



## Flood Risk Assessment for Planning

**Prepared for:**

Ganni LTD

**Location:**

69 Marylebone High Street

London

W1U 5JJ

**October 2023**

**Our reference:**

93507-GrgrChrtt-MrylbnHghSt



## Document Issue Record

**Project:** Flood Risk Assessment for Planning  
**Client:** Ganni LTD  
**Application:** Installation of an air-condition unit  
**Location:** 69 Marylebone High Street, London W1U 5JJ  
**Our reference:** 93507-GrgrChrtrt-MrylbnHghSt  
**Version:** v1.0 311023

**Lead Consultant:** Ms Jackie Stone  
**Authorisation:** Mr Edward Bouet

This report (including any enclosures and attachments) has been prepared for the exclusive use and benefit of the commissioning party and solely for the purpose for which it is provided. Unless we provide express prior written consent, no part of this report should be reproduced, distributed or communicated to any third party. We do not accept any liability if this report is used for an alternative purpose from which it is intended, nor to any third party in respect of this report. Any data and information provided by third parties and referred to herein has not been checked or verified by us unless otherwise expressly stated within this report. This report was checked and approved on the date it was issued and is therefore valid on this date. Understanding, circumstances, regulations and professional standards do change, which could subsequently affect the validity of this report.

Southpoint, Old Brighton Road, Gatwick, West Sussex, RH11 0PR

+44 (0) 1293 214 444

[www.unda.co.uk](http://www.unda.co.uk)

# Contents

1.	Key Facts .....	4
1.1	Flood Risk Posed:.....	4
1.2	Flood Risk Mitigation: .....	4
2.	Introduction .....	5
3.	Existing Situation.....	6
3.1	Site Usage: .....	6
3.2	Topography: .....	7
3.3	Geology and Soil:.....	7
4.	Development Proposal .....	8
5.	Assessment of Flood Risk.....	9
5.1	Flood Zones: .....	9
5.2	Fluvial / Tidal:.....	10
5.2.1	Flood Storage Areas:.....	10
5.2.2	Functional Floodplain:.....	11
5.2.3	Flood Defences: .....	11
5.2.4	Residual risk (breach or overtopping of flood defences):.....	11
5.2.5	Historical flood events: .....	12
5.3	Pluvial (Surface Water): .....	12
5.3.1	Critical Drainage Area / Surface Water Flood Risk Hotspot:.....	15
5.4	Groundwater:.....	16
5.5	Sewer Surcharge: .....	17
5.6	Other Sources: .....	18
6.	Flood Risk Management .....	19
6.1	Vulnerability to flooding:.....	19
6.2	EA Standing Advice:.....	19
6.3	Physical Design Measures: .....	19
6.4	Safe Escape and Flood Action Plan:.....	20
6.5	Flood Warning:.....	20
6.6	Off-Site Impacts: .....	20
6.6.1	Fluvial floodplain storage: .....	20
6.6.2	Surface Water Drainage:.....	21
7.	Sequential and Exception Test.....	22
8.	Discussion and Conclusions .....	23
	Appendix .....	25

# 1. Key Facts

## 1.1 Flood Risk Posed:

- The site is situated within Flood Zone 1 when using the Environment Agency Flood Map for Planning (Rivers and Sea).
- Not located within the Maximum Tidal Breach Flood Extent 2100.
- No flood storage areas are located within close proximity to the site and the site is not located within a functional floodplain.
- No records of historical fluvial / tidal flooding at the site.
- The EA Risk of Flooding from Surface Water Map suggests that the site lies in an area at "Very Low" to risk from surface water.
- For the pluvial 1:30 year event (High), 1:100 year event (Medium), 1:1000 year event (Low), the site and surrounding area is flood free during these events.
- The site is flood free during a 1% Annual Probability Surface Water Flood Risk (40% Climate Change Allowance) event.
- The site is located within Critical Drainage Area Group3\_005.
- The site is located on the edge of a Surface Water Flood Risk Hotspot.
- Risk of groundwater, sewer flooding and reservoir flooding would appear to be low.

## 1.2 Flood Risk Mitigation:

- The proposed application is for the installation of an air-condition unit.
- No increase in impermeable areas, new basements, lowering of floor levels or increase in vulnerability is proposed.
- No additional units or businesses at the site are proposed.
- The proposed development fits within EA standing advice for non-domestic extensions.
- No unacceptable loss of floodplain storage.
- Due to the scale of the development, a full Surface Water Drainage Strategy is not required at this stage of planning.

**Assuming accordance with these flood risk management measures, UNDA Consulting Ltd consider the proposed application to pose no flood risk and therefore is suitable in flood risk terms.**

## 2. Introduction

Unda Consulting Limited have been appointed by Ganni LTD (hereinafter referred to as “the applicant”) to undertake a Flood Risk Assessment for the proposed development at 69 Marylebone High Street, London W1U 5JJ. (hereinafter referred to as “the site”). The FRA has been undertaken in accordance with the National Planning Policy Framework (NPPF) and the associated technical guidance.

The site appears to be located within Flood Zone 1 as defined by the Environment Agency (EA) on their Flood Map for Planning. Under the National Planning Policy Framework (NPPF), a FRA is required if a proposed development:

- includes building or engineering works in Flood Zone 2 or 3;
- includes building or engineering works on land classified by the Environment Agency as having critical drainage problem;
- changes the use of land or buildings in a location at risk of flooding from rivers or the sea, or with critical drainage problems;
- changes the use of land or buildings in a way that increases the flood vulnerability of the development where it may be subject to other sources of flooding;
- is larger than 1 hectare.

Given that the proposed development is located in Flood Zone 1 (Low Risk of flooding from rivers or the sea) and the site is under 1ha in area, a FRA would not normally be required under the NPPF. However, it is understood that the site falls within an area at potential risk of surface water flooding. The assessment should demonstrate to the Local Planning Authority (LPA) and EA how flood risk will be managed now and over the development’s lifetime, taking climate change into account, and with regard to the vulnerability of its potential users.

- whether the proposed development is likely to be affected by current or future flooding from any source;
- whether it will increase flood risk elsewhere;
- whether the measures proposed to deal with these effects and risks are appropriate.

### 3. Existing Situation

#### 3.1 Site Usage:

The site is currently an external ground floor enclosed area to the rear of 69 Marylebone High Street.

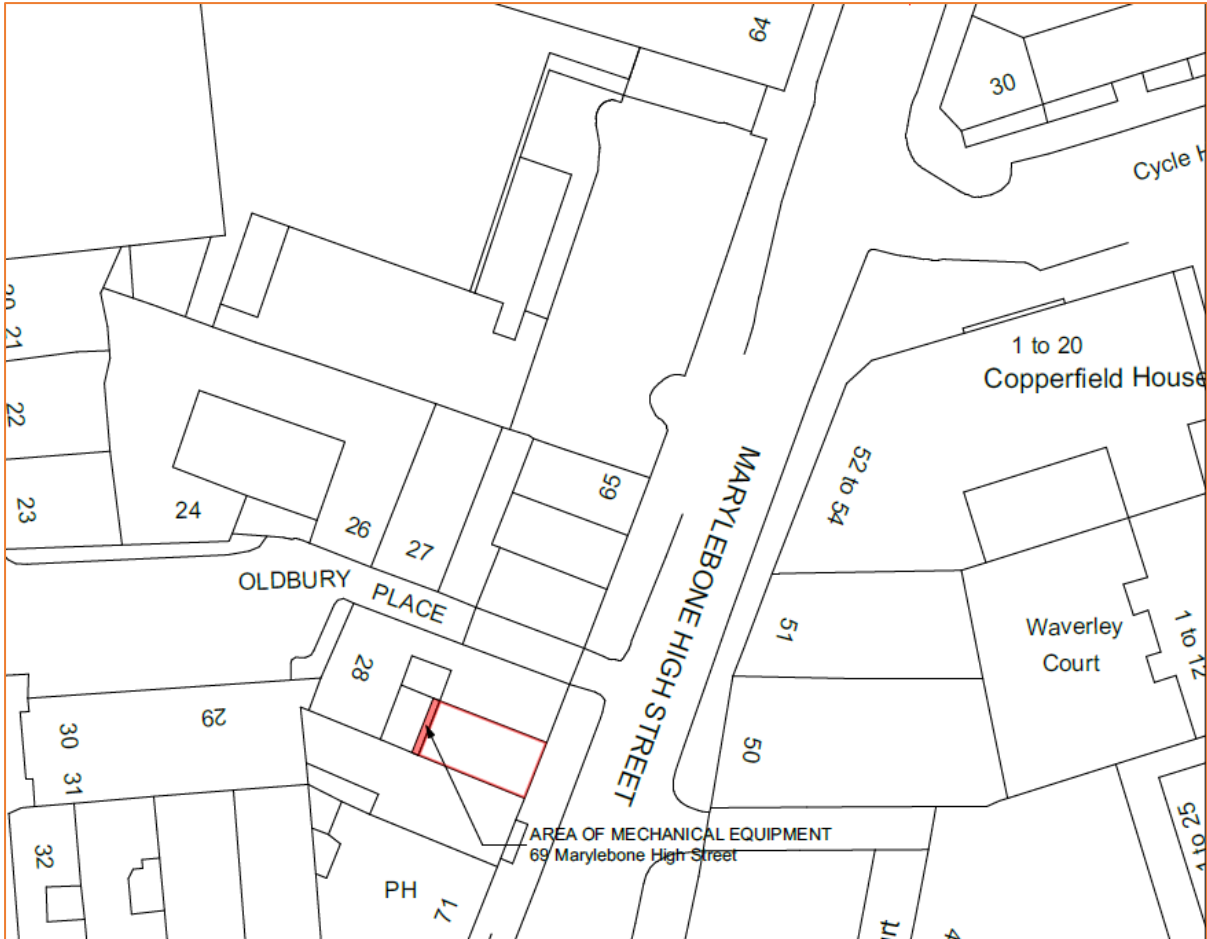


Figure 1: Site Location Plan (Source: Gregori Chiarotti Projects)

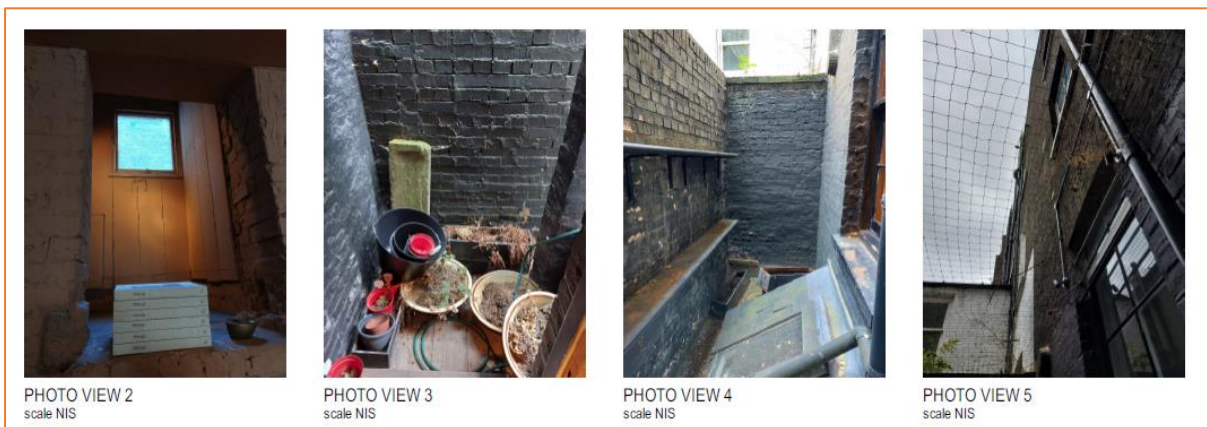


Figure 2: Photos of the external enclosed ground floor area (Source: Gregori Chiarotti Projects)

### 3.2 Topography:

Environment Agency LiDAR has been used to assess the topography across the site and wider area. Light Detection and Ranging (LIDAR) is an airborne mapping technique, which uses a laser to measure the distance between the aircraft and the ground surface. Up to 100,000 measurements per second are made of the ground, allowing highly detailed terrain models to be generated at high spatial resolutions. The EA's LIDAR data archive contains digital elevation data derived from surveys carried out by the EA's specialist remote sensing team. Accurate elevation data is available for over 70% of England. The LiDAR technique records an elevation accurate to +0.15m every 1m. This dataset is derived from a combination of our full dataset which has been merged and re-sampled to give the best possible coverage. The dataset can be supplied as a Digital Surface Model (DSM) produced from the signal returned to the LIDAR (which includes heights of objects, such as vehicles, buildings and vegetation, as well as the terrain surface) or as a Digital Terrain Model (DTM) produced by removing objects from the Digital Surface Model. 1.0m horizontal resolution DTM LiDAR data has been used for the purposes of this study.

