

South Lodge, Heathside, Hampstead, London NW3 1BL

Flood Risk Assessment

Job number: 2170605

Revision: P2

1 4

Status: Preliminary

Date: Nov 2017



Document Control

		remarks:	Preliminary					
revision:	P1	prepared by:	Peter Storey	checked by:	Keri Trimmer	approved by:	P Chance	
date:	Nov 17	signature:	PSt	signature:	KTr	signature:	PCH	

		remarks:	Preliminary					
revision:	P2	prepared by:	Peter Storey	checked by:	Keri Trimmer	approved by:	P Chance	
date:	May 18	signature:	PSt	signature:	KTr	signature:	PCH	



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1.0 Executive Summary

- 1.1.1 The development site is located within the London Borough of Camden (LBC), approximately 0.5km north east of Hampstead Station. The site is located south west of Hampstead Heath and is bounded by Heath Side to the south east and existing residential properties on all other boundaries.
- 1.1.2 Flood Zone information published by GOV.uk shows that the development site is located within Flood Zone 1 (low risk of flooding).
- 1.1.3 The existing site comprises of an existing 5 storey residential building (including basement level), with a surrounding garden area which largely consist of soft-scaping. Access to the site is gained via Heath Side.
- 1.1.4 The proposals involve the remodelling of the existing 5 storey house, which includes the partial demolition of the northern section of the building at ground flood level (which is to be rebuilt) and extension of the existing basement.
- 1.1.5 The proposed development passes both the Sequential and Exception Test as detailed in section 4.0 of this report.
- 1.1.6 A review of all potential sources of flooding has found the site be at **low risk**.



2.0 Introduction

2.1 General Information

- 2.1.1 Elliott Wood Partnership Ltd has been commissioned to undertake a Flood Risk Assessment (FRA), to accompany the detailed planning application for the South Lodge development.
- 2.1.2 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).
- 2.1.3 This report has been prepared in accordance with the GOV.UK Flood Risk Assessment guidelines.

3.0 Site Description

3.1 Site Location

3.1.1 The development site is located within the London Borough of Camden (LBC), approximately 0.5km north east of Hampstead Station. The site is located south west of Hampstead Heath and is bounded by Heath Side to the south east and existing residential properties on all other boundaries. Refer to Figure 1 for the site location plan.



Figure 1 - Development site location (© Bing Maps. Microsoft product screen shot reprinted with permission from Microsoft Corporation)

3.1.2 The Lead Local Flood Authority (LLFA), responsible for all flood risk matters that do not relate directly to designated Main Rivers, are LBC. The Statutory Sewerage Undertaker for this area is Thames Water.

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3.2 Existing Site

3.2.1 The existing site comprises of an existing 5 storey residential building (including basement level), with a surrounding garden area which largely consist of soft-scaping. Access to the site is gained via Heath Side. The total size of the existing site is approximately 1,900m2.

3.3 Topographic Survey

3.3.1 A site wide topographic survey has been undertaken which shows that the levels across the site generally fall from the northern and western boundary towards the southern and eastern boundary. Levels range from approx. 96.80m AOD in the north west corner of the site, to approx. 94.00m AOD in the south east corner. Refer to Appendix A for the topographic survey.

3.4 Ground Investigation

- 3.4.1 Site investigation works were undertaken by SAS (Site Analytical Services) in October 2017. Borehole and trial pit logs from the investigations have been included within Appendix B. The report confirms underlying ground conditions to be made ground (up to 1.0m bgl), underlain by silt sandy Clay, which was recorded to the base of the borehole.
- 3.4.2 Groundwater onsite was found to be around 3.8m below ground level (bgl).

3.5 Existing Drainage

3.5.1 Public sewer records have been obtained from Thames Water. An extract of the asset plan is shown in Figure 2 below. Refer to Appendix C for the full records.

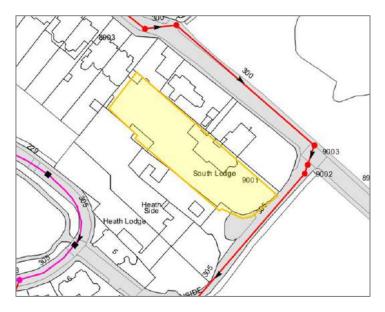


Figure 2 – Extract from Thames Water sewer records

Thames Water Disclaimer: The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken

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- 3.5.2 Records show that the offsite sewer network is combined i.e. sewers carry both surface water and foul water flows. Records show a 300mm diameter combined water sewer in East Heath Road which continues along Heath Side and across Hampstead Heath (East Heath) further downstream. No public sewers are shown to pass beneath the development site.
- 3.5.3 A CCTV drainage survey has been undertaken on site which confirmed that the onsite private drainage network is combined. Refer to Appendix D for a copy of the CCTV plan.
- 3.5.4 The existing site has 2 outfalls to the public sewer. The first of the outfall pipes is located adjacent to the south west boundary at ground flood level. This pipe is 200mm diameter, of brick construction and drains beneath the adjacent property (1 Heath Side).
- 3.5.5 The second outfall pipe from the site is located adjacent to the north east boundary at basement level (outfall manhole located within the existing lightwell). The existing outfall pipe is cast iron and is 150mm diameter, this drains beneath the property on the opposite side of the development site to the first outfall.

3.6 Proposed Development

- 3.6.1 The latest architectural proposals for the site are included within Appendix E.
- 3.6.2 The proposals involve the remodelling of the existing 5 storey house, which includes the partial demolition of the northern section of the building at ground flood level (which is to be rebuilt) and extension of the existing basement.

4.0 Sequential Test and Exception Test

4.1.1 All types of land use are considered to be appropriate within Flood Zone 1, therefore the development is deemed to pass the sequential test. The exception test is therefore not required.



5.0 Potential Flooding on Site

5.1 Critical Drainage Areas

5.1.1 The LBC Strategic Flood Risk Assessment (SFRA) indicates that the site is not located within a 'Local Flood Risk Zone', it does however show that the site is located within a 'Critical Drainage Area' (Group3 010). Refer to Figure 3 below.

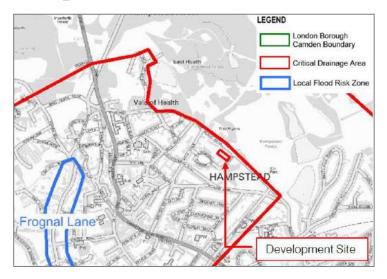


Figure 3 - Critical Drainage Areas / Local Flood Risk map (LBC SFRA 2014)

5.2 Flooding from Rivers and Sea

5.2.1 Flood Zone information published by GOV.UK shows that the development site is located within Flood Zone 1 (low risk of flooding). Refer to Figure 4 below. This is confirmed within the LBC SFRA.

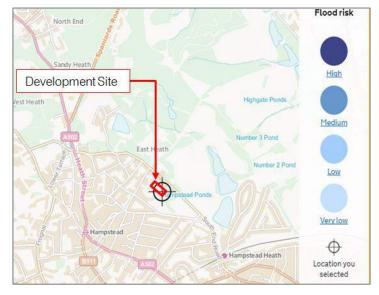


Figure 4 - Flood risk from rivers & seas map: flood extents (GOV.UK)

5.2.2 After review of the relevant information, this development is considered to be at a **low risk** of flooding from rivers and seas.

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5.3 Flooding from Overland Surface Water Flow

- 5.3.1 Overland rainwater flows occur when the infiltration capacity of land or the drainage capacity of a local sewer network is exceeded. The extents of overland flooding will depend upon the rainfall event, the degree of saturation of the soil, the permeability of soils and the topography of the site.
- 5.3.2 Figure 5 has been taken from the GOV.UK Flood Risk maps. This shows that the site and areas within close proximity of the site are all at a very low risk of surface water flooding.

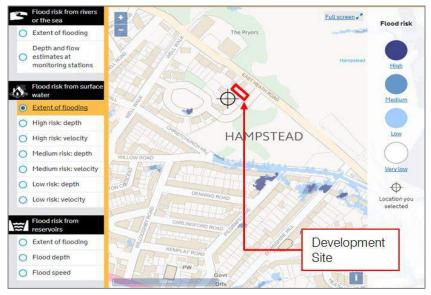


Figure 5 - Flood risk from surface water map: flood extents (GOV.UK)

5.3.3 This was confirmed within the LBC SFRA, which indicates the site to be in an area of 'very low risk'. The LBC SFRA also shows there has been no previous surface water flooding incidents in the immediate vicinity of the site. Refer to Figure 6.

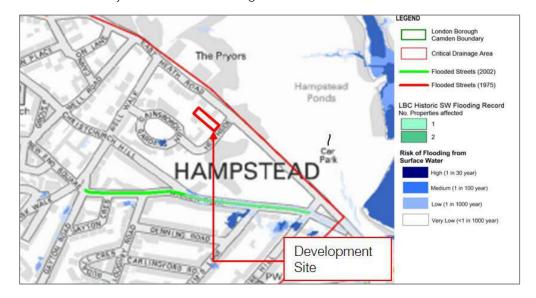


Figure 6 - Flood Map for Surface Water Flooding (LBC SFRA)

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- 5.3.4 Levels on site will be designed to route surface water away from building edges. This will increase the buildings resilience to flooding from overland flow.
- 5.3.5 After review of the relevant information, this development is considered to be at a **low risk** of flooding from overland surface water flow.

5.4 Flooding from Sewers

- 5.4.1 Public sewer records have been obtained from Thames Water, these have been included within Appendix C.
- 5.4.2 Records show that the offsite sewer network is combined i.e. sewers carry both surface water and foul water flows. Records show a 300mm diameter combined water sewer in East Heath Road which continues along Heath Side and across Hampstead Heath (East Heath) further downstream. No public sewers are shown to pass beneath the development site.
- 5.4.3 Thames Water are responsible for operating and maintaining their sewer infrastructure, therefore the likelihood of surcharge due to blockages is expected to be low.
- 5.4.4 The LBC SFRA notes that there has only been 1 incident of external sewer flooding reported in the vicinity of the development site. Refer to Figure 7 below.

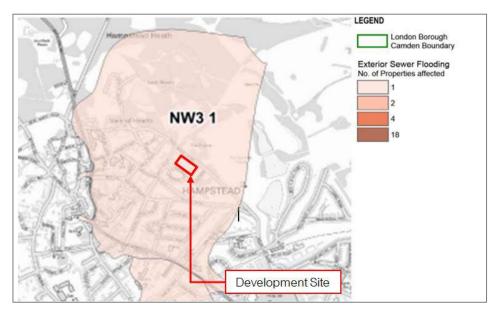


Figure 7 - Areas of previous external sewer flooding (LBC SFRA 2014)

5.4.5 The LBC SFRA also notes that there has been 4 previous incidents of internal sewer flooding reported in the vicinity of the development site. Refer to Figure 8.

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Figure 8 - Areas of previous internal sewer flooding (2014 LBC SFRA)

- 5.4.6 Sewer flooding history has been obtained from Thames Water. This notes that there have been no incidents of flooding within the site area as a result of surcharging public sewers.
- 5.4.7 After review of the relevant information, this development is considered to be at a **low risk** of flooding from sewers.

5.5 Flooding from Groundwater

- 5.5.1 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 the 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.
- 5.5.2 Site investigation works were undertaken by SAS (Site Analytical Services) in October 2017. Borehole and trial pit logs from the investigations have been included within Appendix B. The report confirms underlying ground conditions to be made ground (up to 1.0m bgl), underlain by silt sandy Clay, which was recorded to the base of the borehole.
- 5.5.3 Groundwater onsite was found to be around 3.8m below ground level (bgl).
- 5.5.4 The 'Increased Susceptibility to Elevated Groundwater' map within the LBC SFRA highlights both areas which have susceptibility to groundwater flooding and where historic groundwater flooding incidents have occurred (based on recorded data from LBC and the Environment Agency). An extract from this map is shown in Figure 9.
- 5.5.5 This show that the site is not located in an area which has an increased susceptibility and that there have been no records of groundwater flooding within the site from either LBC or the EA. The nearest recorded incident is along Well Walk.

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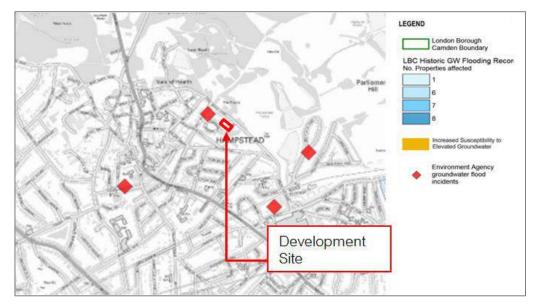


Figure 9 – Susceptibility to groundwater flooding (2014 LBC SFRA)

5.5.6 After review of the relevant information, this development is considered to be at a **low risk** of flooding from groundwater.

5.6 Flooding from Artificial Water Bodies

5.6.1 The development site is located to the west of the Hampstead Ponds and culverted watercourse which they flow into, shown in Figure 10 below.



Figure 10 - Nearby reservoirs (2014 LBC SFRA)

5.6.2 Figure 11 has been taken from the GOV.UK Flood Risk maps. This shows that the development site is not located within a reservoir Flood Risk Zone (an area expected to flood if a local reservoir was to fail or be breached).

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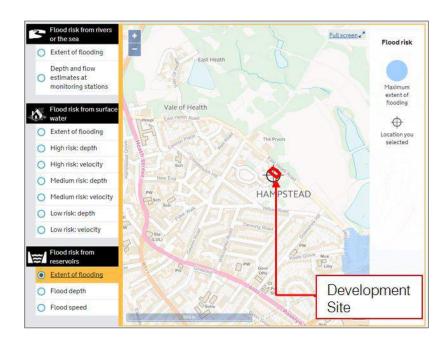


Figure 11 - Flood risk from reservoirs: flood extents (GOV.UK)

5.6.3 After review of the relevant information, this development is considered to be at a **low risk** of flooding from artificial water bodies.

