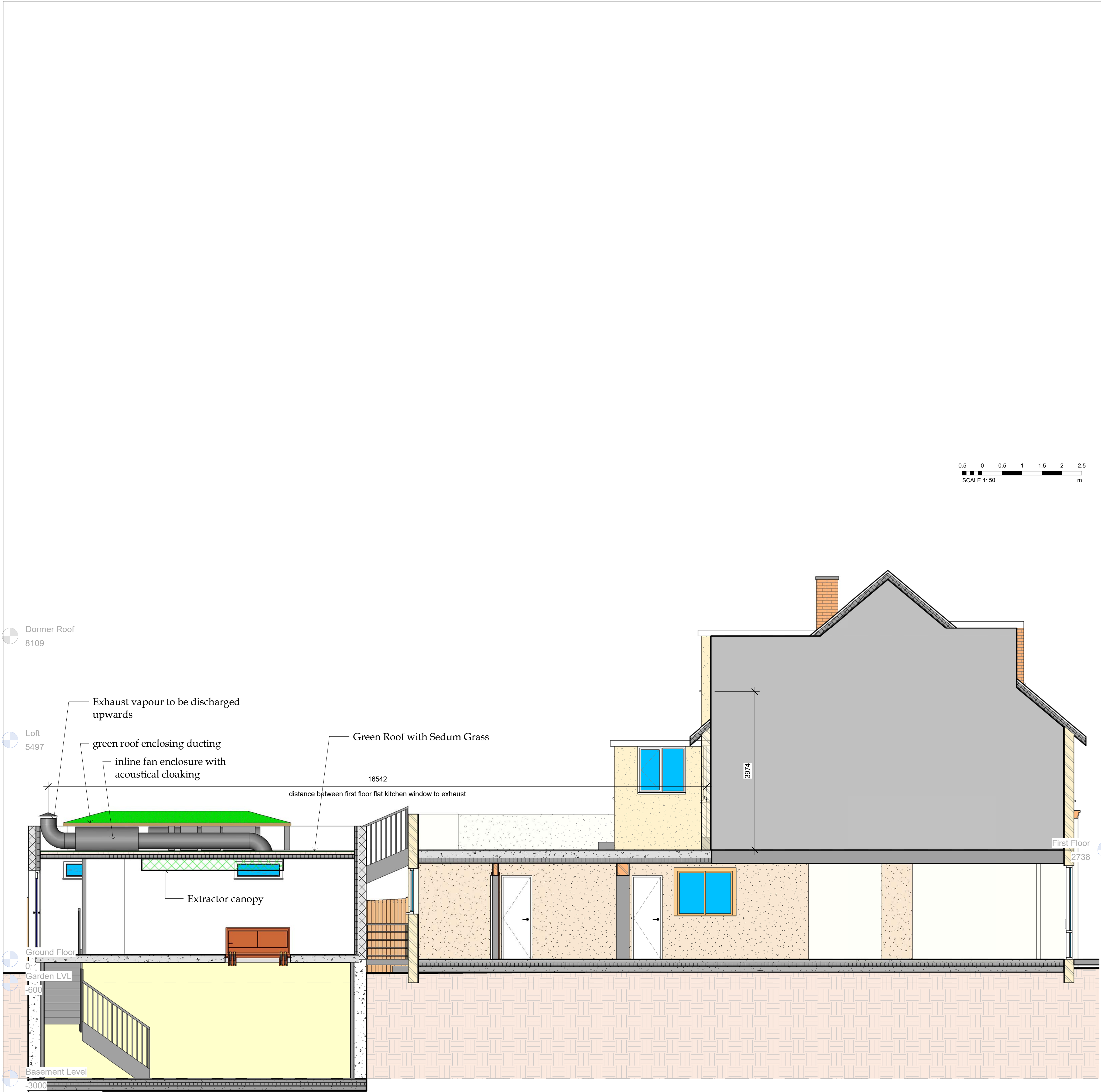
1 Proposed RHS Elevation
1 : 50

Client : Casey Farquharson		
Project : 214 Whitby Road, South Ruislip, HA4 9DY		
Drawing : Proposed LHS & RHS Elevations		
Scale : 1 : 50	Status : Planning	Rev :
Date : 10/29/20	Dwg No : PL-DR-P2-XX-71	



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1 Proposed Section 1

1 : 50

Client : Casey Farquharson

Project : 214 Whitby Road, South
Ruislip, HA4 9DY

Drawing : Proposed Section

Scale : 1 : 50

Status : Planning

Rev :