LiDAR remotely sensed digital elevation data suggests that the ground topography on the site is approximately 26.50m AOD.

### 3.3 Geology and Soil:

The British Geological Survey (BGS) Map indicates that the bedrock underlying the site is London Clay Formation – Clay, Silt and Sand with Superficial deposits of Lynchill Gravel Member - Sand and Gravel.

The soil type taken from the UK Soil Observatory website is relatively deep soils from River Terrace Sand/Gravel soil parent material with a Sand to Sandy Loam soil texture.

## 4. Development Proposal

The proposed application is for the installation of an air-conditioning unit in an external enclosed ground floor area to the rear of 69 Marylebone High Street.

No increase in impermeable areas, new basements, lowering of floor levels or increase in vulnerability is proposed. In addition, no additional units or businesses at the site are proposed.

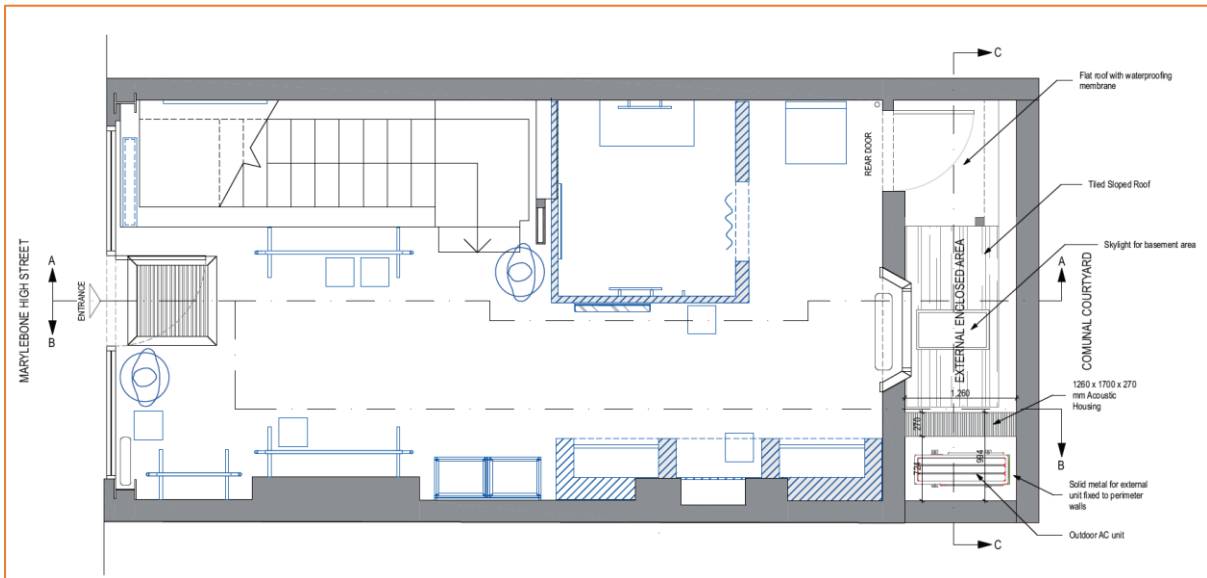


Figure 3: Proposed Ground Floor Plan (Source: Gregori Chiarotti Projects)

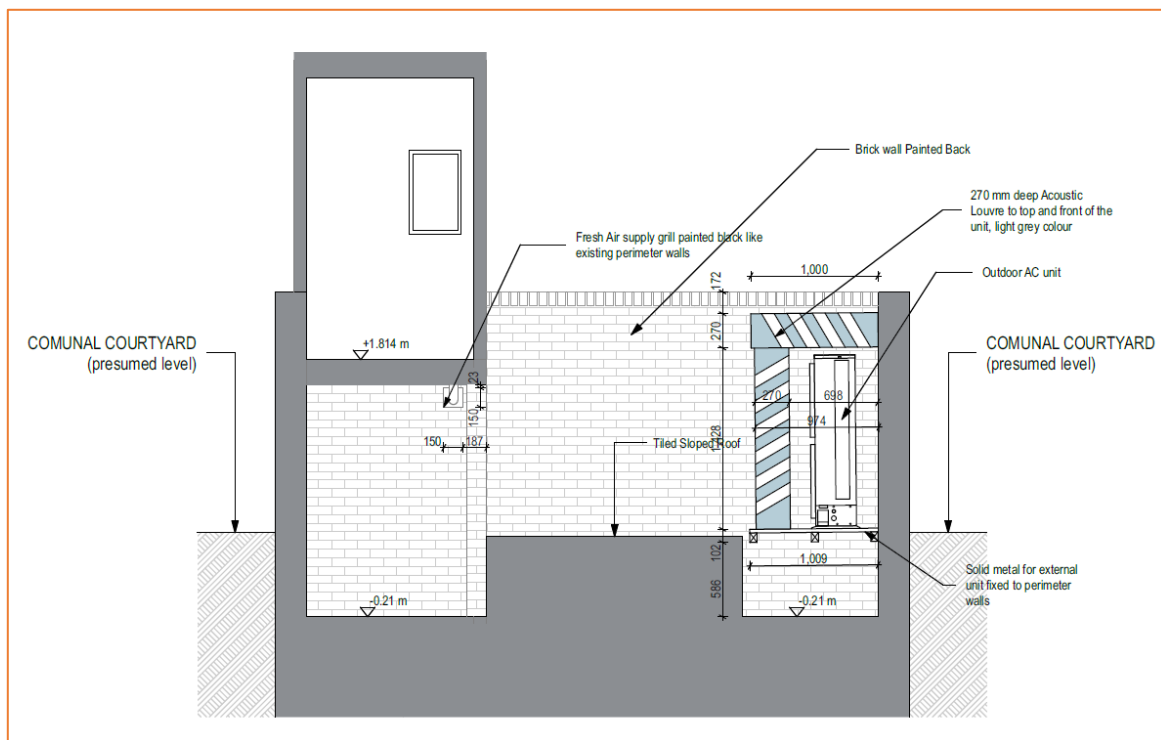


Figure 4: Proposed Section (Source: Gregori Chiarotti Projects)



## 5. Assessment of Flood Risk

### 5.1 Flood Zones:

Within planning, Flood Zones refer to the probability of river and sea flooding, ignoring the presence of defences. They are shown on the Environment Agency’s Flood Map for Planning (Rivers and Sea), available on the Environment Agency’s website.

Flood Zone	Definition
Zone 1 <b>Low Probability</b>	Land having a less than 1 in 1,000 annual probability of river or sea flooding. (Shown as ‘clear’ on the Flood Map – all land outside Zones 2 and 3)
Zone 2 <b>Medium Probability</b>	Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or Land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding. (Land shown in light blue on the Flood Map)
Zone 3a <b>High Probability</b>	Land having a 1 in 100 or greater annual probability of river flooding; or Land having a 1 in 200 or greater annual probability of sea flooding. (Land shown in dark blue on the Flood Map)
Zone 3b <b>The Functional Floodplain</b>	This zone comprises land where water has to flow or be stored in times of flood. Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Not separately distinguished from Zone 3a on the Flood Map)

Table 1: Flood Zones

The Flood Zones shown on the Environment Agency’s Flood Map for Planning (Rivers and Sea) do not take account of the possible impacts of climate change and consequent changes in the future probability of flooding.

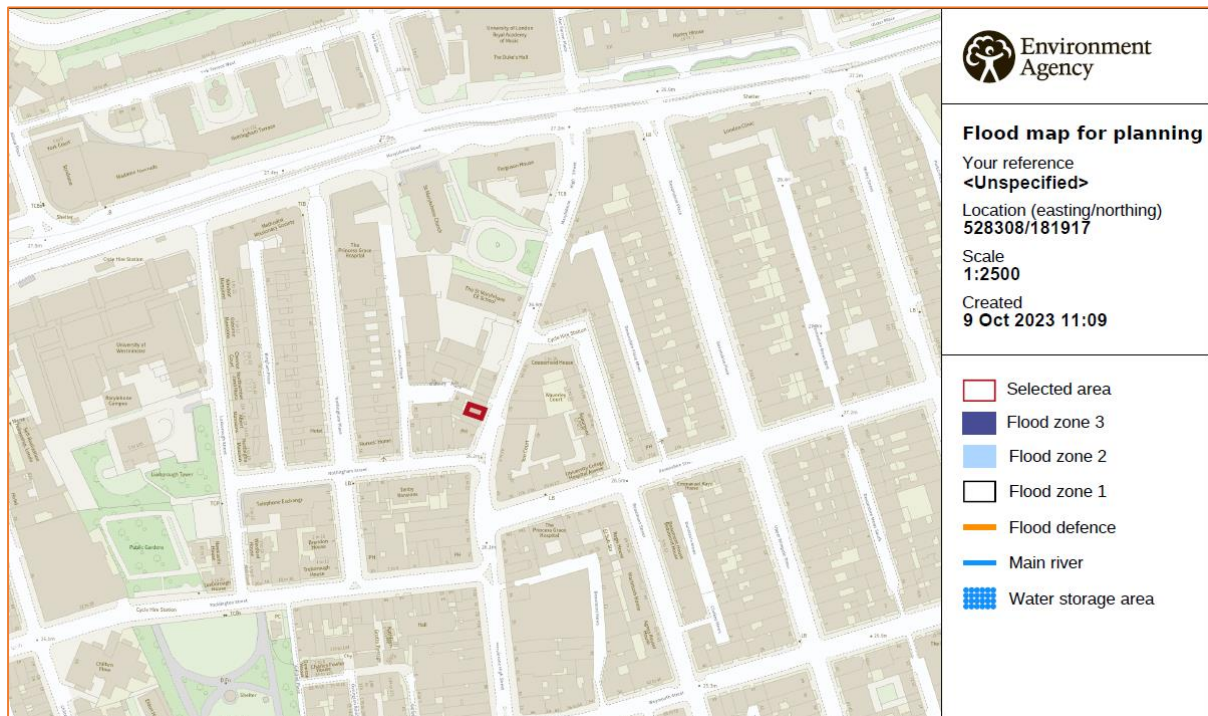


Figure 5: Environment Agency Flood Map for Planning (Rivers and Sea) (Source: EA)

The site is located within Flood Zone 1 (Low Probability), which means it is defined as land having a less than 1 in 1000 annual probability of fluvial or tidal flooding.

The site is not located within a dry Island.

## 5.2 Fluvial / Tidal:

There are no streams or drainage channels within or bordering the site. The risk of fluvial and tidal flooding is considered very low. The site is entirely outside of Flood Zone 3 and Flood Zone 2. The closest watercourse to the site is the River Thames (which is tidally influenced in this reach) which is approximately 2.2km to the south east of the site. The closest area within Flood Zones 2 and 3 is at least 2km to the southeast of the site.