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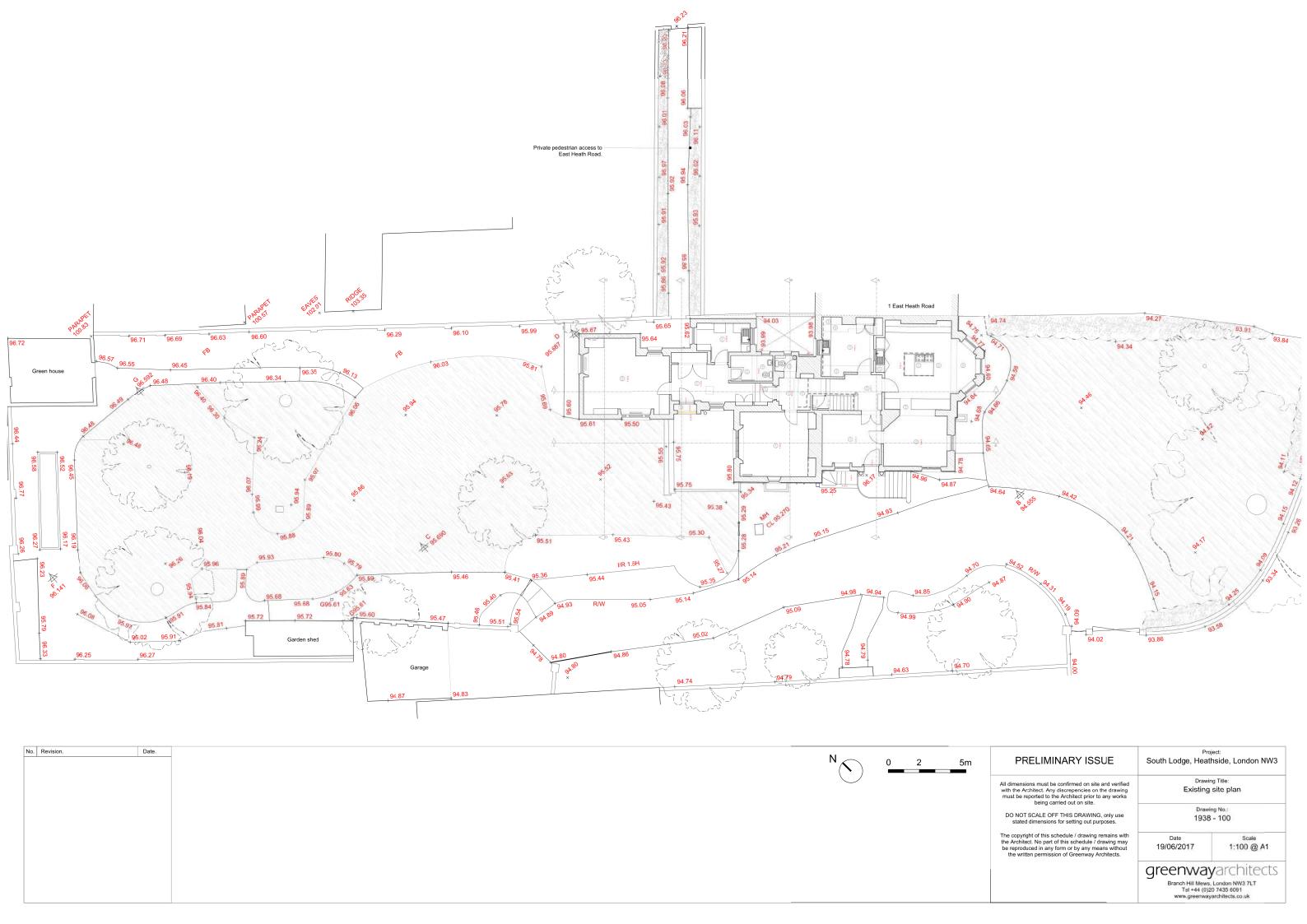


6.0 Conclusion

- 6.1.1 The proposed development passes both the Sequential and Exception Test as detailed in Section 4.0 of this report.
- 6.1.2 A review of all potential sources of flooding has found the site be at low risk.



Appendix A – Topographic Survey





Appendix B – Site Investigation Extracts

Boring Method Cas ROTARY PERCUSSIVE		1	Casing Diameter 128mm cased to 0.00m			Level (mOD)	Client ELLIOTTWOOD PARTNERSHIP LTD	Job Number	
TO IT IT I	TOOGGIVE							1727399	
		Locatio	n 2268860		Dates 16	8/10/2017	Engineer	Sheet 1/2	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend to A	
0.25 0.50 0.75 1.00-1.45 1.00	D1 D2 D3 SPT(C) N=5 D4		DRY	1,0/1,1,2,1		(0.30) - (0.30) - (0.40) - (0.70	MADE GROUND: Pea shingle over dark brown silty clayey sand with fragments of brick and concrete rubble MADE GROUND: Light brown silty sandy clay with fragments of brick and concrete rubble Soft becoming firm, mottled light brown orange grey silty sandy CLAY		
1.75 2.00-2.45	D5 U1	F) F	45 blows	IN	(2.80)	NARY	x x x x x x x x x x x x x x x x x x x	
2.75 3.00-3.45 3.00	D6 SPT N=8 D7		DRY	1,2/2,2,2,2		3.50		x x x x x x x x x x x x x x x x x x x	
3.75	D8			Slight Seepage(1) at 4.00m, rose to		5.50 	Firm, blue grey silty sandy CLAY with lenses of silty fine sand	× × × × • • • • • • • • • • • • • • • •	
4.00-4.45	U2			3.80m in 20 mins. 30 blows				××	
4.75	D9							××	
5.00-5.45 5.00	SPT N=10 D10		3.80	2,2/3,2,2,3		(3.20)		x x x x x x x x x x x x x x x x x x x	
6.00	D11							××	
6.50-6.95	U3	F	PF	55 blows	11	6,70	Stiff, brown orange very silty very sandy CLAY with partings of silty find sand and occasional gypsum crystals	x x x x x x x x x x x x x x x x x x x	
7.50	D12					<u>-</u> 		x x x	
8.00-8.45 8.00	SPT N=14 D13		3.80	2,3/4,3,3,4		(3.30)		x x x x x x x x x x x x x x x x x x x	
9.00	D14							××	
9.50-9.95 9.50	SPT N=16 D15		3.80	3,3/4,3,4,5		<u>-</u> 		x x x x x x x x x x x x x x x x x x x	
Remarks D= Disturbed U= Undisturb	oed 100mm Diamete	er Sample	•				Scale (approx)	Logged By	
S= Standard	Penetration Test - C Penetration Test - C rom 0.00m to 1.00m	Cone	r				1:50	EW	
							Figure	No	

Site	Analy	/tic	al :	Servic	Ltd.	Site SOUTH LODGE, HEATHSIDE, HAMPSTEAD, NW3 11	BL	Borehole Number BH1	
Boring Meth ROTARY PE		1	Diamete 8mm cas	r ed to 0.00m	Ground	Level (mOD)	Client ELLIOTTWOOD PARTNERSHIP LTD		Job Number 1727399
		Locatio	n)268860		Dates 16	6/10/2017	Engineer		Sheet 2/2
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description		Wate pueber
10.50 11.00-11.45 11.00	D16 SPT N=18 D17		3.80	3,4/4,4,5,5		10.00	Stiff, brown orange very silty very sandy CLAY with par of silty find sand and occasional gypsum crystals	artings	x x x x x x x x x x x x x x x x x x x
12.00 12.50-12.95 12.50	D18 SPT N=19 D19	F	3.80	4,3/4,5,5,5	11	(5.00)	NARY		
13.75	D20							-	× × × × × × × × × × × × × × × × × × ×
14.55-15.00 14.55	SPT N=23 D21		3.80	4,5/5,6,6,6		15.00	Complete at 15.00m		× × ×
		F	PF	REL			NARY		
C= Dynamic	d Sample bed 100mm Diamete Penetration Test - C Penetration Test - C	one						Scale pprox) 1:50	Logged By
							Fi	igure No 17273	o. 99.BH1

Control Cont	Boring Meth		1	Diamete 8mm cas	r ed to 0.00m	Ground	Level (mOD	Client ELLIOTTWOOD PARTNERSHIP LTD	Job Numb	
Complete	AUGER			Location		Dates 16	es Engineer		Sheet	t
D1 0.55 D2 0.50 D2 0.75 D3 D3 0.75 D3	Depth (m)	Sample / Tests			Field Records	Level (mOD)	Depth (m)	Description		ă
Remarks D-D Disturbed Sample V-Vane Test - Results in kPa Excavating from 0.00m to 1.00m for 1 hour.	0.25 0.50 0.75 1.00 1.50 1.50 2.00 2.50 2.50 2.50 3.00 3.50 3.50 4.00 4.50 4.50	D1 D2 D3 D4 V1 113 D5 V2 115 D6 V3 130+ D7 V4 130+ D8 V5 125 D9 V6 122 D10 V7 115 D11 V8 128 D12	Jeptin (m)	D F	REL Slight Seepage(1)		(0.30)	MADE GROUND: Grass over dark brown sandy clay with fragments of brick and concrete rubble and small roots MADE GROUND: Dark brown slightly gravelly sandy clay MADE GROUND: Dark brown slightly gravelly fine to coarse grained sand MADE GROUND: Brown fine to coarse grained sand with fragments of brick and concrete rubble Stiff, brown slightly gravelly slightly silty sandy CLAY with lenses of silty fine sand Stiff, mottled brown grey orange silty sandy CLAY with lenses of silty fine sand	Legent A and a second and a sec	▼ 1
D= Disturbed Sample V= Vane Test - Results in kPa Excavating from 0.00m to 1.00m for 1 hour.		D13 V10 130+	F	PF	REL					
	D= Disturbed V= Vane Test	t - Results in kPa	for 1 hou	r.		1		Scale (approx		



Appendix C – Thames Water Sewer Records



Elliott Wood Partnership LLP 241The Broadway LONDON SW19 1SD

Search address supplied Sc

South Lodge Heath Side London NW3 1BL

Your reference 2170605

Our reference ALS/ALS Standard/2017_3647754

Search date 11 September 2017

Keeping you up-to-date

Knowledge of features below the surface is essential in every development. The benefits of this not only include ensuring due diligence and avoiding risk, but also being able to ascertain the feasibility for any commercial or residential project.

An asset location search provides information on the location of known Thames Water clean and/or wastewater assets, including details of pipe sizes, direction of flow and depth. Please note that information on cover and invert levels will only be provided where the data is available.



Thames Water Utilities Ltd Property Searches, PO Box 3189, Slough SL1 4WW DX 151280 Slough 13



searches@thameswater.co.uk www.thameswater-propertysearches.co.uk







Search address supplied: South Lodge, Heath Side, London, NW3 1BL

Dear Sir / Madam

An Asset Location Search is recommended when undertaking a site development. It is essential to obtain information on the size and location of clean water and sewerage assets to safeguard against expensive damage and allow cost-effective service design.

The following records were searched in compiling this report: - the map of public sewers & the map of waterworks. Thames Water Utilities Ltd (TWUL) holds all of these.

This searchprovides maps showing the position, size of Thames Water assets close to the proposed development and also manhole cover and invert levels, where available.

Please note that none of the charges made for this report relate to the provision of Ordnance Survey mapping information. The replies contained in this letter are given following inspection of the public service records available to this company. No responsibility can be accepted for any error or omission in the replies.

You should be aware that the information contained on these plans is current only on the day that the plans are issued. The plans should only be used for the duration of the work that is being carried out at the present time. Under no circumstances should this data be copied or transmitted to parties other than those for whom the current work is being carried out.

Thames Water do update these service plans on a regular basis and failure to observe the above conditions could lead to damage arising to new or diverted services at a later date.

Contact Us

If you have any further queries regarding this enquiry please feel free to contact a member of the team on 0845 070 9148, or use the address below:

Thames Water Utilities Ltd Property Searches PO Box 3189 Slough SL1 4WW

Email: searches@thameswater.co.uk

Web: www.thameswater-propertysearches.co.uk

Waste Water Services



Please provide a copy extract from the public sewer map.

Enclosed is a map showing the approximate lines of our sewers. Our plans do not show sewer connections from individual properties or any sewers not owned by Thames Water unless specifically annotated otherwise. Records such as "private" pipework are in some cases available from the Building Control Department of the relevant Local Authority.

Where the Local Authority does not hold such plans it might be advisable to consult the property deeds for the site or contact neighbouring landowners.

This report relates only to sewerage apparatus of Thames Water Utilities Ltd, it does not disclose details of cables and or communications equipment that may be running through or around such apparatus.

The sewer level information contained in this response represents all of the level data available in our existing records. Should you require any further Information, please refer to the relevant section within the 'Further Contacts' page found later in this document.

For your guidance:

- The Company is not generally responsible for rivers, watercourses, ponds, culverts
 or highway drains. If any of these are shown on the copy extract they are shown for
 information only.
- Any private sewers or lateral drains which are indicated on the extract of the public sewer map as being subject to an agreement under Section 104 of the Water Industry Act 1991 are not an 'as constructed' record. It is recommended these details be checked with the developer.

Clean Water Services

Please provide a copy extract from the public water main map.

Enclosed is a map showing the approximate positions of our water mains and associated apparatus. Please note that records are not kept of the positions of individual domestic supplies.