Date : 10/29/20

Dwg No : PL-DR-P2-XX-75



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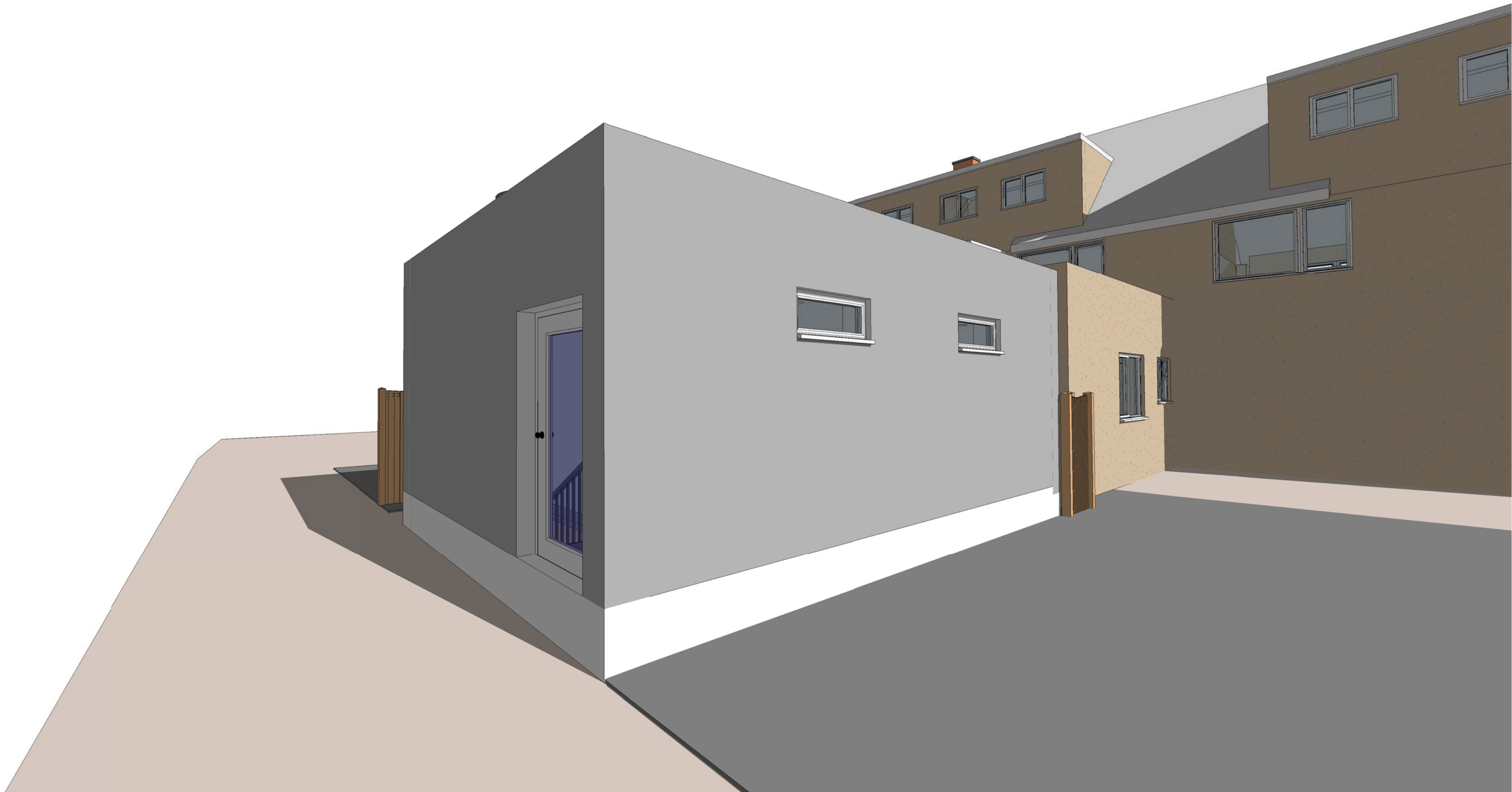
1 Proposed 3D-

Client : Casey Farquharson		
Project : 214 Whitby Road, South Ruislip, HA4 9DY		
Drawing : Proposed 3D		
Scale :	Status : Planning	Rev :
Date : 10/29/20	Dwg No : PL-DR-P2-XX-80	



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1 3D View 1

Client : Casey Farquharson

Project : 214 Whitby Road, South
Ruislip, HA4 9DY

Drawing : View at Rear

Scale :	Status : Planning	Rev :
Date : 11/05/20	Dwg No : PL-DR-P3-XX-81	



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