In addition, according to the City of Westminster Council Draft Strategic Flood Risk Assessment (SFRA) 2019, the site is not located within the Maximum Tidal Breach Flood Extent 2100.

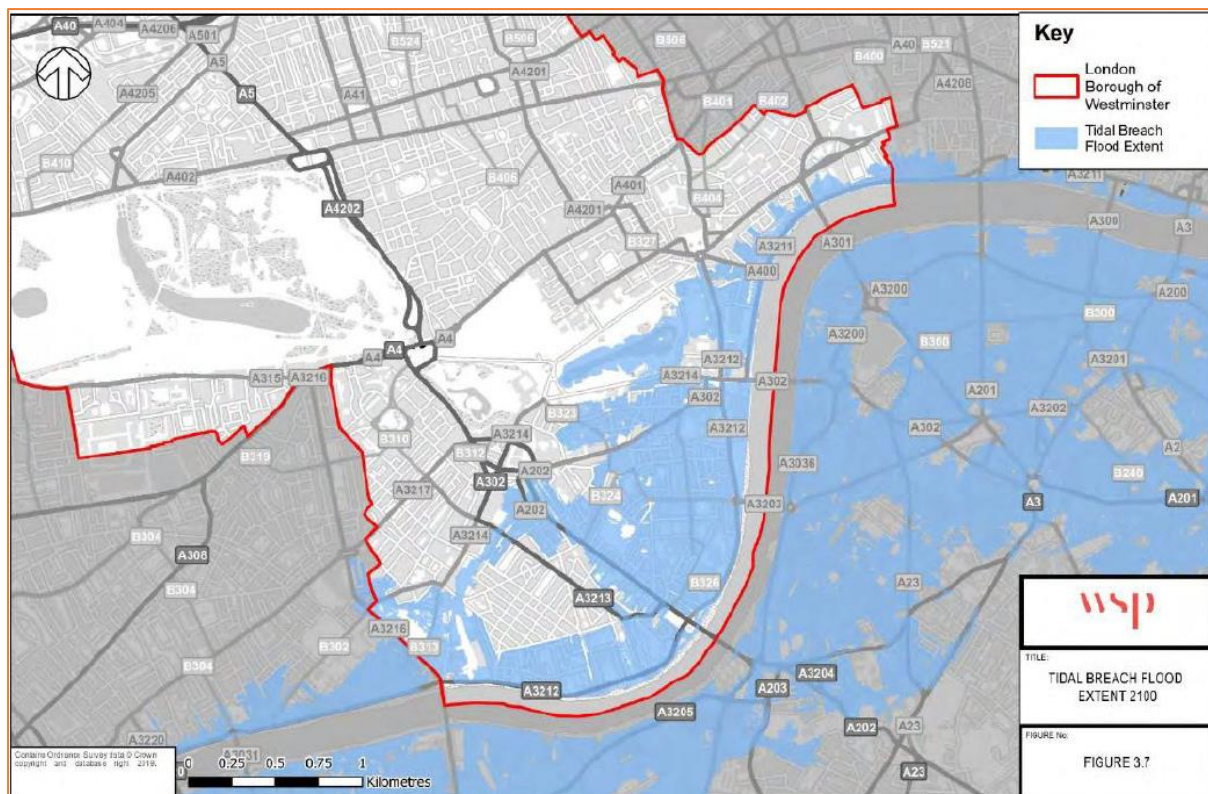


Figure 6: Maximum Tidal Breach Flood Extent 2100 map (Source: SFRA 2019)

### 5.2.1 Flood Storage Areas:

Flood Storage Areas are areas that act as a balancing reservoir, storage basin or balancing pond. Their purpose is to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel. It may also delay the timing of a flood peak so that its volume is discharged over a longer time interval. Flood storage areas do not completely remove the chance of flooding and can be overtopped or fail in extreme weather conditions.

The site is not shown to be located within or close to a Flood Storage Area.

### 5.2.2 Functional Floodplain:

This zone comprises land where water is required to flow or be stored in times of flood. The functional floodplain designation encompasses land which would flood with an annual probability of 1 in 20 (5%) or greater in any year; and includes areas of land required for water conveyance routes.

The site is not shown to be located within the functional floodplain.

### 5.2.3 Flood Defences:

Flood defences are typically raised structures that alter natural flow patterns and prevent floodwater from entering property in times of flooding. They are generally categorised as either 'formal' or 'informal' defences. A 'formal' flood defence is a structure that was built specifically for the purpose of flood defence, and is maintained by its respective owner, which could be the Environment Agency, Local Authority, or an individual. An 'informal' flood defence is a structure that has not been specifically built to retain floodwater, and is not maintained for this specific purpose, but may afford some protection against flooding.

Asset inspections are undertaken on average every six months, although some critical assets are assessed on a more regular basis. It is possible that adjacent assets are inspected on different dates, which may result in two assets of a similar state of repair having different condition ratings. It is unclear when both assets were last inspected.

Condition ratings of assets may also be affected by the time of year the surveys are conducted, as vegetation may obscure the asset in the summer months, or accessibility may be an issue during winter months. These factors would not usually affect the recorded condition rating of an asset unless the asset is on a borderline between two ratings.

No evidence has been presented to suggest that the site is protected by a formal flood defence.

### 5.2.4 Residual risk (breach or overtopping of flood defences):

Breaching of flood defences can cause rapid inundation of areas behind flood defences as flow in the river channel discharges through the breach. A breach can occur with little or no warning, although they are much more likely to concur with extreme river levels or tides when the stresses on flood defences are highest. Flood water flowing through a breach will normally discharge at a high velocity, rapidly filling up the areas behind the defences, resulting in significant damage to buildings and a high risk of loss of life. Breaches are most likely to occur in soft defences such as earth embankments although poorly maintained hard defences can also be a potential source of breach.

Overtopping of flood defences occurs when water levels exceed the protection level of raised flood defences. The worst case occurs when the fluvial or tidal levels exceed the defence level as this can lead to prolonged flooding. Less severe overtopping can occur when flood levels are below defence levels, but wave action causes cyclic overtopping, with intermittent discharge over the crest level of the defence. Flood defences are commonly designed with a freeboard to provide protection against overtopping from waves. The risk from overtopping due to exceedance of the flood defence level is much more significant than the risk posed by wave overtopping. Exceedance of the flood defence level can lead to prolonged and rapid flooding with properties immediately behind the defences at highest risk.

There remains a residual risk in the incidence of failure. Overtopping or breach are the principal mechanisms of flooding.

### **5.2.5 Historical flood events:**

The EA have no records of historical fluvial or tidal flooding having affected the site.

## **5.3 Pluvial (Surface Water):**

Pluvial flooding is the term used to describe flooding which occurs when intense, often short duration rainfall is unable to soak into the ground or to enter drainage systems and therefore runs over the land surface causing flooding. It is most likely to occur when soils are saturated (or baked hard) so that they cannot infiltrate any additional water or in urban areas where buildings tarmac and concrete prevent water soaking into the ground. The excess water can pond (collect) in low points and result in the development of flow pathways often along roads but also through built up areas and open spaces. This type of flooding is usually short lived and associated with heavy downpours of rain.

The potential volume of surface runoff in catchments is directly related to the size and shape of the catchment to that point. The amount of runoff is also a function of geology, slope, climate, rainfall, saturation, soil type, urbanisation and vegetation.

Pluvial flooding can occur in rural and urban areas, but usually causes more damage and disruption in the latter. Flood pathways include the land and water features over which floodwater flows. These pathways can include drainage channels, rail and road cuttings. Developments that include significant impermeable surfaces, such as roads and car parks may increase the volume and rate of surface water runoff.

Urban areas which are close to artificial drainage systems, or located at the bottom of hill slopes, or in valley bottoms and hollows, may be more prone to pluvial flooding. This may be the case in areas that are down slope of land that has a high runoff potential including impermeable areas and compacted ground.

Pluvial flooding can affect all forms of the built environment, including:

- Residential, commercial and industrial properties;
- Amenity and recreation facilities; and
- Infrastructure, such as roads and railways, electrical infrastructure, telecommunication systems and sewer systems.

This type of flooding is usually short-lived and may only last as long as the rainfall event. However occasionally flooding may persist in low-lying areas where ponding occurs. Due to the typically short duration, this type of flooding tends not to have consequences as serious as other forms of flooding, such as flooding from rivers; however it can still cause significant damage and disruption on a local scale.

In 2013 the EA, working with Lead Local Flood Authorities (LLFAs), produced an updated Flood Map for Surface Water. It is considered to represent a significant improvement on the previous surface water flood maps available, both in terms of method and representation of the risk of flooding.

The modelling techniques and data used are considerably improved, and also incorporated locally produced mapping where this is available to represent features best modelled at a local scale.

The Flood Map for Surface Water assesses flooding scenarios as a result of rainfall with the following chance of occurring in any given year (annual probability of flooding is shown in brackets):

- High: Greater than or equal to 3.3% (1 in 30) chance in any given year (3.3%)
- Medium: Less than 3.3% (1 in 30) but greater than or equal to 1% (1 in 100) chance in any given year
- Low: Less than 1% (1 in 100) but greater than or equal to 0.1% (1 in 1,000) chance in any given year
- Very Low: Less than 0.1% (1 in 1,000) chance in any given year

The mapping below shows the Risk of Flooding from Surface Water centred on the postcode. Please note that the EA do not consider this information suitable to be used to identify the risk to individual properties or sites. It is useful to raise awareness in areas which may be at risk and may require additional investigation.

The EA Risk of Flooding from Surface Water Map suggests that the site lies in an area at "Very Low" to risk from surface water.

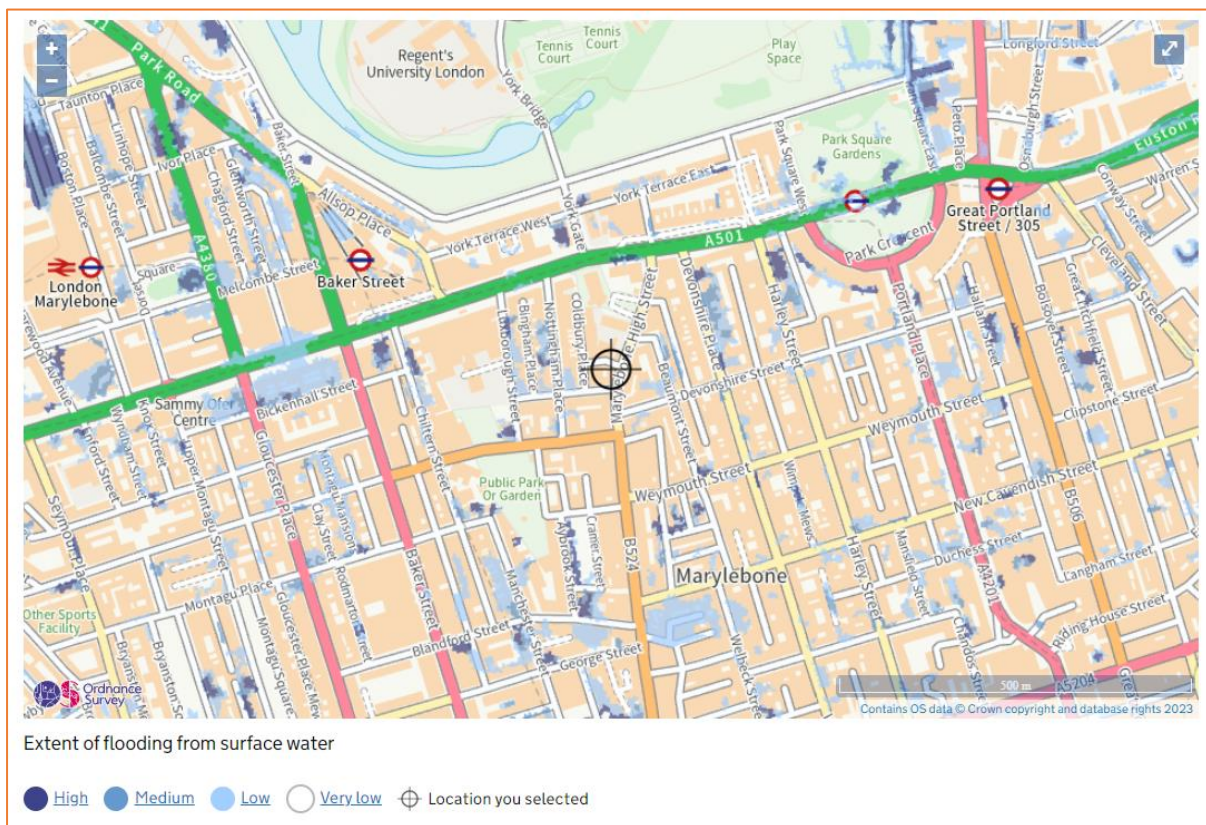


Figure 7: Extract from Environment Agency Surface Water Flood Map centred on site (Source: EA)

The EA has also produced surface water flood depth mapping for the 1 in 30 year (High Risk), 1 in 100 year (Medium Risk) and 1 in 1000 year (Low Risk) scenarios (high risk, medium risk and low risk respectively).