For your information, there will be a pressure of at least 10m head at the outside stop valve. If you would like to know the static pressure, please contact our Customer Centre on 0800 316 9800. The Customer Centre can also arrange for a full flow and pressure test to be carried out for a fee.



For your guidance:

- Assets other than vested water mains may be shown on the plan, for information only.
- If an extract of the public water main record is enclosed, this will show known public
 water mains in the vicinity of the property. It should be possible to estimate the
 likely length and route of any private water supply pipe connecting the property to
 the public water network.

Payment for this Search

A charge will be added to your suppliers account.



Further contacts:

Waste Water queries

Should you require verification of the invert levels of public sewers, by site measurement, you will need to approach the relevant Thames Water Area Network Office for permission to lift the appropriate covers. This permission will usually involve you completing a TWOSA form. For further information please contact our Customer Centre on Tel: 0845 920 0800. Alternatively, a survey can be arranged, for a fee, through our Customer Centre on the above number.

If you have any questions regarding sewer connections, budget estimates, diversions, building over issues or any other questions regarding operational issues please direct them to our service desk. Which can be contacted by writing to:

Developer Services (Waste Water)
Thames Water
Clearwater Court
Vastern Road
Reading
RG1 8DB

Tel: 0845 850 2777

Email: developer.services@thameswater.co.uk

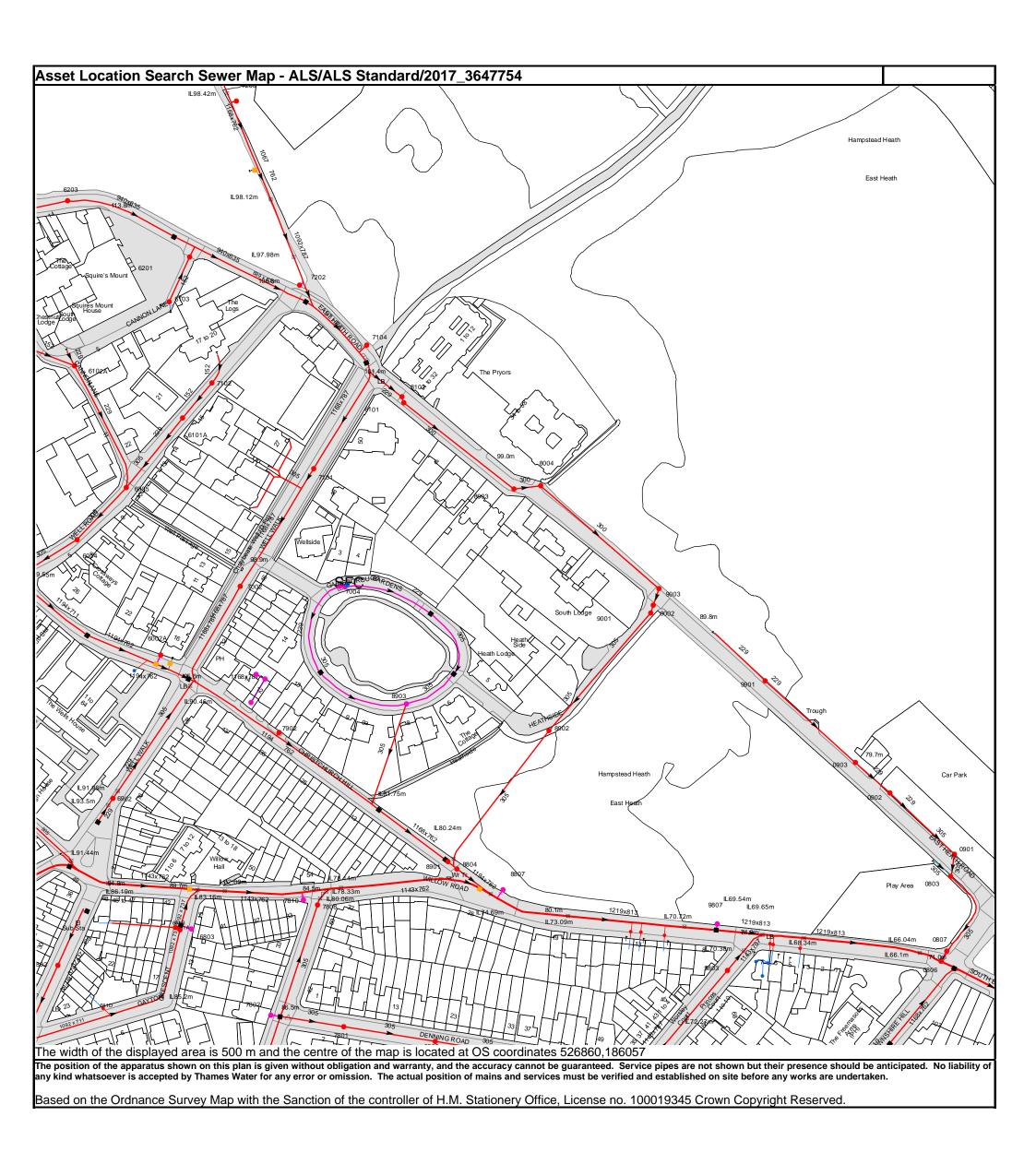
Clean Water queries

Should you require any advice concerning clean water operational issues or clean water connections, please contact:

Developer Services (Clean Water) Thames Water Clearwater Court Vastern Road Reading RG1 8DB

Tel: 0845 850 2777

Email: developer.services@thameswater.co.uk



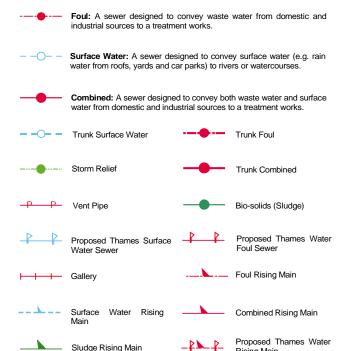
<u>Thames Water Utilities Ltd</u>, Property Searches, PO Box 3189, Slough SL1 4W, DX 151280 Slough 13 **T** 0845 070 9148 **E** <u>searches@thameswater.co.uk</u> I <u>www.thameswater-propertysearches.co.uk</u>

Manhole Reference	Manhole Cover Level	Manhole Invert Level
6103	111.68	110.46
7202	n/a	n/a
6201	110.56	108.81
6203	114.53	108.16
7203	n/a	n/a
6102A	114.42	113.4
6004	106.97	101.98
6005	108	103.52
6101A 7102	107.17 106.92	105.48 106.01
7102 7002	98.62	92.46
7002 981H	n/a	n/a
9901	86.26	85.21
981F	n/a	n/a
981A	n/a	n/a
981E	n/a	n/a
081A	n/a	n/a
0903	79.76	78.28
0902	77.93	76.52
0806	n/a	n/a
0807	n/a	n/a
0803	74.07	72.42
0901	74.6	73.12
6802	n/a	n/a
681D	n/a 97.02	n/a n/a
6902 601A	n/a	n/a
6002A	n/a	n/a
681B	n/a	n/a
681A	n/a	n/a
6803	n/a	n/a
79CC	n/a	n/a
70AI	n/a	n/a
79CA	n/a	n/a
7802	n/a	n/a
7902	90.76	85.96
7810	n/a	n/a
7101	100.3	94.96
7808 704D	84.35	80.24
70AD 7801	n/a 85.54	n/a 82.52
7004	n/a	93.08
70AE	n/a	n/a
7104	n/a	n/a
8102	100.66	96.63
8101	100.58	n/a
8903	91.2	86.55
8802	83.95	80.81
8901	82.53	76.99
8804	82.36	76.61
8807	81.26	74.69
8003	98.3	94.52
8004	98.26	94.27
8902	91.61	87.33
981D 981C	n/a n/a	n/a n/a
981C 9001	92.77	89.41
9001	92.89	89.64
9003	93.31	89.76
981B	n/a	n/a
9807	n/a	n/a
9803	n/a	n/a
981G	n/a	n/a
	1	ĺ

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.



Public Sewer Types (Operated & Maintained by Thames Water)



Sewer Fittings

A feature in a sewer that does not affect the flow in the pipe. Example: a vent is a fitting as the function of a vent is to release excess gas.

Air Valve

Dam Chase

Fitting

Meter

♦ Vent Column

Operational Controls

A feature in a sewer that changes or diverts the flow in the sewer. Example: A hydrobrake limits the flow passing downstream.

Control Valve

Drop Pipe

Ancillary

✓ Weir

End Items

End symbols appear at the start or end of a sewer pipe. Examples: an Undefined End at the start of a sewer indicates that Thames Water has no knowledge of the position of the sewer upstream of that symbol, Outfall on a surface water sewer indicates that the pipe discharges into a stream or river.

Outfall

Undefined End

/ Inle

Notes:

----- Vacuum

- 1) All levels associated with the plans are to Ordnance Datum Newlyn.
- 2) All measurements on the plans are metric.
- Arrows (on gravity fed sewers) or flecks (on rising mains) indicate direction of flow.
- Most private pipes are not shown on our plans, as in the past, this information has not been recorded.
- 5) 'na' or '0' on a manhole level indicates that data is unavailable.

6) The text appearing alongside a sewer line indicates the internal diameter of the pipe in milimetres. Text next to a manhole indicates the manhole reference number and should not be taken as a measurement. If you are unsure about any text or symbology present on the plan, please contact a member of Property Insight on 0845 070 9148.

Other Symbols

Symbols used on maps which do not fall under other general categories

▲ / ▲ Public/Private Pumping Station

* Change of characteristic indicator (C.O.C.I.)

M Invert Level

< Summit

Areas

Lines denoting areas of underground surveys, etc.

Agreement

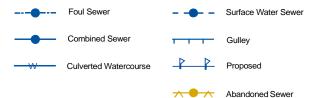
Operational Site

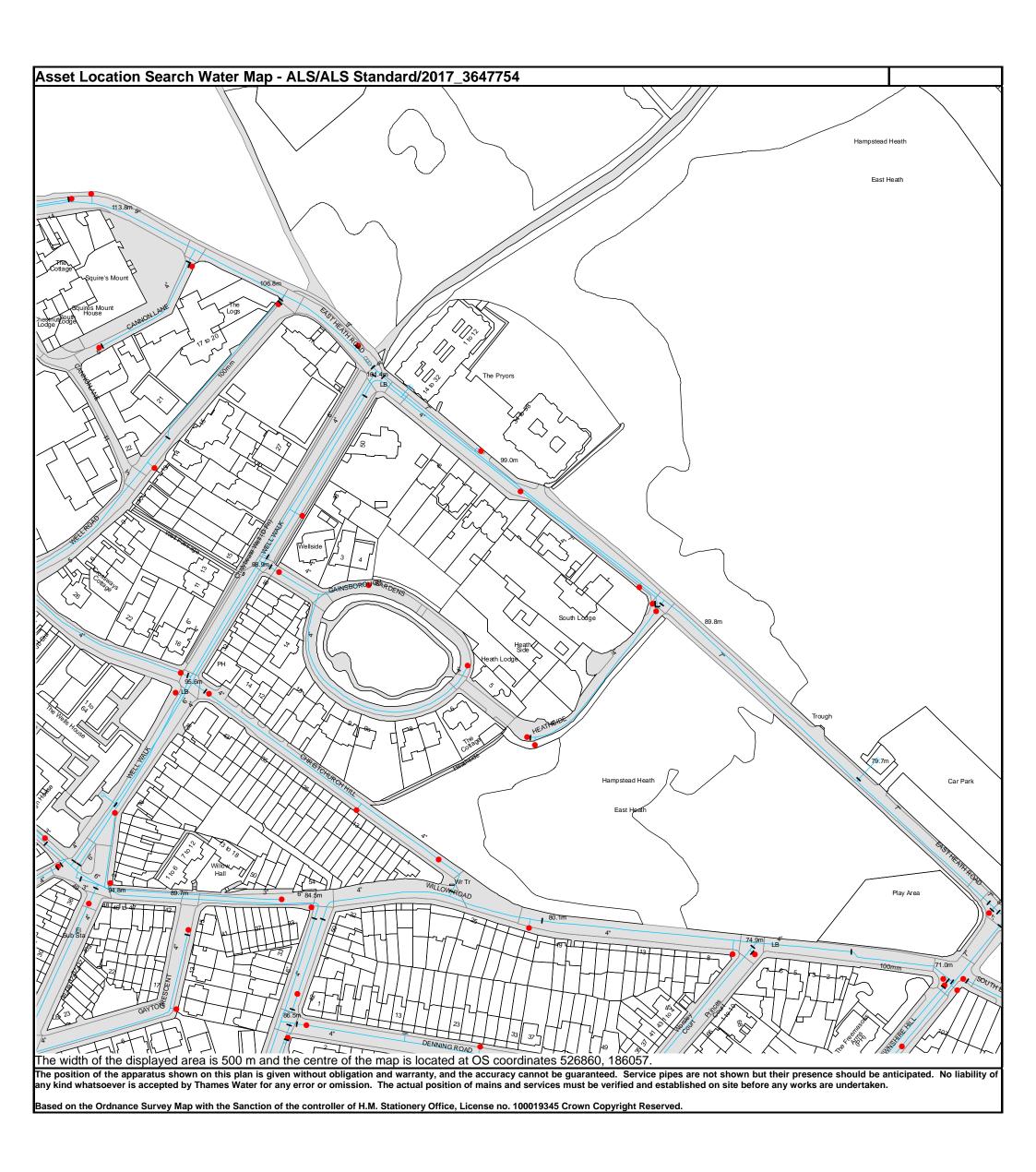
:::::: Chamber

Tunnel

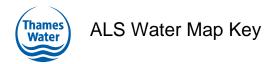
Conduit Bridge

Other Sewer Types (Not Operated or Maintained by Thames Water)





<u>Thames Water Utilities Ltd</u>, Property Searches, PO Box 3189, Slough SL1 4W, DX 151280 Slough 13 T 0845 070 9148 E <u>searches@thameswater.co.uk</u> I <u>www.thameswater-propertysearches.co.uk</u>



3" SUPPLY

3" FIRE

3" METERED

Water Pipes (Operated & Maintained by Thames Water)

Distribution Main: The most common pipe shown on water maps. With few exceptions, domestic connections are only made to distribution mains.

Trunk Main: A main carrying water from a source of supply to a treatment plant or reservoir, or from one treatment plant or reservoir to another. Also a main transferring water in bulk to smaller water mains used for supplying individual customers.

Supply Main: A supply main indicates that the water main is used as a supply for a single property or group of properties.

Fire Main: Where a pipe is used as a fire supply, the word FIRE will be displayed along the pipe.

Metered Pipe: A metered main indicates that the pipe in question supplies water for a single property or group of properties and that quantity of water passing through the pipe is metered even though there may be no meter symbol shown.

Transmission Tunnel: A very large diameter water pipe. Most tunnels are buried very deep underground. These pipes are not expected to affect the structural integrity of buildings shown on the map provided.

Proposed Main: A main that is still in the planning stages or in the process of being laid. More details of the proposed main and its reference number are generally included near the main.

Valves

General PurposeValve

Air Valve

Pressure ControlValve

Customer Valve

Hydrants

Single Hydrant

Meters

Meter

End Items

Symbol indicating what happens at the end of $^{\perp}$ a water main.

Blank Flange
Capped End

Emptying Pit
Undefined End

Manifold

Customer Supply

Fire Supply

Operational Sites

Booster Station
Other

Other (Proposed)

Pumping Station

Service Reservoir

Shaft Inspection

Treatment Works

_____Unknown

———── Water Tower

Other Symbols

_____ Data Logger

PIPE DIAMETER DEPTH BELOW GROUND

Up to 300mm (12")	900mm (3')
300mm - 600mm (12" - 24")	1100mm (3' 8")
600mm and bigger (24" plus)	1200mm (4')

Other Water Pipes (Not Operated or Maintained by Thames Water)

Other Water Company Main: Occasionally other water company water pipes may overlap the border of our clean water coverage area. These mains are denoted in purple and in most cases have the owner of the pipe displayed along them.

Private Main: Indiates that the water main in question is not owned by Thames Water. These mains normally have text associated with them indicating the diameter and owner of the pipe.

Terms and Conditions

All sales are made in accordance with Thames Water Utilities Limited (TWUL) standard terms and conditions unless previously agreed in writing.

- 1. All goods remain in the property of Thames Water Utilities Ltd until full payment is received.
- 2. Provision of service will be in accordance with all legal requirements and published TWUL policies.
- 3. All invoices are strictly due for payment 14 days from due date of the invoice. Any other terms must be accepted/agreed in writing prior to provision of goods or service, or will be held to be invalid.
- 4. Thames Water does not accept post-dated cheques-any cheques received will be processed for payment on date of receipt.
- 5. In case of dispute TWUL's terms and conditions shall apply.
- 6. Penalty interest may be invoked by TWUL in the event of unjustifiable payment delay. Interest charges will be in line with UK Statute Law 'The Late Payment of Commercial Debts (Interest) Act 1998'.
- 7. Interest will be charged in line with current Court Interest Charges, if legal action is taken.
- 8. A charge may be made at the discretion of the company for increased administration costs.

A copy of Thames Water's standard terms and conditions are available from the Commercial Billing Team (cashoperations@thameswater.co.uk).

We publish several Codes of Practice including a guaranteed standards scheme. You can obtain copies of these leaflets by calling us on 0800 316 9800

If you are unhappy with our service you can speak to your original goods or customer service provider. If you are not satisfied with the response, your complaint will be reviewed by the Customer Services Director. You can write to her at: Thames Water Utilities Ltd. PO Box 492, Swindon, SN38 8TU.

If the Goods or Services covered by this invoice falls under the regulation of the 1991 Water Industry Act, and you remain dissatisfied you can refer your complaint to Consumer Council for Water on 0121 345 1000 or write to them at Consumer Council for Water, 1st Floor, Victoria Square House, Victoria Square, Birmingham, B2 4AJ.

Ways to pay your bill

Credit Card	BACS Payment	Telephone Banking	Cheque
Call 0845 070 9148 quoting your invoice number starting CBA or ADS / OSS	Account number 90478703 Sort code 60-00-01 A remittance advice must be sent to: Thames Water Utilities Ltd., PO Box 3189, Slough SL1 4WW. or email ps.billing@thameswater. co.uk	By calling your bank and quoting: Account number 90478703 Sort code 60-00-01 and your invoice number	Made payable to 'Thames Water Utilities Ltd' Write your Thames Water account number on the back. Send to: Thames Water Utilities Ltd., PO Box 3189, Slough SL1 4WW or by DX to 151280 Slough 13

Thames Water Utilities Ltd Registered in England & Wales No. 2366661 Registered Office Clearwater Court, Vastern Rd, Reading, Berks, RG1 8DB.



Search Code

IMPORTANT CONSUMER PROTECTION INFORMATION

This search has been produced by Thames Water Property Searches, Clearwater Court, Vastern Road, Reading RG1 8DB, which is registered with the Property Codes Compliance Board (PCCB) as a subscriber to the Search Code. The PCCB independently monitors how registered search firms maintain compliance with the Code.

The Search Code:

- provides protection for homebuyers, sellers, estate agents, conveyancers and mortgage lenders who
 rely on the information included in property search reports undertaken by subscribers on residential
 and commercial property within the United Kingdom
- sets out minimum standards which firms compiling and selling search reports have to meet
- promotes the best practise and quality standards within the industry for the benefit of consumers and property professionals
- enables consumers and property professionals to have confidence in firms which subscribe to the code, their products and services.

By giving you this information, the search firm is confirming that they keep to the principles of the Code. This provides important protection for you.

The Code's core principles

Firms which subscribe to the Search Code will:

- display the Search Code logo prominently on their search reports
- act with integrity and carry out work with due skill, care and diligence
- at all times maintain adequate and appropriate insurance to protect consumers
- conduct business in an honest, fair and professional manner
- handle complaints speedily and fairly
- ensure that products and services comply with industry registration rules and standards and relevant laws
- monitor their compliance with the Code

Complaints

If you have a query or complaint about your search, you should raise it directly with the search firm, and if appropriate ask for any complaint to be considered under their formal internal complaints procedure. If you remain dissatisfied with the firm's final response, after your complaint has been formally considered, or if the firm has exceeded the response timescales, you may refer your complaint for consideration under The Property Ombudsman scheme (TPOs). The Ombudsman can award compensation of up to £5,000 to you if he finds that you have suffered actual loss as a result of your search provider failing to keep to the Code.

Please note that all queries or complaints regarding your search should be directed to your search provider in the first instance, not to TPOs or to the PCCB.

TPOs Contact Details

The Property Ombudsman scheme Milford House 43-55 Milford Street Salisbury Wiltshire SP1 2BP Tel: 01722 333306

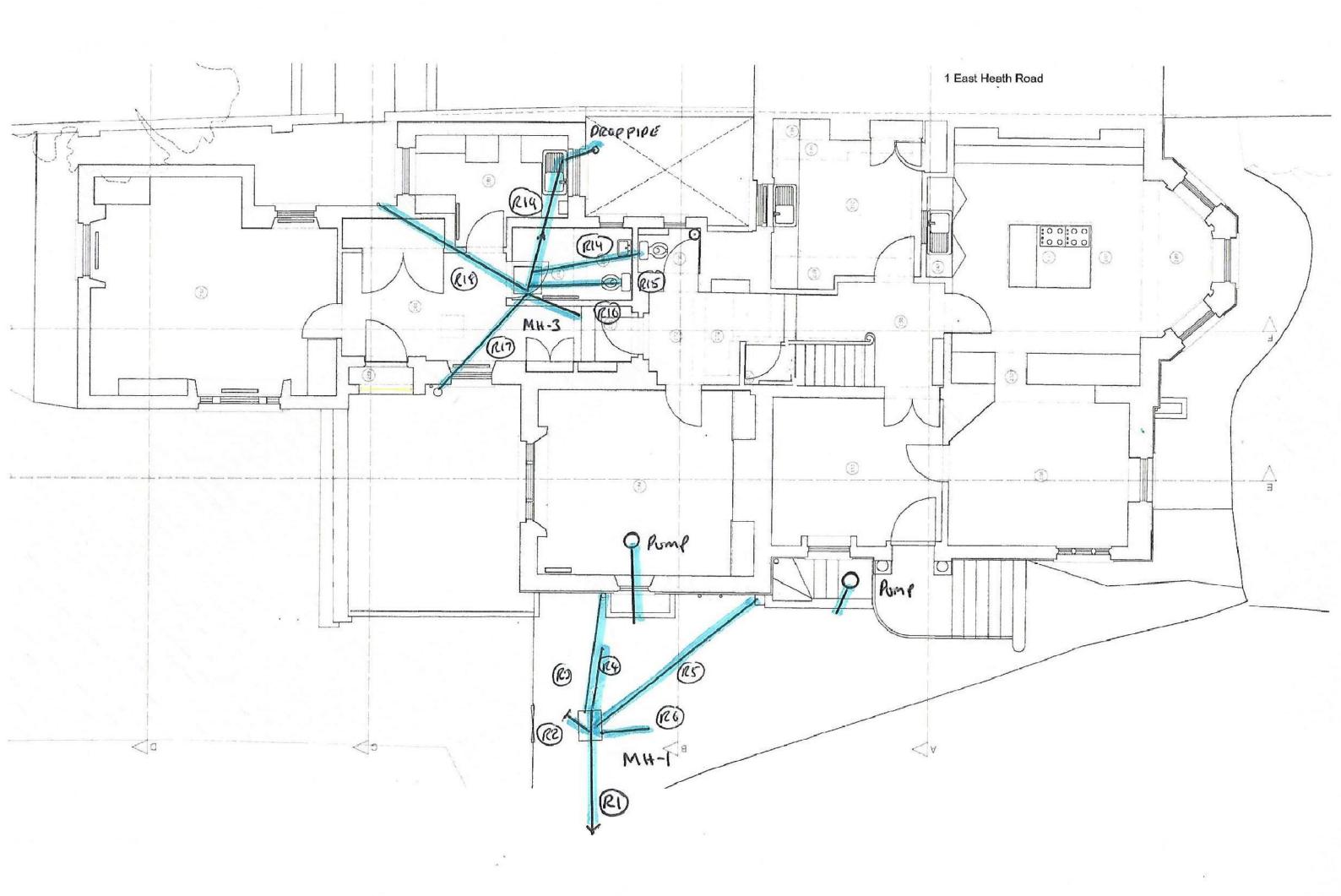
Fax: 01722 332296 Email: admin@tpos.co.uk

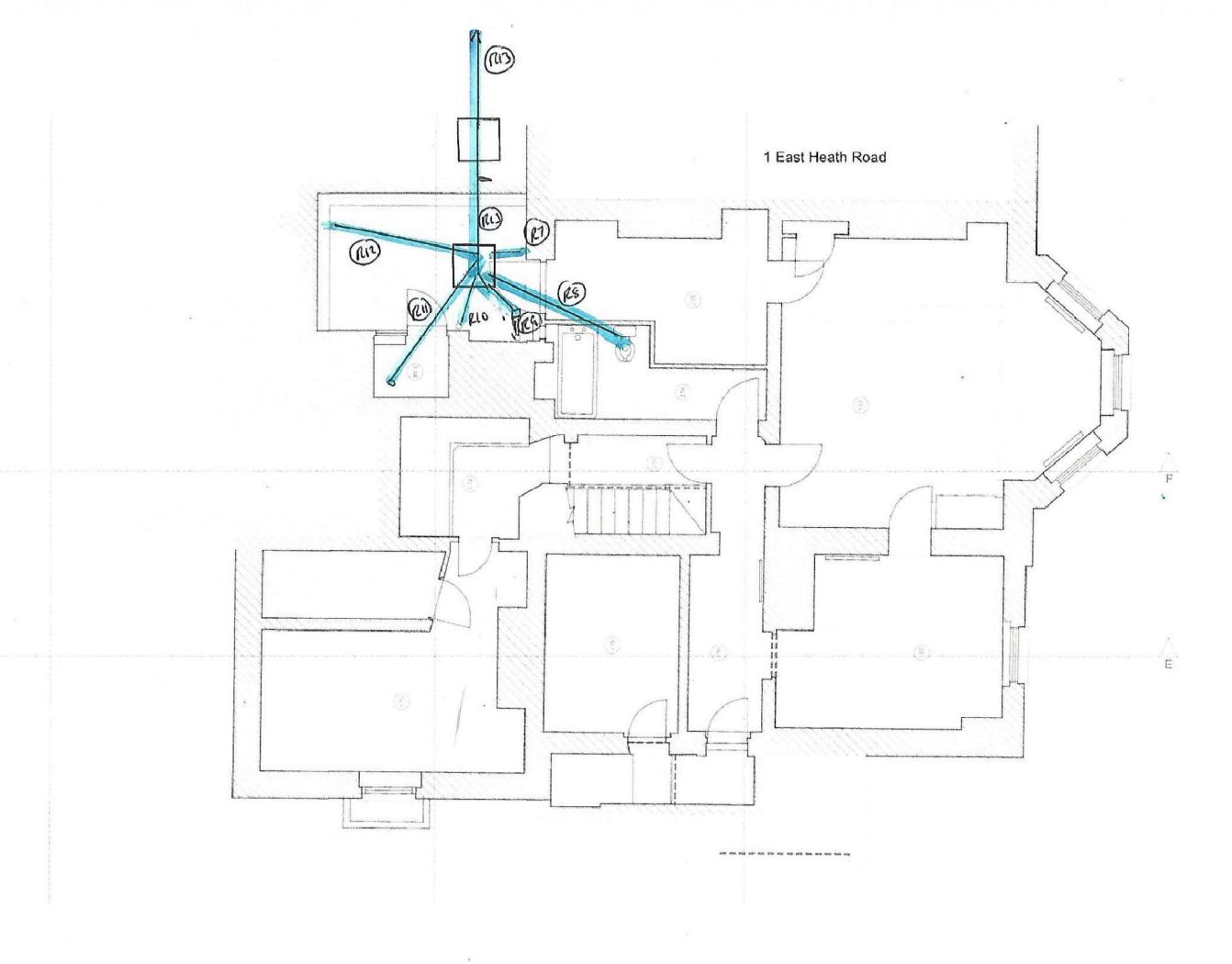
You can get more information about the PCCB from www.propertycodes.org.uk