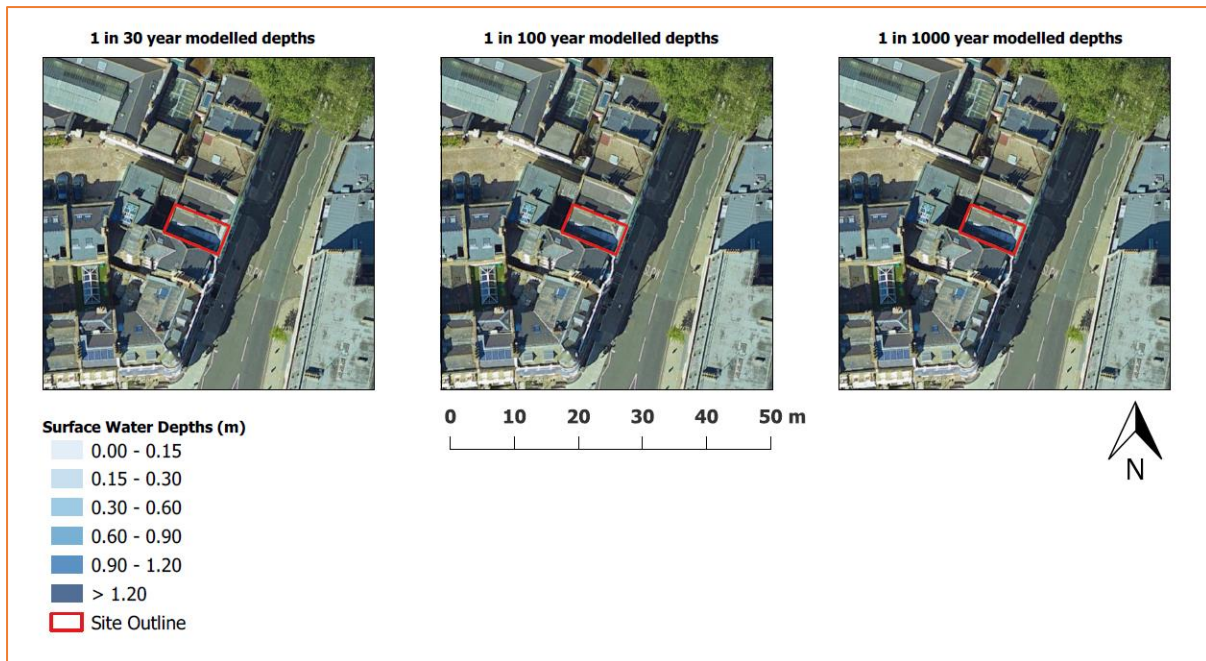


Figure 8: Environment Agency Risk of flooding from Surface Water Flood Depth Maps for High (1:30yr), Medium (1:100yr) and Low (1:1000yr) modelled events (Source: EA)

The Environment Agency risk of flooding from surface water depth maps show:

- For the 1:30 year event (High), the site and surrounding area is flood free during this event.
- For the 1:100 year event (Medium), the site and surrounding area is flood free during this event.
- For the 1:1000 year event (Low), the site and surrounding area is flood free during this event.

Therefore, there will be no loss of potential surface water storage at present day.

According to the City of Westminster Council Draft Strategic Flood Risk Assessment (SFRA) 2019, the site is not located within an area of 1% Annual Probability Surface Water Flood Risk (40% Climate Change Allowance). Therefore, the site is flood free during this event.

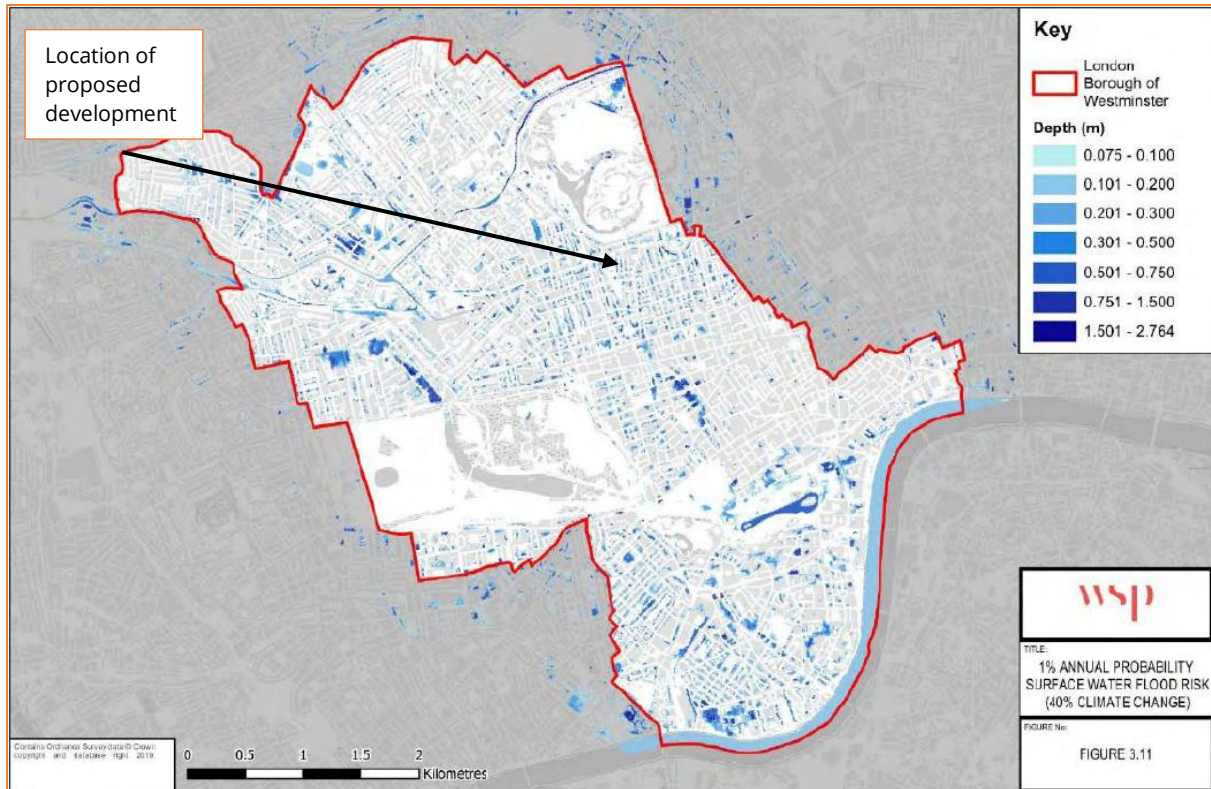


Figure 9: 1% Annual Probability Surface Water Flood Risk (40% Climate Change Allowance) map (Source: SFRA 2019)

### 5.3.1 Critical Drainage Area / Surface Water Flood Risk Hotspot:

A Critical Drainage Area (CDA) is an area that has critical drainage problems and which has been notified to the local planning authority as such by the Environment Agency in line with the National Planning Policy Framework (NPPF). In these locations, there is a need for surface water to be managed to a higher standard than normal to ensure any new development will contribute to a reduction in flooding risks in line with NPPF. These higher standards are determined by the Environment Agency.

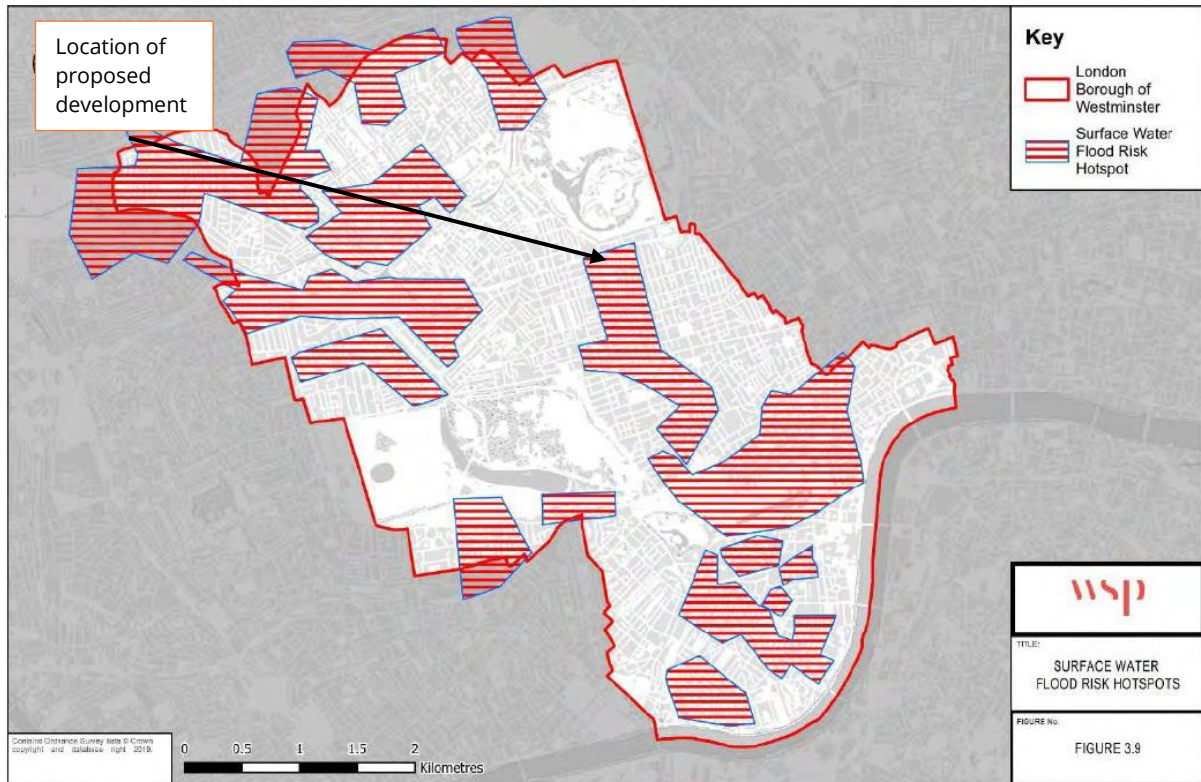


Figure 10: Surface Water Flood Risk Hotspots map (Source: SFRA 2019)

According to the Draft Surface Water Management Plan (SWMP), Drain London City of Westminster June 2011 the site is located within a Critical Drainage Area Group3\_005. In addition, according to the City of Westminster Council Draft Strategic Flood Risk Assessment (SFRA) 2019, the site is located on the edge of a Surface Water Flood Risk Hotspot.