PLEASE ASK YOUR SEARCH PROVIDER IF YOU WOULD LIKE A COPY OF THE SEARCH CODE



Appendix D - CCTV Survey Plan





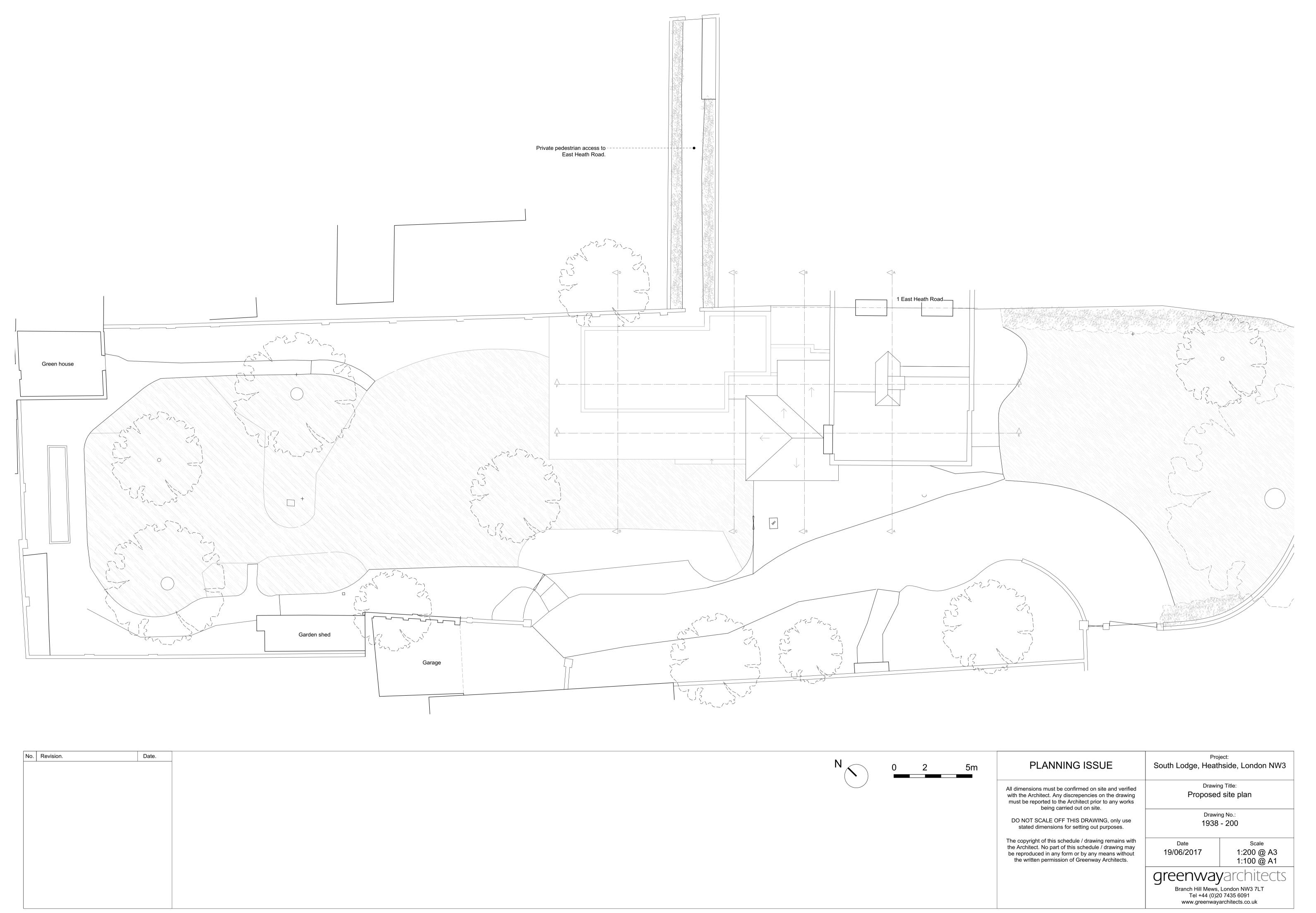
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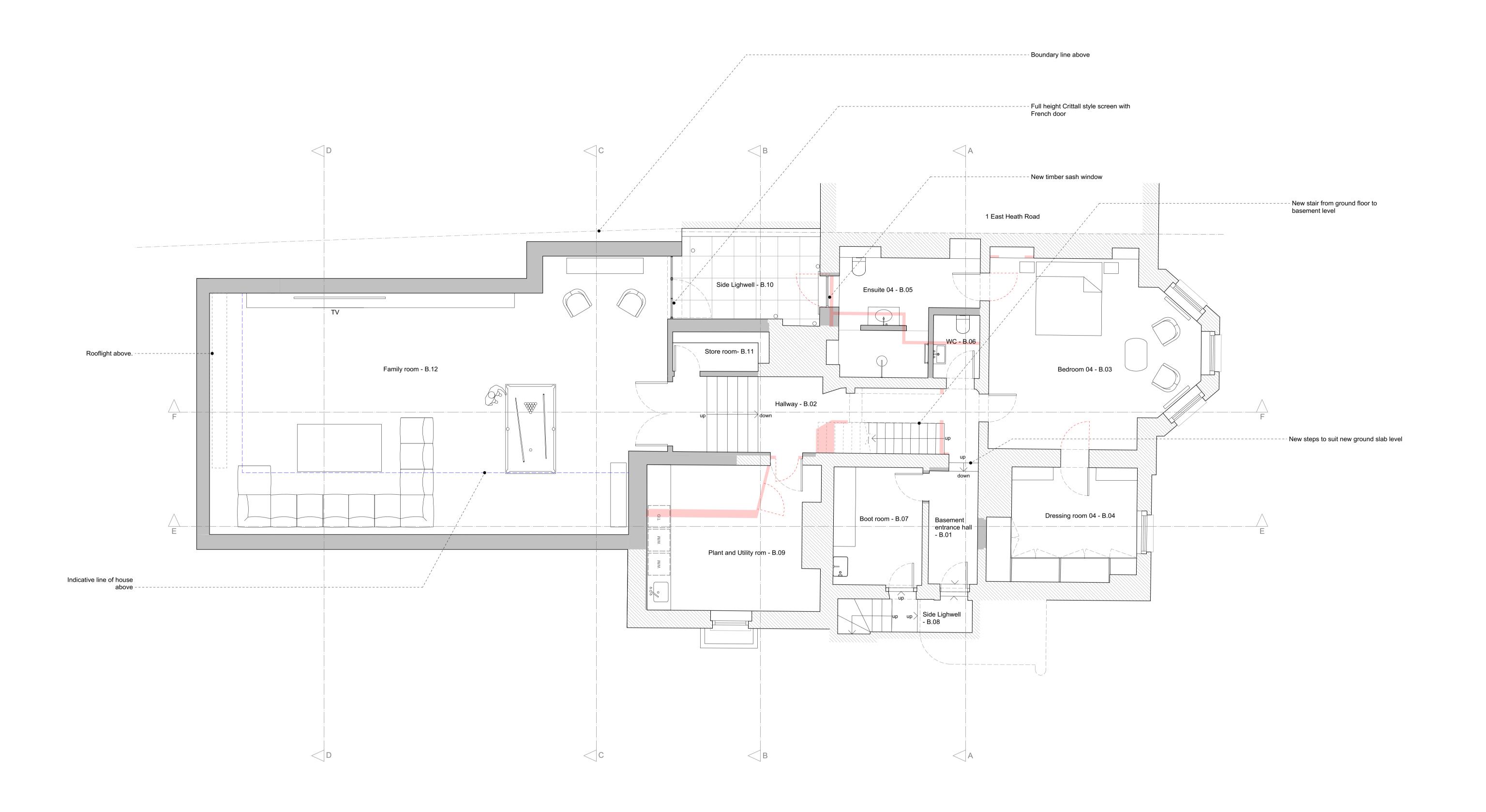
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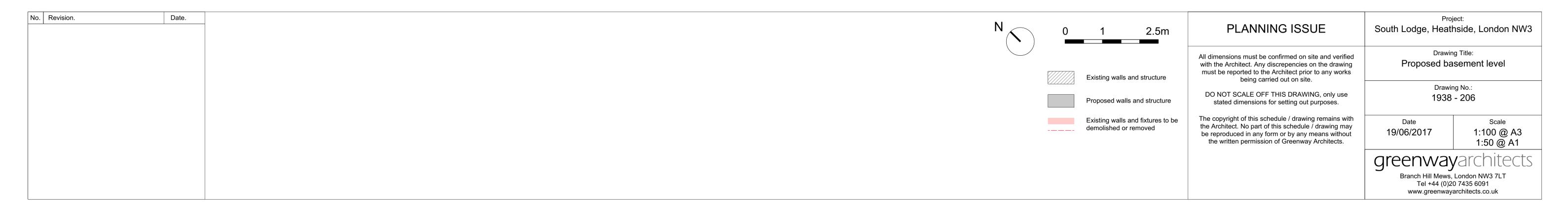
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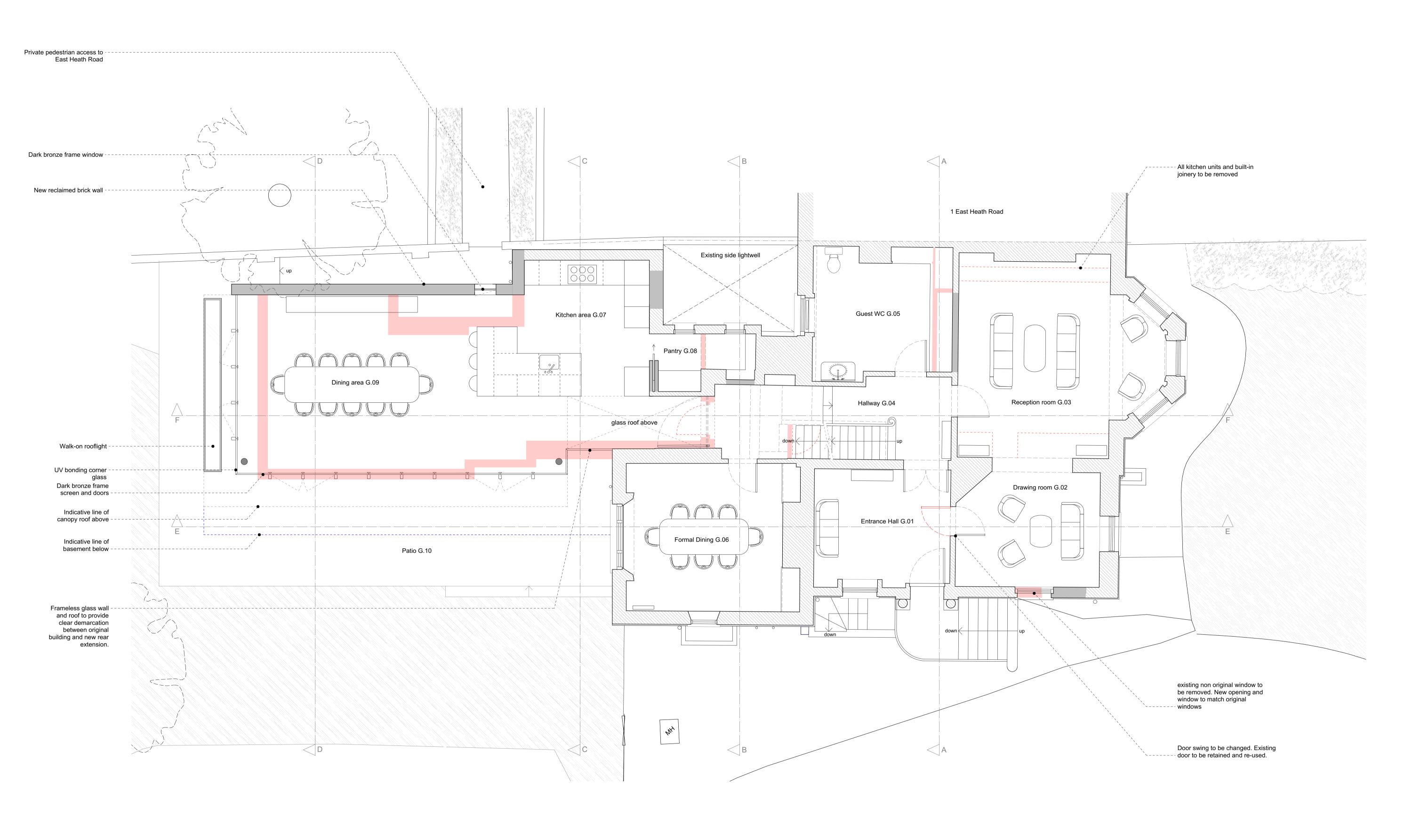


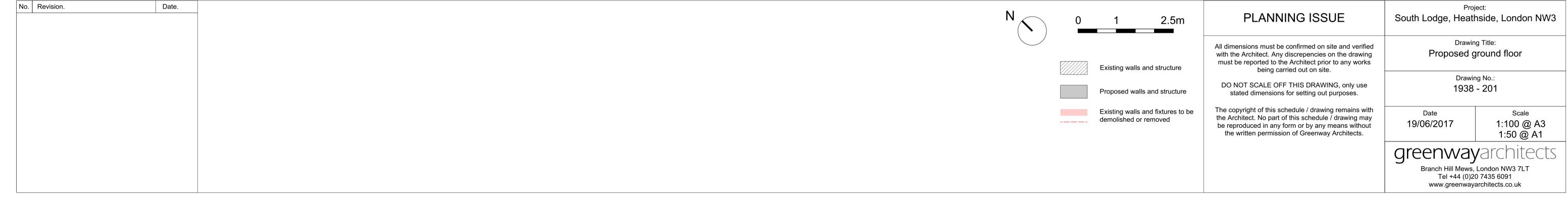
Appendix E – Architects Proposals

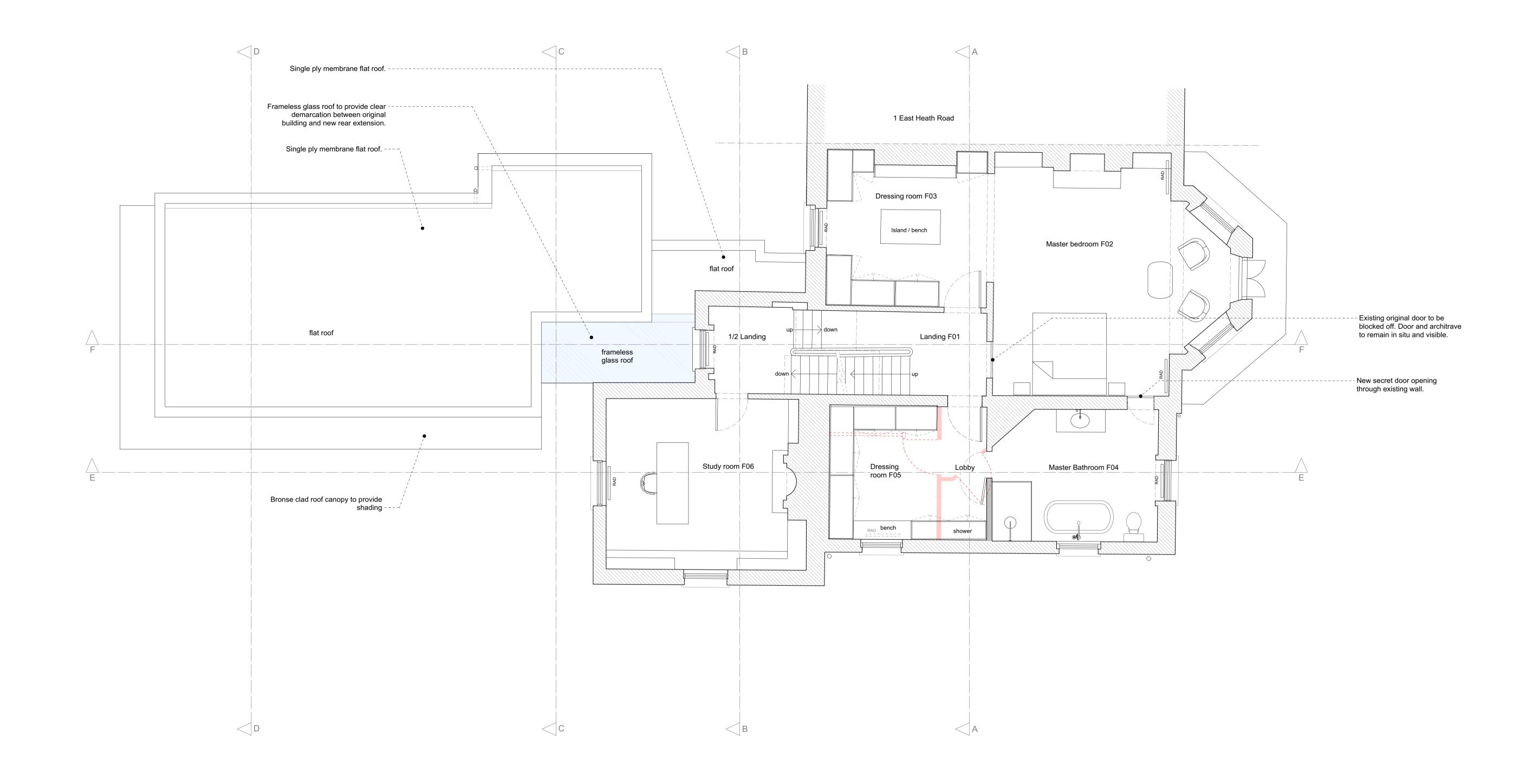


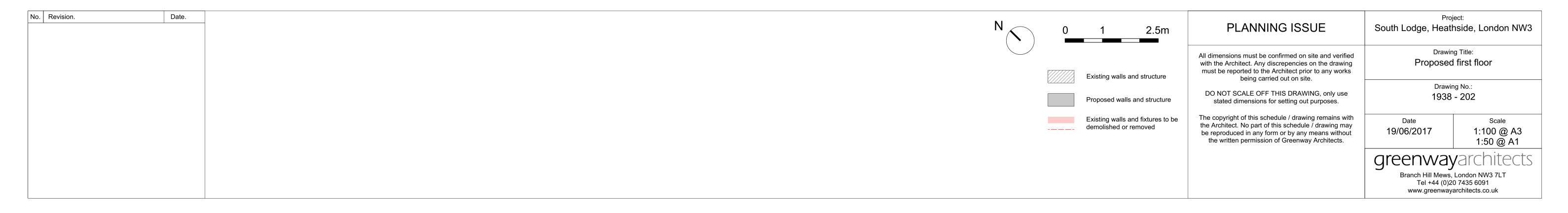


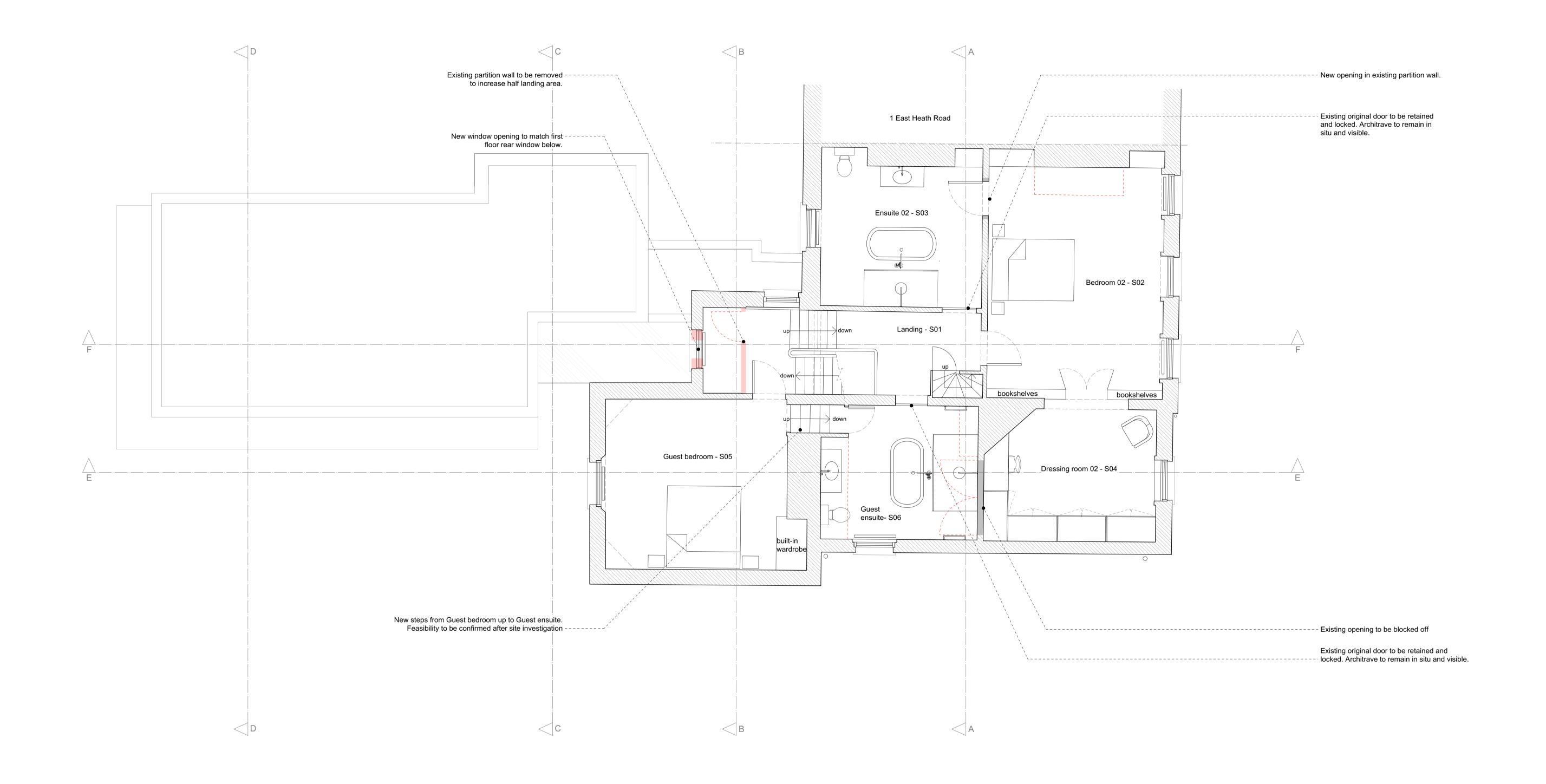


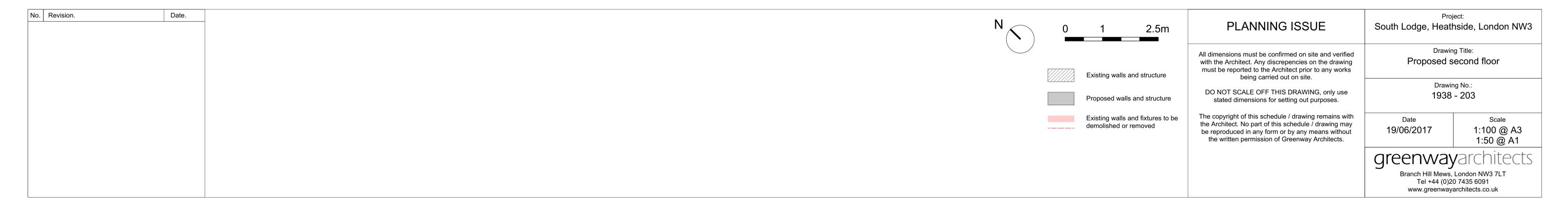


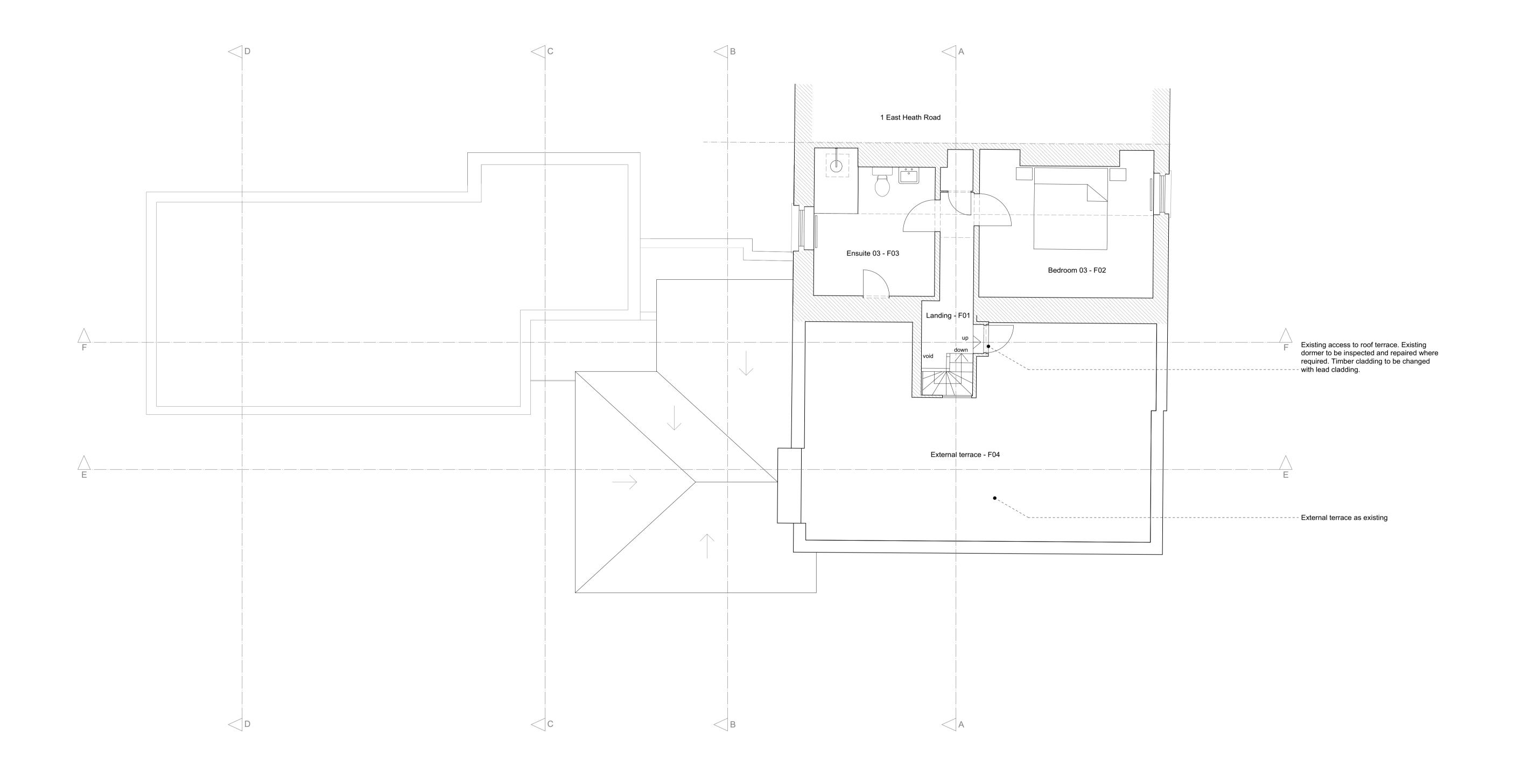


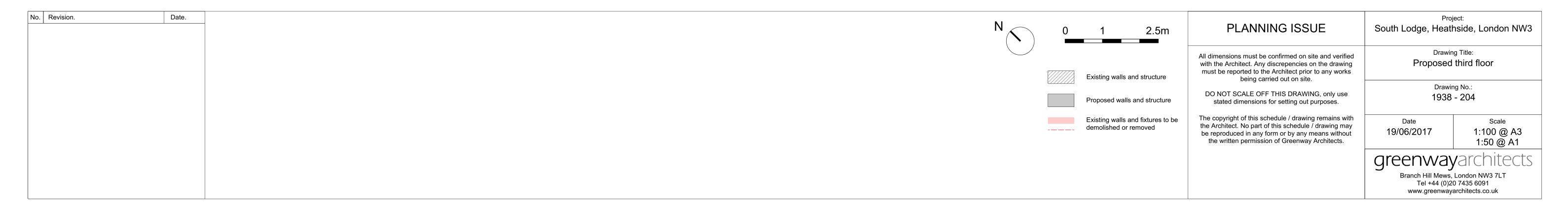


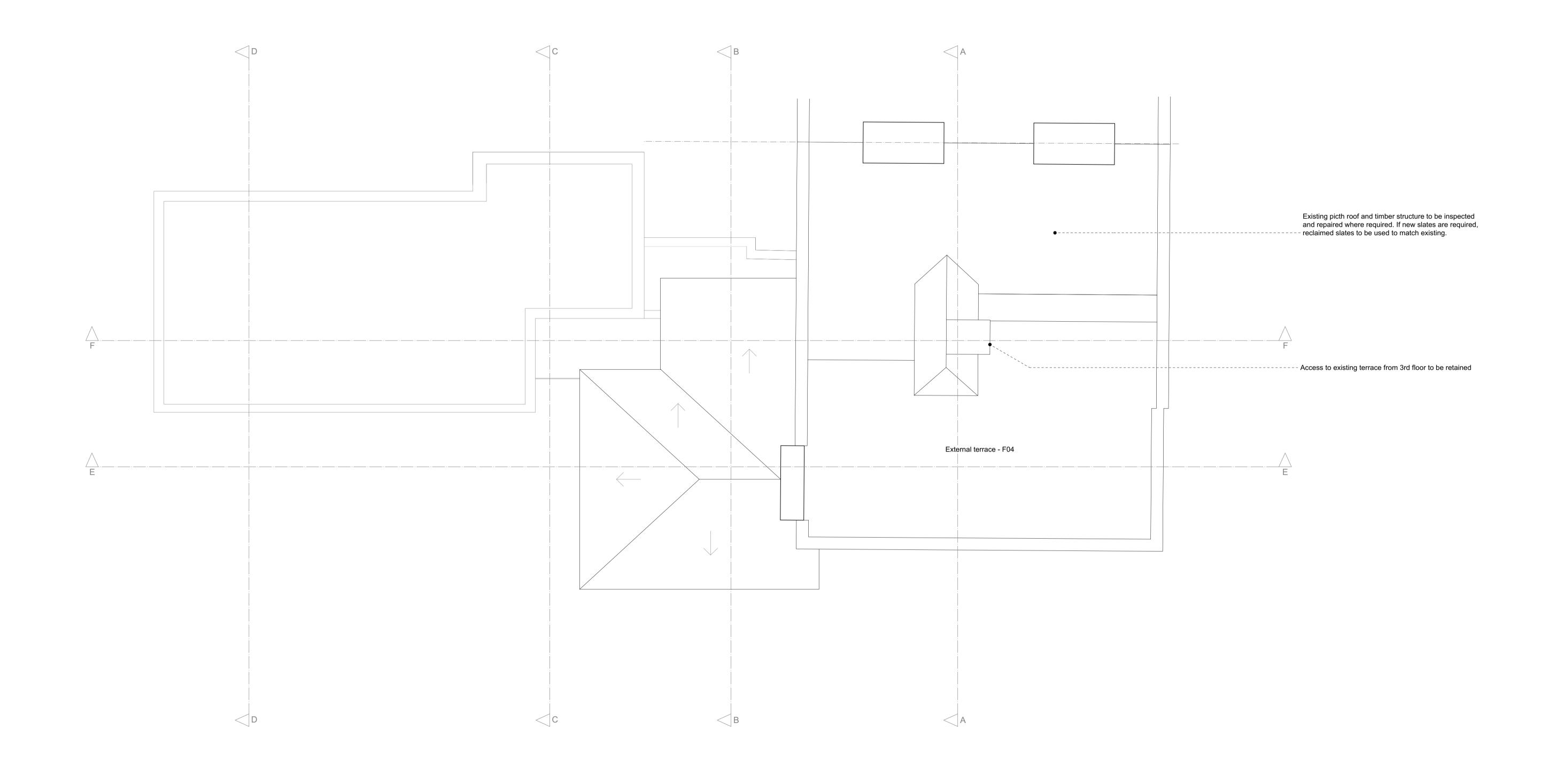


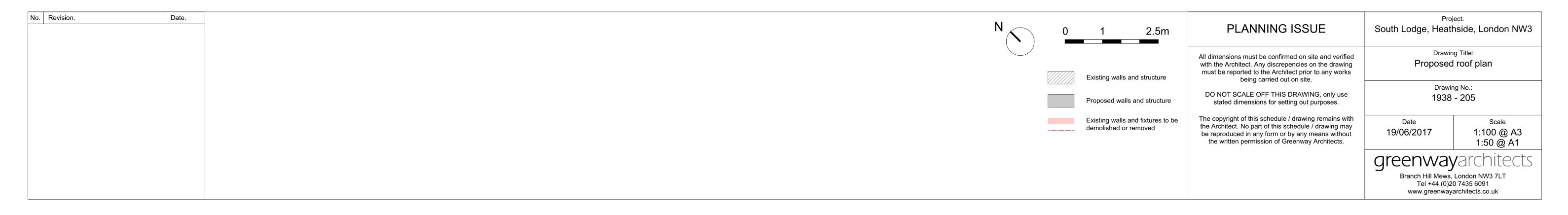










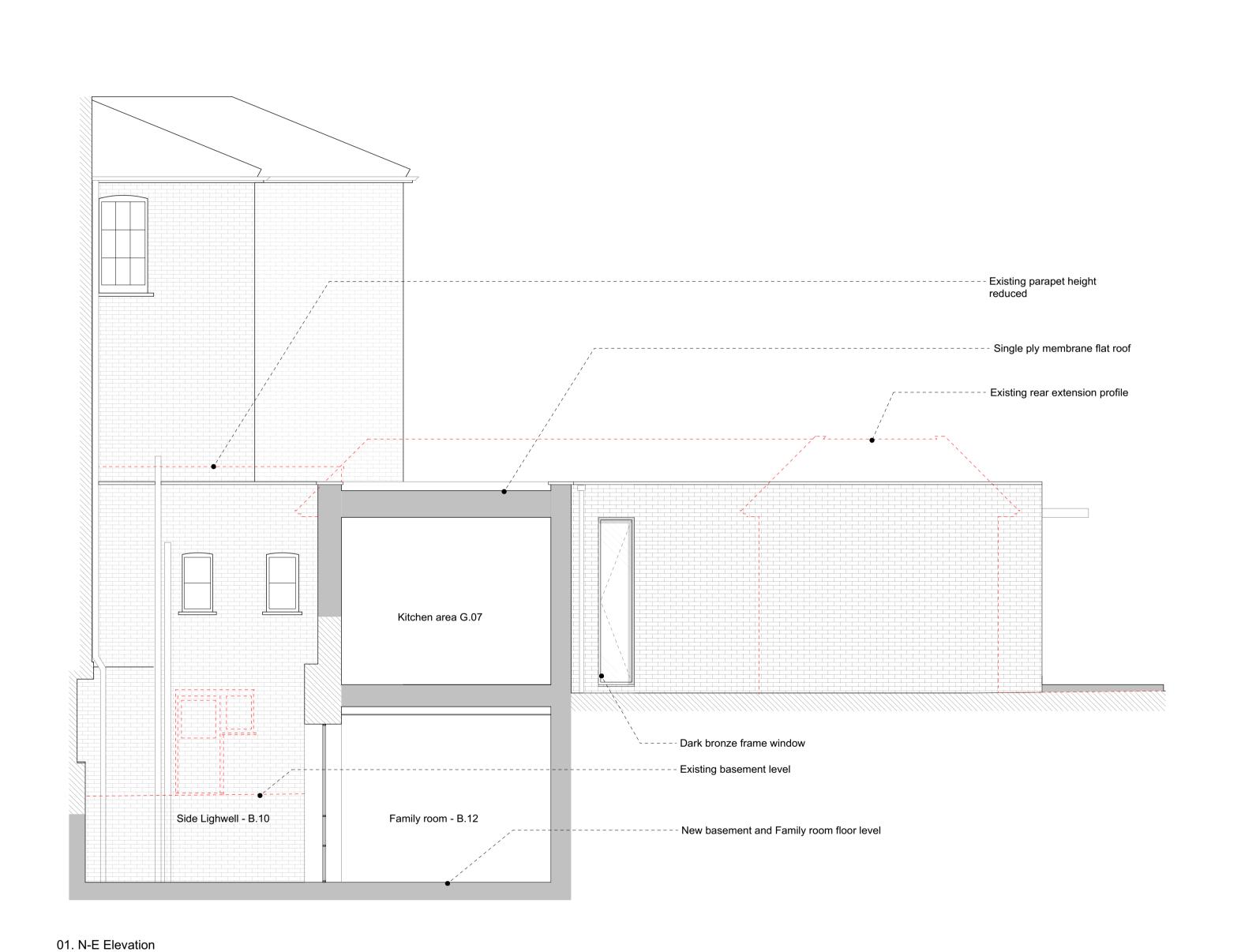


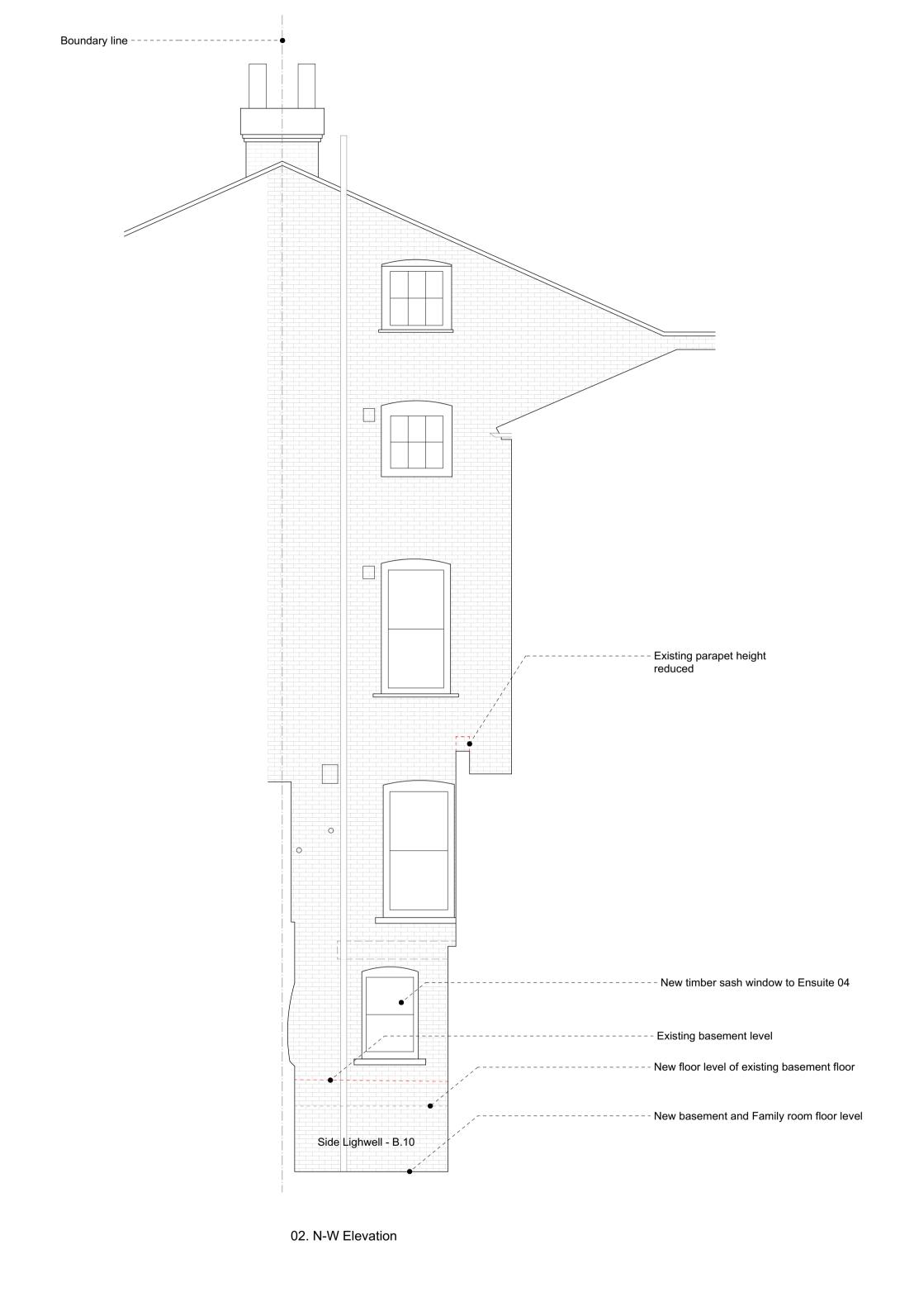


vision.	Date.	0 1 2.5m	PLANNING ISSUE	Project: South Lodge, Heathside, London NW3 Drawing Title: Proposed S-E & N-W elevations Drawing No.: 1938 - 210		