#### 5.4 Groundwater:

Groundwater flooding occurs as a result of water rising up from the underlying rocks or from water flowing from abnormal springs. This tends to occur after much longer periods of sustained high rainfall. Higher rainfall means more water will infiltrate into the ground and cause the water table to rise above normal levels. Groundwater tends to flow from areas where the ground level is high, to areas where the ground level is low. In low-lying areas, the water table is usually at shallower depths anyway, but during very wet periods, with all the additional groundwater flowing towards these areas, the water table can rise up to the surface causing groundwater flooding.

Groundwater flooding is most likely to occur in low-lying areas underlain by permeable rocks (aquifers). These may be extensive, regional aquifers, such as chalk or sandstone, or may be localised sands or river gravels in valley bottoms underlain by less permeable rocks. Groundwater flooding takes longer to dissipate because groundwater moves much more slowly than surface water and will take time to flow away underground.

According to the EA, flooding from groundwater is unlikely in this area. No records have been provided to suggest that the site has flooded from this source previously.



No records of groundwater flooding in the vicinity of the site have been provided, and no basements are proposed as part of the development.

In addition, according to the site London Borough of City of Westminster Preliminary Flood Risk Assessment (PFRA) 2011 there are no records of Groundwater Flooding Incidents at the site or in the surrounding area.

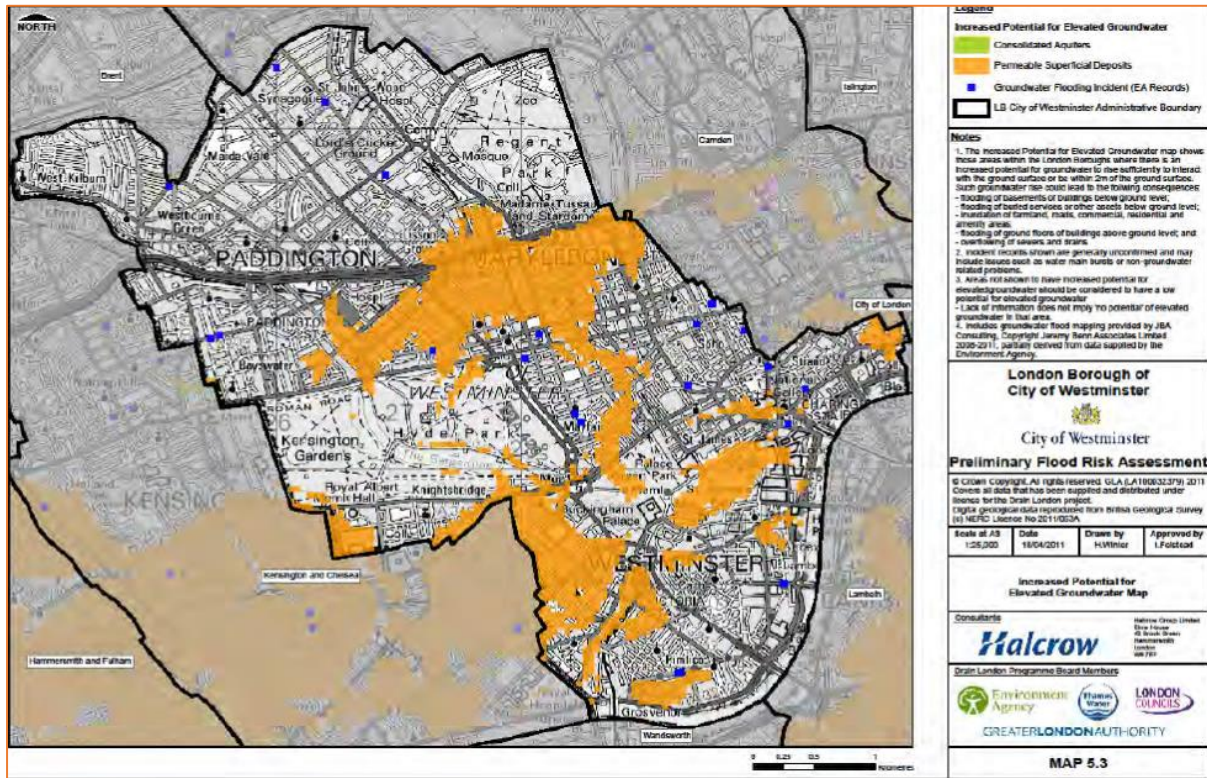


Figure 11: Increased Potential for Elevated Groundwater Map (Source: PFRA 2011)

## 5.5 Sewer Surcharge:

Sewer flooding occurs when the sewer network cannot cope with the volume of water that is entering it. It is often experienced during times of heavy rainfall when large amounts of surface water overwhelm the sewer network causing flooding. Temporary problems such as blockages, siltation, collapses and equipment or operational failures can also result in sewer flooding.

All Water Companies have a statutory obligation to maintain a register of properties/areas which have reported records of flooding from the public sewerage system, and this is shown on the DG5 Flood Register. This includes records of flooding from foul sewers, combined sewers and surface water sewers which are deemed to be public and therefore maintained by the Water Company. The DG5 register records of flood incidents resulting in both internal property flooding and external flooding incidents. Once a property is identified on the DG5 register, water companies can typically put funding in place to address the issues and hence enable the property to be removed from the register. It should be noted that flooding from land drainage, highway drainage, rivers/watercourses and private sewers is not recorded within the register.

No information has been provided to suggest that the site is susceptible to sewer surcharge flooding.

## 5.6 Other Sources:

Reservoirs with an impounded volume in excess of 25,000 cubic metres (measured above natural ground level) are governed by the Reservoirs Act and are listed on a register held by the Environment Agency. The site is outside the maximum inundation extent when there is also flooding from rivers on the EA Reservoir Inundation Map. The EA also advise on their website that reservoir flooding is extremely unlikely. There has been no loss of life in the UK from reservoir flooding since 1925. All major reservoirs have to be inspected by specialist dam and reservoir Engineers. In accordance with the Reservoirs Act 1975 in England, these inspections are monitored and enforced by the EA themselves. The risk to the site from reservoir flooding is therefore minimal and is far lower than that relating to the potential for fluvial / tidal flooding to occur. The Environment Agency Reservoir Flood Map illustrated below, illustrates the largest area that might be flooded if the storage area were to fail and release the water it is designed to hold during a flood event.

Records of flooding from reservoirs and canals are erratic as there is no requirement for the Environment Agency to provide information on historic flooding from canals and raised reservoirs on plans. In particular, the NPPF does not require flood risk from canals and raised reservoirs to be shown on the Environment Agency flood zones.

Overflows from canals can be common as they are often fed by land drainage, and often do not have controlled overflow spillways. Occasionally, major bank breaches also occur, leading to rapid and deep flooding of adjacent land.

## 6. Flood Risk Management

### 6.1 Vulnerability to flooding:

The NPPF classifies property usage by vulnerability to flooding.

Both the existing site usage and the proposed site usage are classified as "less vulnerable" to flooding, under the NPPF.

Accordingly, it is considered that the vulnerability of the site as a whole has not increased post development.

There will be no introduction of additional units or business at the site.

### 6.2 EA Standing Advice:

The EA Standing Advice guidance is for domestic extensions and non-domestic extensions where the additional footprint created by the development does not exceed 250m<sup>2</sup>. It should not be applied if an additional dwelling is being created, e.g. a self-contained annexe or additional commercial unit.

No increase in built foot print, new basements, lowering of floor levels or increase in vulnerability is proposed. In addition, no additional units or businesses at the site are proposed.

Therefore, the proposed development is considered to fit within the EA's standing advice for non-domestic extensions.

### 6.3 Physical Design Measures:

The City of Westminster Council Draft Strategic Flood Risk Assessment (SFRA) 2019, the site is located on the edge of a Surface Water Flood Risk Hotspot.

The site is located within Flood Zone 1 and at "Very low" risk from surface water flooding. However, the site is located on the edge of a Surface Water Flood Risk Hotspot according to the City of Westminster Council Draft Strategic Flood Risk Assessment (SFRA) 2019. In line with the SFRA guidance 'any development proposals within an area shown to be at risk by any of the surface water modelling studies, should include details of how this risk will be managed over the lifetime of the development'.

However, given the proposed application is for the installation of an air-condition unit in an external enclosed area to the rear of 69 Marylebone High Street (no lowering of floor levels or increase in vulnerability) no additional physical design measures are proposed.

## 6.4 Safe Escape and Flood Action Plan:

The NPPF requires a route of safe escape for all residents and users to be provided from new residential properties in Flood Zone 3. Safe escape is usually defined as being through slow moving flood water no deeper than 25cm.

However, it should be noted that the proposed application is for the installation of an air-condition unit in an external enclosed ground floor area to the rear of 69 Marylebone High Street. No additional or new units or business will be created as part of the development. Safe escape is not a requirement under the EA Standing Advice guidance is for non-domestic extensions.

## 6.5 Flood Warning:

The EA is responsible for issuing flood warnings. Flood warnings are issued to the emergency services and local authorities. Both private individuals and organisations can sign-up to receive warnings via phone, text or email. This system of receiving warnings is currently voluntary.

Advice regarding severe flood warnings will generally be given during weather forecasts on local radio and TV. In the case of extreme events, warnings can also be disseminated via door to door visits by the police or locally appointed flood wardens.

The site lies outside an Environment Agency Flood Warning/ Alert Area.

## 6.6 Off-Site Impacts:

### 6.6.1 Fluvial floodplain storage:

The NPPF requires that where development is proposed in undefended areas of floodplain, which lie outside of the functional floodplain, the implications of ground raising operations for flood risk elsewhere needs to be considered. Raising existing ground levels may reduce the capacity of the floodplain to accommodate floodwater and increase the risk of flooding by either increasing the depth of flooding to existing properties at risk or by extending the floodplain to cover properties normally outside of the floodplain. Flood storage capacity can be maintained by lowering ground levels either within the curtilage of the development or elsewhere in the floodplain, in order to maintain at least the same volume of flood storage capacity within the floodplain.

In undefended tidal areas, raising ground levels is unlikely to impact on maximum tidal levels so the provision of compensatory storage should not be necessary.

For development in a defended flood risk area, the impact on residual flood risk to other properties needs to be considered. New development behind flood defences can increase the residual risk of flooding if the flood defences are breached or overtopped by changing the conveyance of the flow paths or by displacing flood water elsewhere. If the potential impact on residual risk is unacceptable then mitigation should be provided.

The site is situated in Flood Zone 1 when using the Environment Agency Flood Map for Planning (Rivers and Sea) and lies in an area at "Very Low" to risk from surface water flooding, therefore there will be no unacceptable loss of floodplain storage.

### **6.6.2 Surface Water Drainage:**

The development will utilise Sustainable drainage systems (SuDS) design in accordance with the NPPF for Planning Applications and the drainage hierarchy as follows:

1. Store rainwater for later use;
2. Infiltration techniques;
3. Attenuate rainwater by storing in tanks for gradual release;
4. Discharge rainwater direct into watercourse;
5. Discharge rainwater into surface water sewer;
6. Discharge rainwater into a combined sewer;

Due to the small scale of the development, a full Surface Water Drainage Strategy is not required at this stage of planning.

It is understood that there will be no increase in impermeable surfacing post development. As such, there will be no need for additional surface water drainage features. The proposed development will utilise the existing drainage arrangements on site.