			All dimensions must be confirmed on site and verified with the Architect. Any discrepencies on the drawing must be reported to the Architect prior to any works being carried out on site.			
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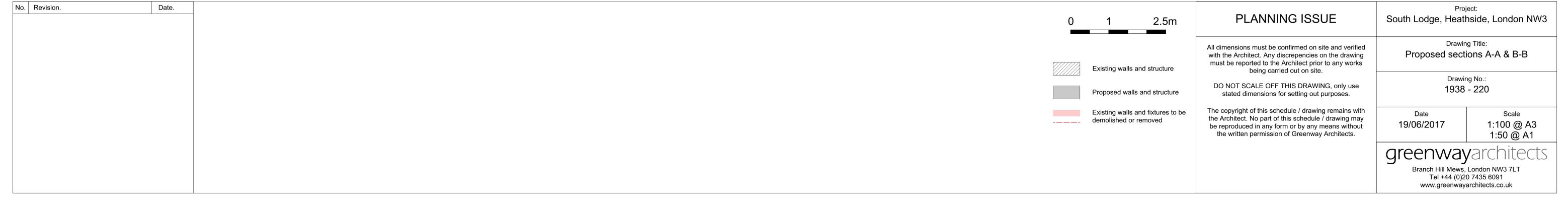


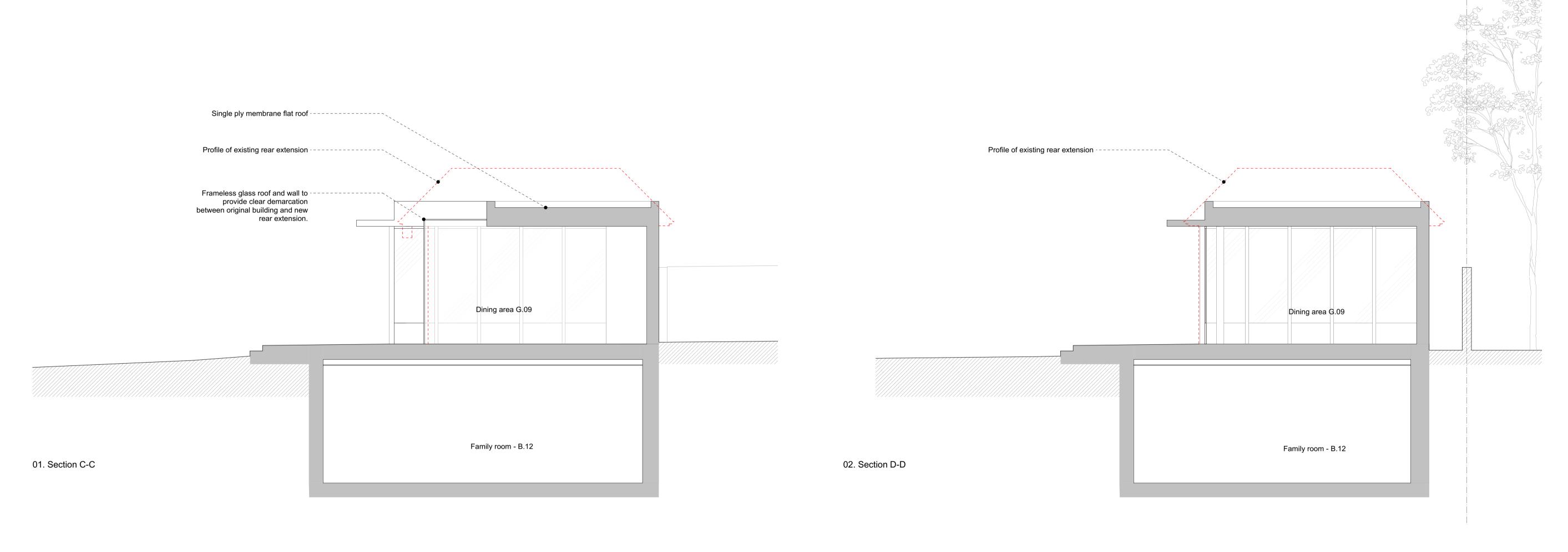


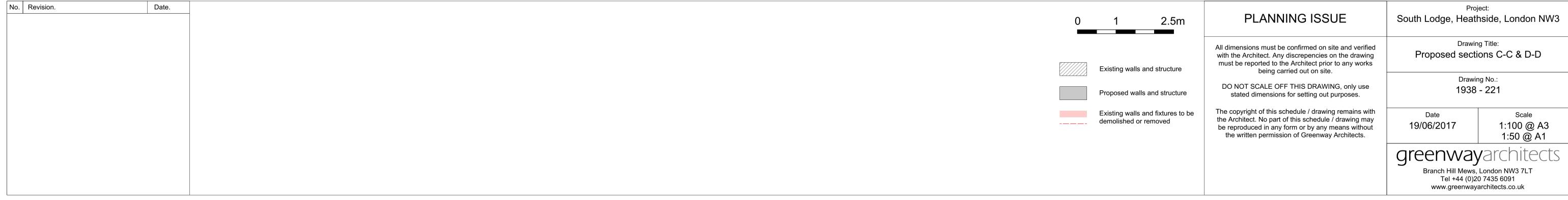
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No. Revision. Date. PLANNING ISSUE South Lodge, Heathside, London NW3 2.5m Drawing Title: All dimensions must be confirmed on site and verified Main house - existing lightwell Proposed N-E & N-W elevations with the Architect. Any discrepencies on the drawing must be reported to the Architect prior to any works being carried out on site. Drawing No.: DO NOT SCALE OFF THIS DRAWING, only use stated dimensions for setting out purposes. 1938 - 212 The copyright of this schedule / drawing remains with the Architect. No part of this schedule / drawing may be reproduced in any form or by any means without the written permission of Greenway Architects. Date Scale 1:100 @ A3 1:50 @ A1 19/06/2017 greenwayarchitects Branch Hill Mews, London NW3 7LT Tel +44 (0)20 7435 6091

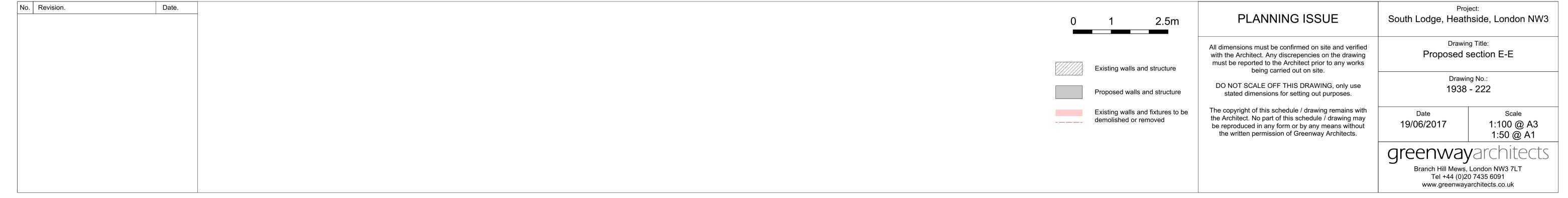


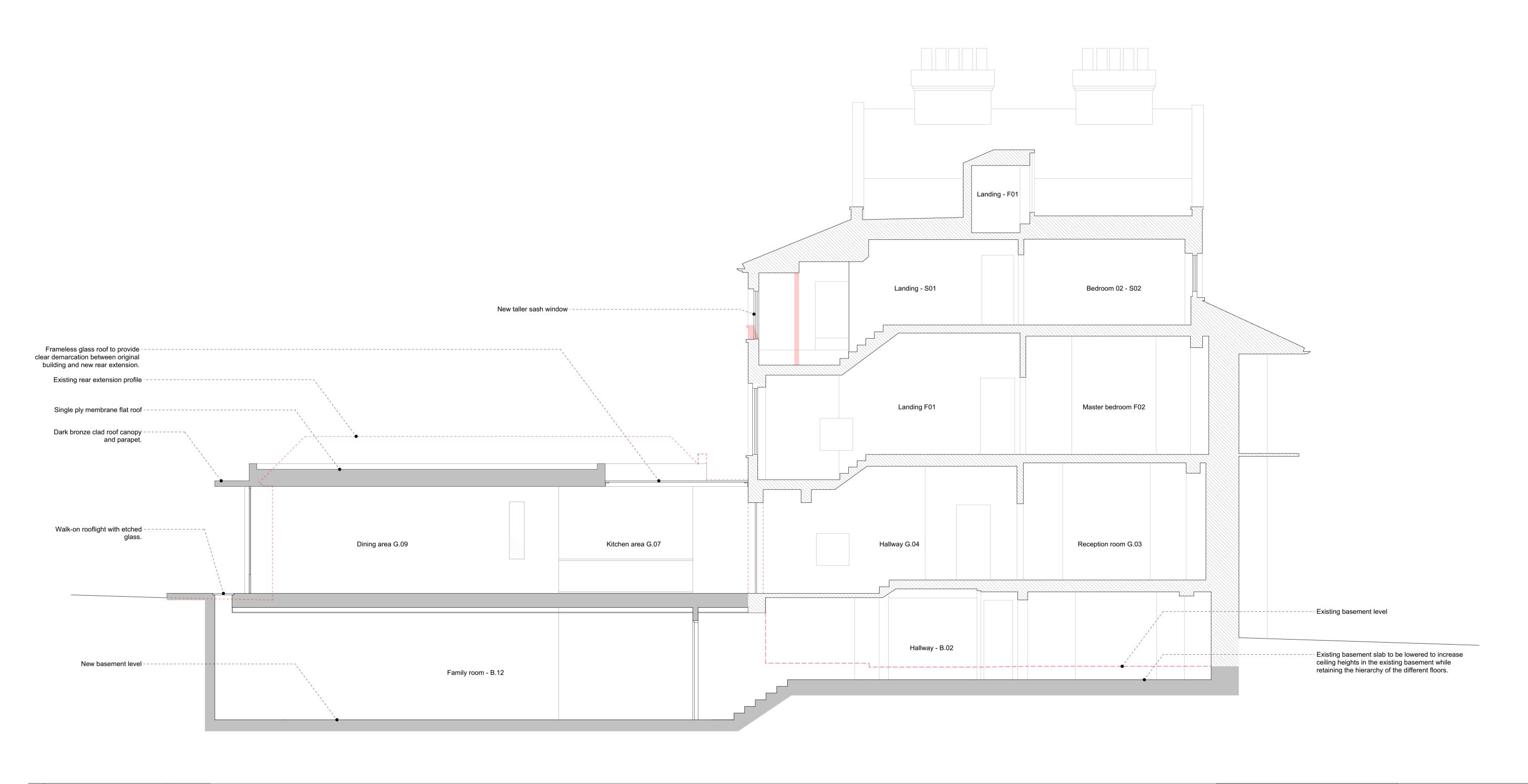


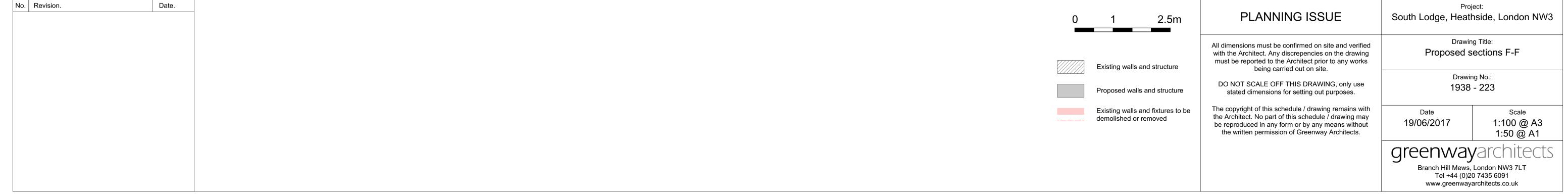












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