## 7. Sequential and Exception Test

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.

The Sequential Test is applied to developments in areas identified as being at risk of any source of flooding now or in the future. The Sequential Test ensures that a sequential, risk-based approach is followed to steer new development to areas with the lowest risk of flooding, taking all sources of flood risk and climate change into account.

The sequential approach is designed to ensure that areas at little or no risk of flooding from any source are developed in preference to areas at higher risk. This means avoiding, so far as possible, development in current and future medium and high flood risk areas considering all sources of flooding including areas at risk of surface water flooding. Other forms of flooding need to be treated consistently with river and tidal flooding in mapping probability and assessing vulnerability, so that the sequential approach can be applied across all areas of flood risk.

The site is situated within Flood Zone 1 when using the Environment Agency Flood Map for Planning (Rivers and Sea) and lies in an area at “Very Low” to risk from surface water flooding. Post development, the site will remain “less vulnerable”, as the application is for the installation of an air-condition unit.

As such, there will be no increase in vulnerability post development.

Flood Zones	Flood Risk Vulnerability Classification				
	Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
<b>Zone 1</b>	✓	✓	✓	✓	✓
<b>Zone 2</b>	✓	Exception Test required	✓	✓	✓
<b>Zone 3a</b>	Exception Test required	✗	Exception Test required	✓	✓
<b>Zone 3b</b>	Exception Test required	✗	✗	✗	✓

Table 3: Flood risk vulnerability and flood zone ‘compatibility’

Using the table above, the proposed application is considered to be suitable within Flood Zone 1. The Sequential and Exception Tests do not need to be applied to minor developments and changes of use (this application is for ‘minor development’ – a non-domestic extension).

## 8. Discussion and Conclusions

Unda Consulting Limited have been appointed by Ganni LTD to undertake a Flood Risk Assessment for the proposed development at 69 Marylebone High Street, London W1U 5JJ. The FRA has been undertaken in accordance with the National Planning Policy Framework (NPPF) and the associated technical guidance.

Both the existing site usage and the proposed site usage are classified as "less vulnerable" to flooding, under the NPPF. Accordingly, it is considered that the vulnerability of the site as a whole has not increased post development. No increase in builtfoot print, new basements, lowering of floor levels or increase in vulnerability is proposed. In addition, no additional units or businesses at the site are proposed.

The site is located within Flood Zone 1 (Low Probability), which means it is defined as land having a less than 1 in 1000 annual probability of fluvial or tidal flooding. The site is not located within a dry Island.

The site is not located within the Maximum Tidal Breach Flood Extent 2100.

According to the EA, there are no flood storage areas located within close proximity to the site and the site is not located within a functional floodplain.

The EA have no records of historical fluvial or tidal flooding having affected the site.

The EA Risk of Flooding from Surface Water Map suggests that the site lies in an area at "Very Low" to risk from surface water.

The Environment Agency risk of flooding from surface water depth maps show:

- For the 1:30 year event (High), the site and surrounding area is flood free during this event.
- For the 1:100 year event (Medium), the site and surrounding area is flood free during this event.
- For the 1:1000 year event (Low), the site and surrounding area is flood free during this event.

Therefore, there will be no loss of potential surface water storage at present day.

According to the City of Westminster Council Draft Strategic Flood Risk Assessment (SFRA) 2019, the site is flood free during a 1% Annual Probability Surface Water Flood Risk (40% Climate Change Allowance) event.

According to the Draft Surface Water Management Plan (SWMP), Drain London City of Westminster June 2011 the site is located within a Critical Drainage Area Group3\_005. In addition, according to the City of Westminster Council Draft Strategic Flood Risk Assessment (SFRA) 2019, the site is located on the edge of a Surface Water Flood Risk Hotspot.

According to the EA, flooding from groundwater is unlikely in this area. No records have been provided to suggest that the site has flooded from this source previously. No records of groundwater flooding in the vicinity of the site have been provided, and no basements are proposed as part of the development.

No information has been provided to suggest that the site is susceptible to sewer surcharge or reservoir flooding.

Safe escape is not a requirement under the EA Standing Advice guidance is for non-domestic extensions.

The City of Westminster Council Draft Strategic Flood Risk Assessment (SFRA) 2019, the site is located on the edge of a Surface Water Flood Risk Hotspot. The site is located within Flood Zone 1 and at "Very low" risk from surface water flooding. However, the site is located on the edge of a Surface Water Flood Risk Hotspot according to the City of Westminster Council Draft Strategic Flood Risk Assessment (SFRA) 2019. In line with the SFRA guidance 'any development proposals within an area shown to be at risk by any of the surface water modelling studies, should include details of how this risk will be managed over the lifetime of the development'. However, given the proposed application is for the installation of an air-condition unit in an external enclosed area to the rear of 69 Marylebone High Street (no lowering of floor levels or increase in vulnerability) no additional physical design measures are proposed.

Due to the small scale of the development, a full Surface Water Drainage Strategy is not required at this stage of planning. It is understood that there will be no increase in impermeable surfacing post development. As such, there will be no need for additional surface water drainage features. The proposed development will utilise the existing drainage arrangements on site.

**The applicant has confirmed that:**

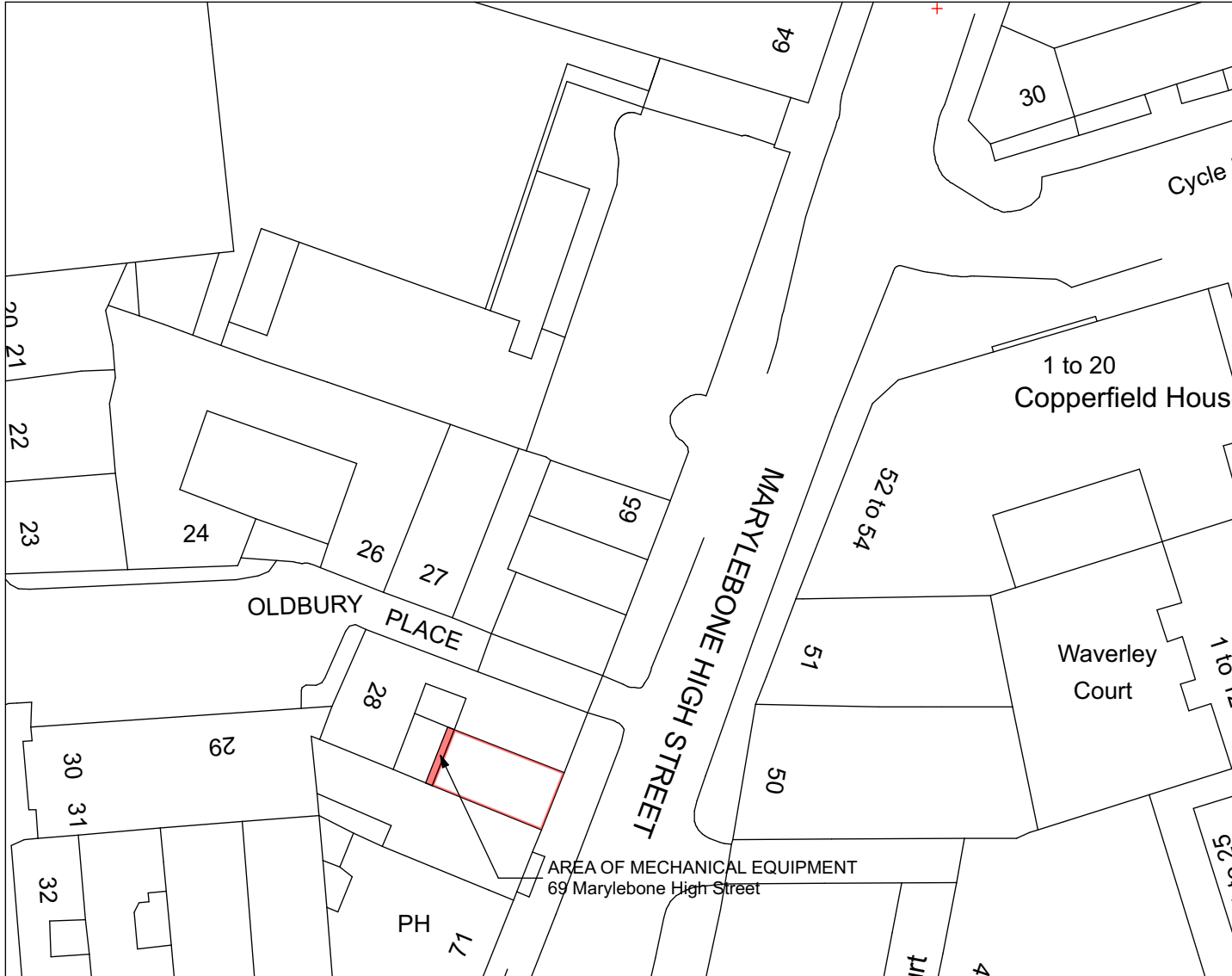
- The proposed application is for the Installation of an air-condition unit.
- No increase in impermeable areas, new basements, lowering of floor levels or increase in vulnerability is proposed.
- No additional units or businesses at the site are proposed.
- The proposed development fits within EA standing advice for non-domestic extensions.
- No unacceptable loss of floodplain storage.
- Due to the scale of the development, a full Surface Water Drainage Strategy is not required at this stage of planning.

**Assuming accordance with these flood risk management measures, UNDA Consulting Ltd consider the proposed application to pose no flood risk and therefore is suitable in flood risk terms.**

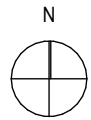


## Appendix

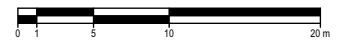
- Site location, existing and proposed plans
- EA Flood Map for Planning



**SITE PLAN**  
Scale 1:500 @ A4



**SCALE:**



Notes:  
All copyrights retained.  
All information remains the property of Gregori | Chiarotti Projects Ltd. and may not be used for any purpose whatsoever, or reproduced through any medium without the written consent of Gregori | Chiarotti Projects Ltd.  
No responsibility is accepted for unauthorised use.  
**All information is subject to statutory consents, rights of light and survey.**  
**Do not scale from drawings - Use figured dimensions only and verify on site.**

Rev.	Date	Dwn.	Description

<p>Gregori   Chiarotti</p>	
----------------------------	--

Gregori | Chiarotti Projects  
United House North Road London N7 9DP  
Telephone +44 (0)20 7619 0522  
Facsimile +44 (0)20 7619 0532  
e-mail go@gregori-chiarotti.com

Client:

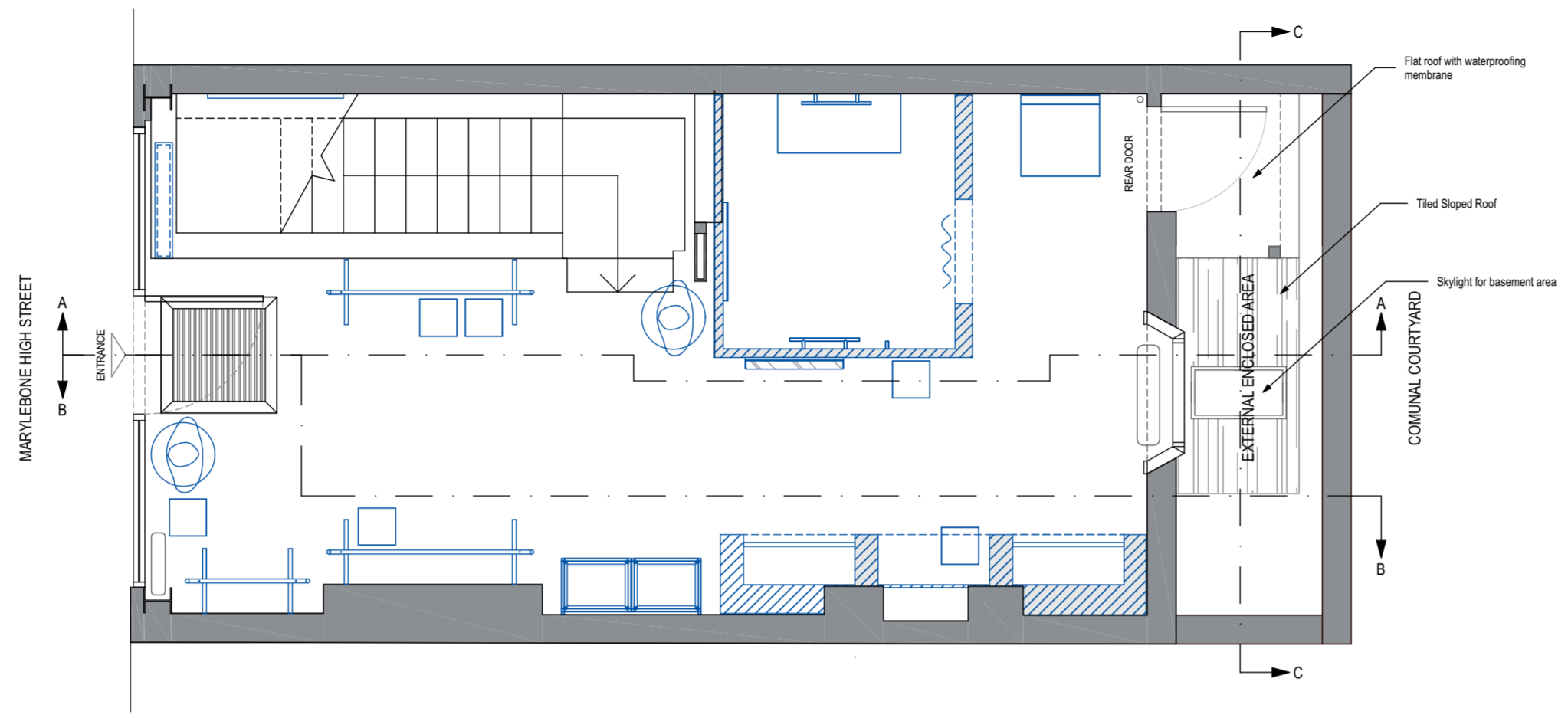
# GANNI

Project:  
**GANNI**  
69 Marylebone High Street  
London  
W1U 5JJ

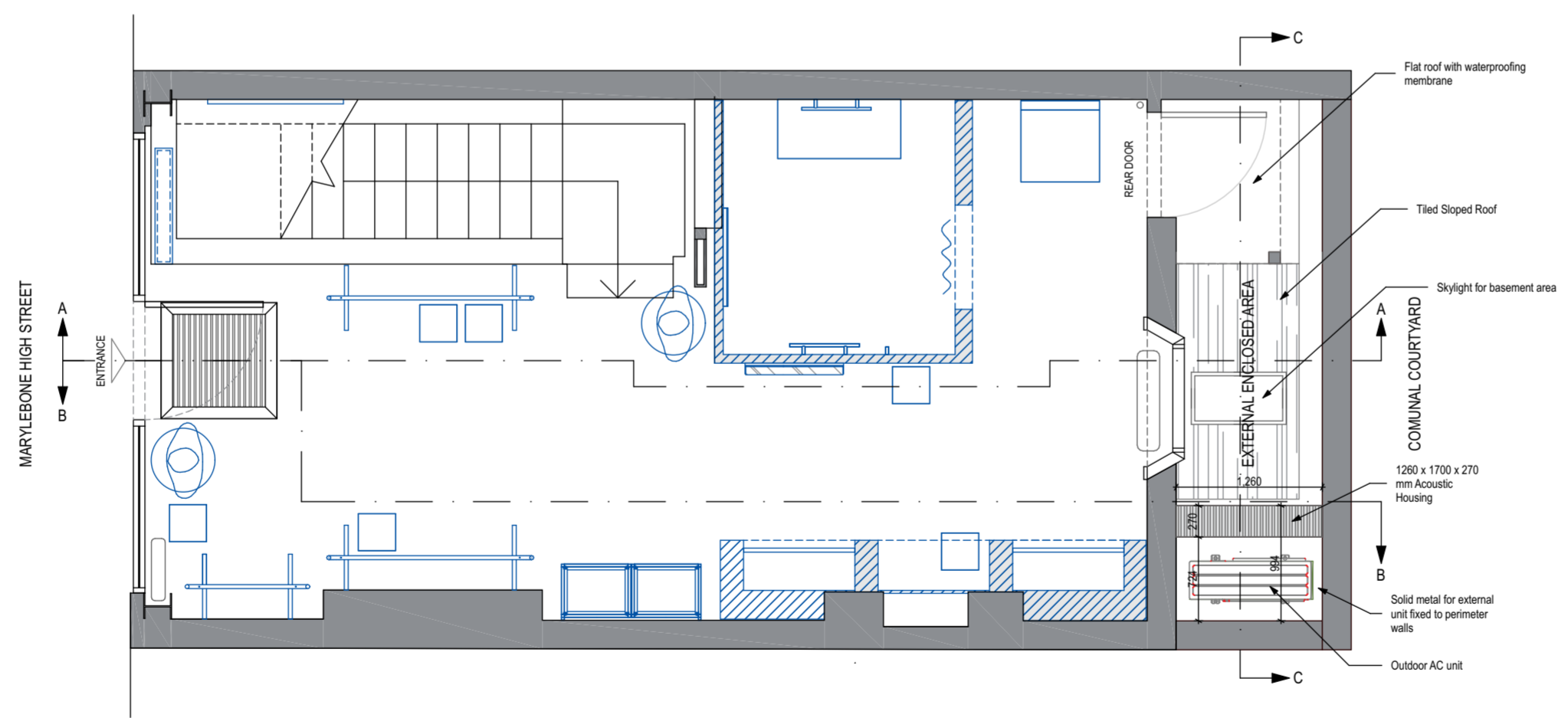
Status: **FOR APPROVAL**

Drawing:  
**Site Plan**

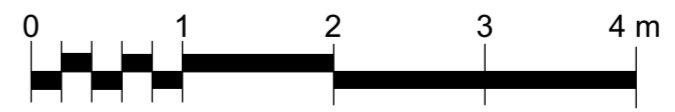
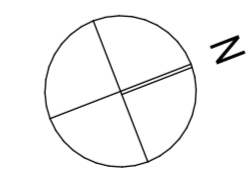
Scales(s): <b>1:500 @ A4</b>	Date: <b>26/08/2023</b>	Dwn by: <b>mv</b>	Chd by: <b>pc</b>
Project No: <b>2317</b>	Drawing No: <b>0500</b>	Revision:	



**EXISTING GROUND FLOOR PLAN**  
scale 1:25@A1, 1:50@A3



**PROPOSED GROUND FLOOR PLAN**  
scale 1:25@A1, 1:50@A3



scale 1:50

Notes:  
All copyrights retained.  
All information remains the property of Gregori\_Chiarotti Projects Ltd. and may not be used for any purpose whatsoever, or reproduced through any medium without the written consent of Gregori\_Chiarotti Projects Ltd. No responsibility is accepted for unauthorised use.  
All information is subject to statutory consents, rights of light and survey.  
Do not scale from drawings - Use figured dimensions only and verify on site.

Rev.	Date	Dwn.	Description
------	------	------	-------------

Rev.	Date	Dwn.	Description

Gregori | Chiarotti

Gregori | Chiarotti Projects  
United House North Road London N7 9DP  
Telephone +44 (0)20 7619 0522  
Facsimile +44 (0)20 7619 0532  
e-mail gc@gregori-chiarotti.com

Client:  
**GANNI**

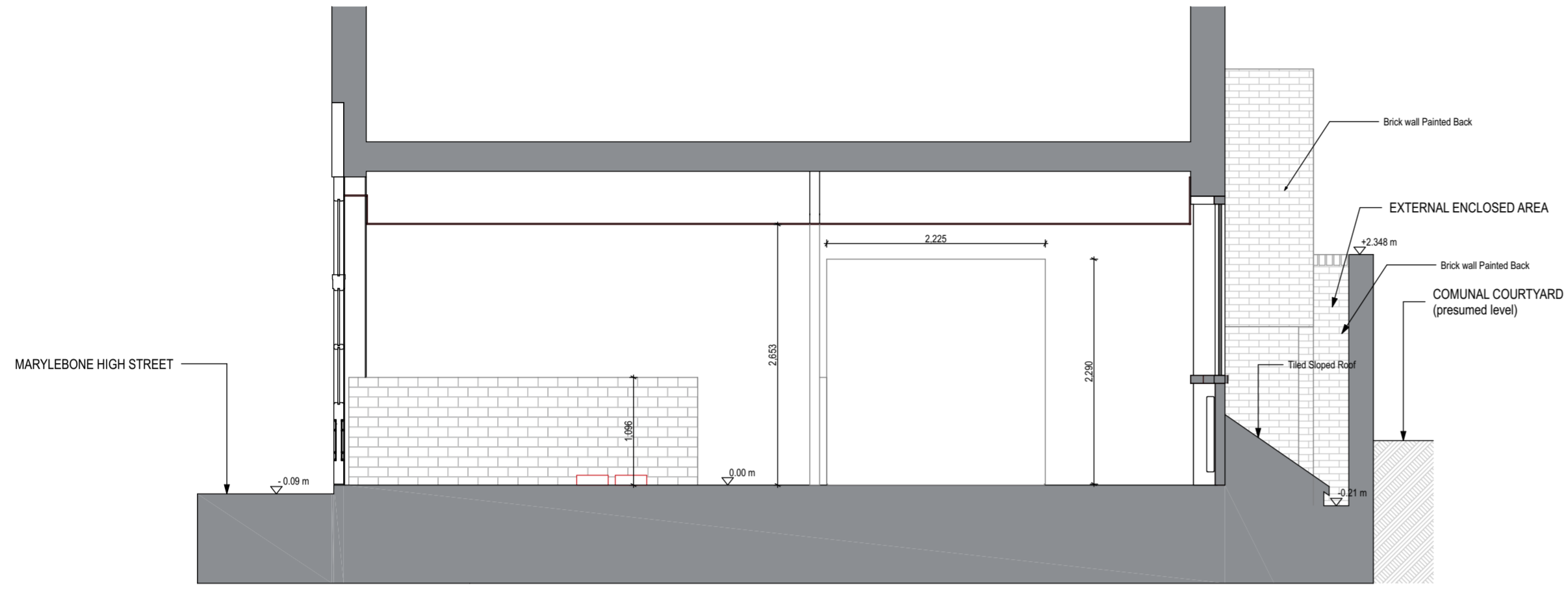
Project:  
GANNI  
69 Marylebone High Street  
London  
W1U 5JU

Status:  
**FOR APPROVAL**

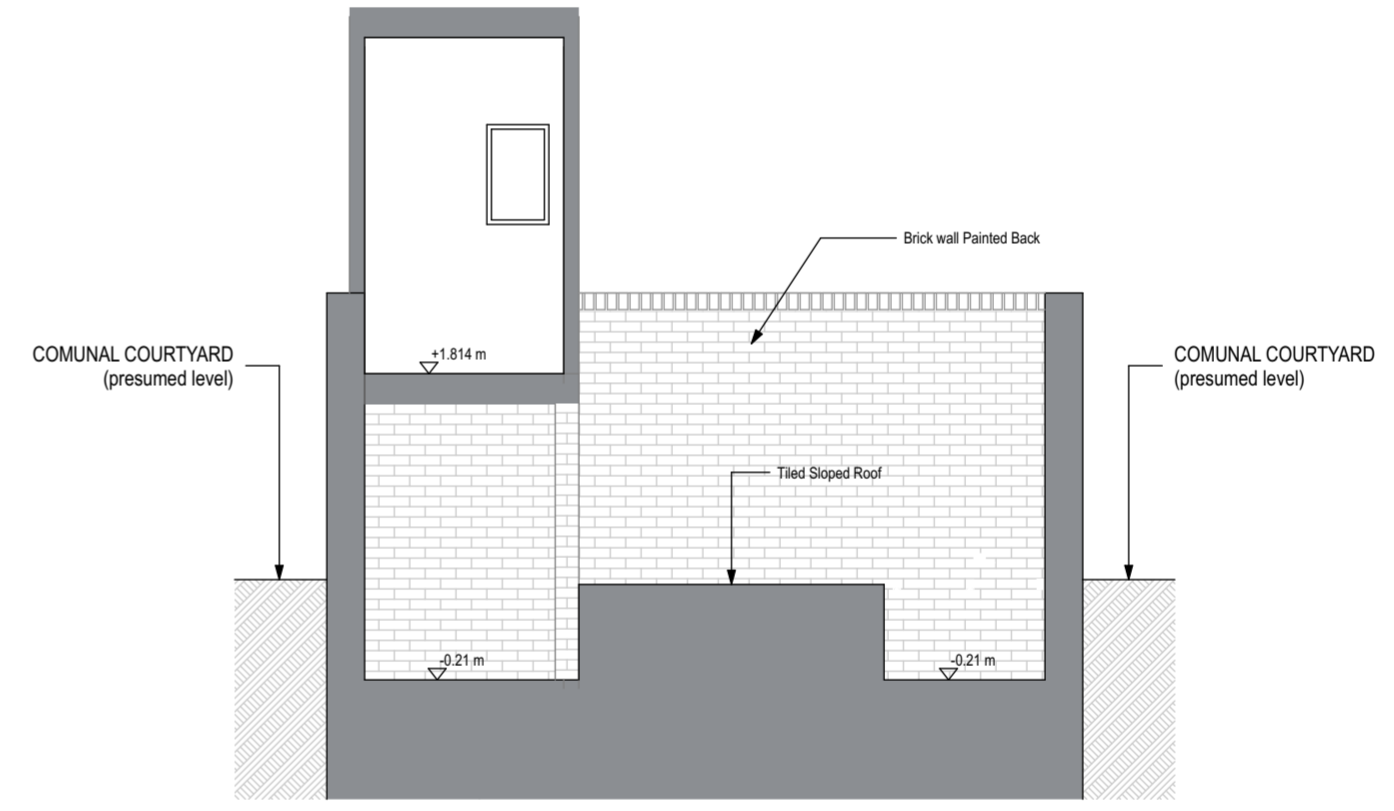
Drawing:  
Existing and Proposed Ground Floor Plan

Scale(s): 1:50 @ A2  
Date: 29/08/2023  
Dwn by: mv  
Chd by: pc

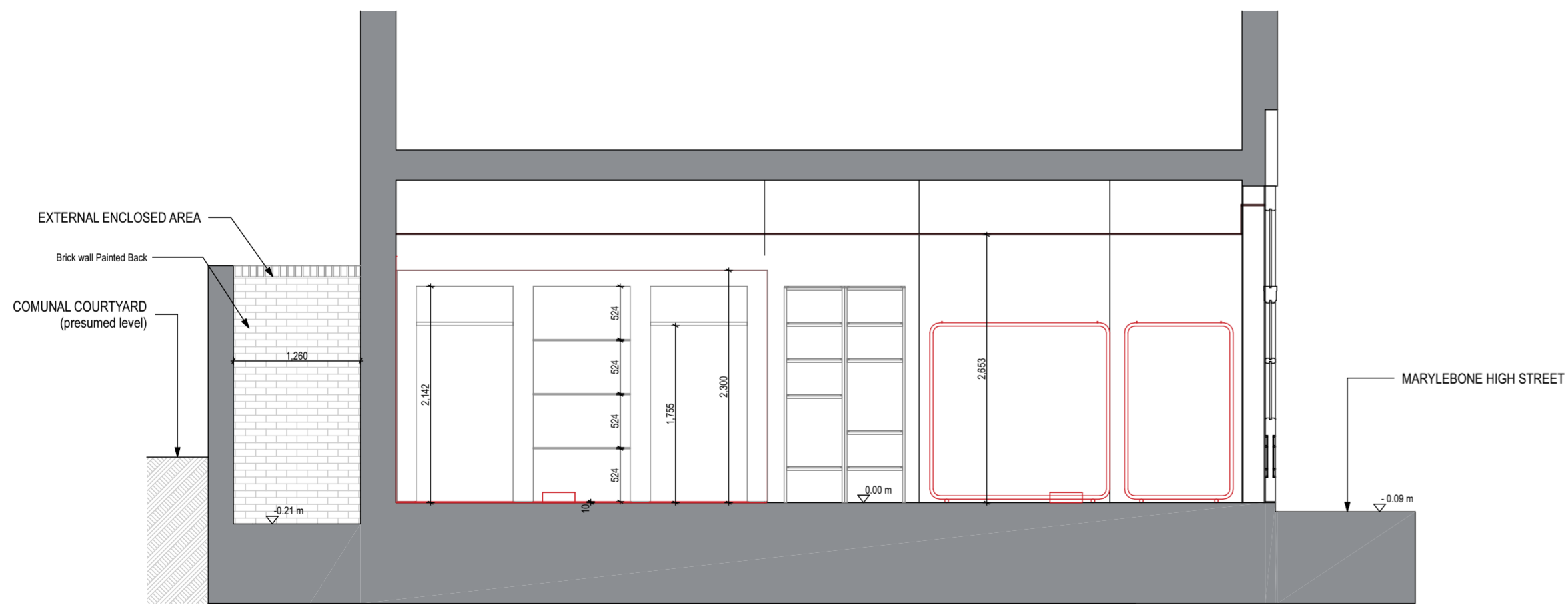
Project No: 2317  
Drawing No: 1100  
Revision:



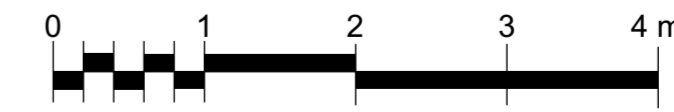
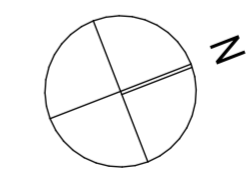
EXISTING SECTION A-A  
scale 1:50@A2, 1:100@A4



EXISTING SECTION C-C  
scale 1:50@A2, 1:100@A4



EXISTING SECTION B-B  
scale 1:50@A2, 1:100@A4



scale 1:50

Notes:  
All copyrights retained.  
All information remains the property of Gregori\_Chiarotti Projects Ltd. and may not be used for any purpose whatsoever, or reproduced through any medium without the written consent of Gregori\_Chiarotti Projects Ltd. No responsibility is accepted for unauthorised use.  
All information is subject to statutory consents, rights of light and survey.  
Do not scale from drawings - Use figured dimensions only and verify on site.

Rev.	Date	Dwn.	Description
------	------	------	-------------

Gregori   Chiarotti	
---------------------	--

Gregori | Chiarotti Projects  
United House North Road London N7 9DP  
Telephone +44 (0)20 7619 0522  
Facsimile +44 (0)20 7619 0532  
e-mail gc@gregori-chiarotti.com

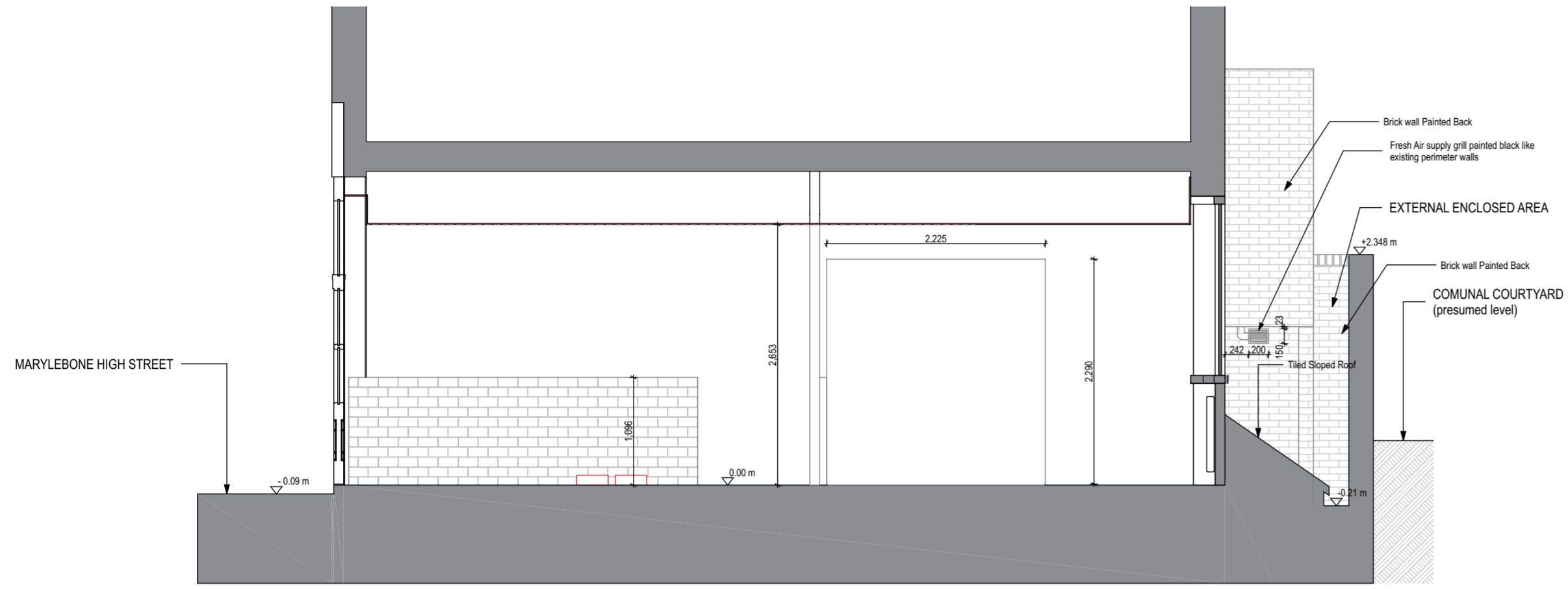
Client:  
**GANNI**

Project:  
GANNI  
69 Marylebone High Street  
London  
W1U 5JJ

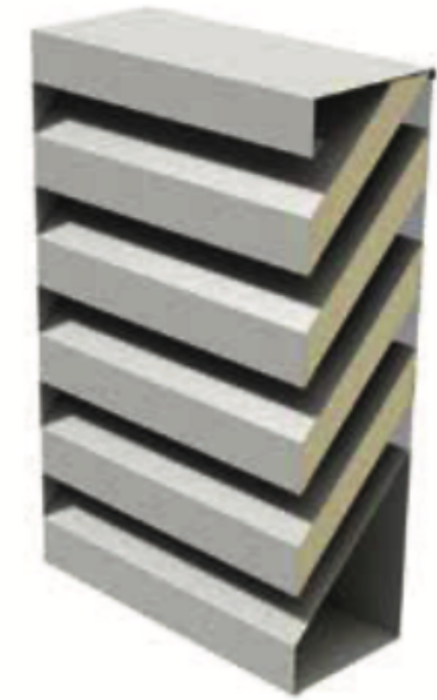
Status:  
**FOR APPROVAL**

Drawing:  
Existing Sections A-A, B-B and C-C

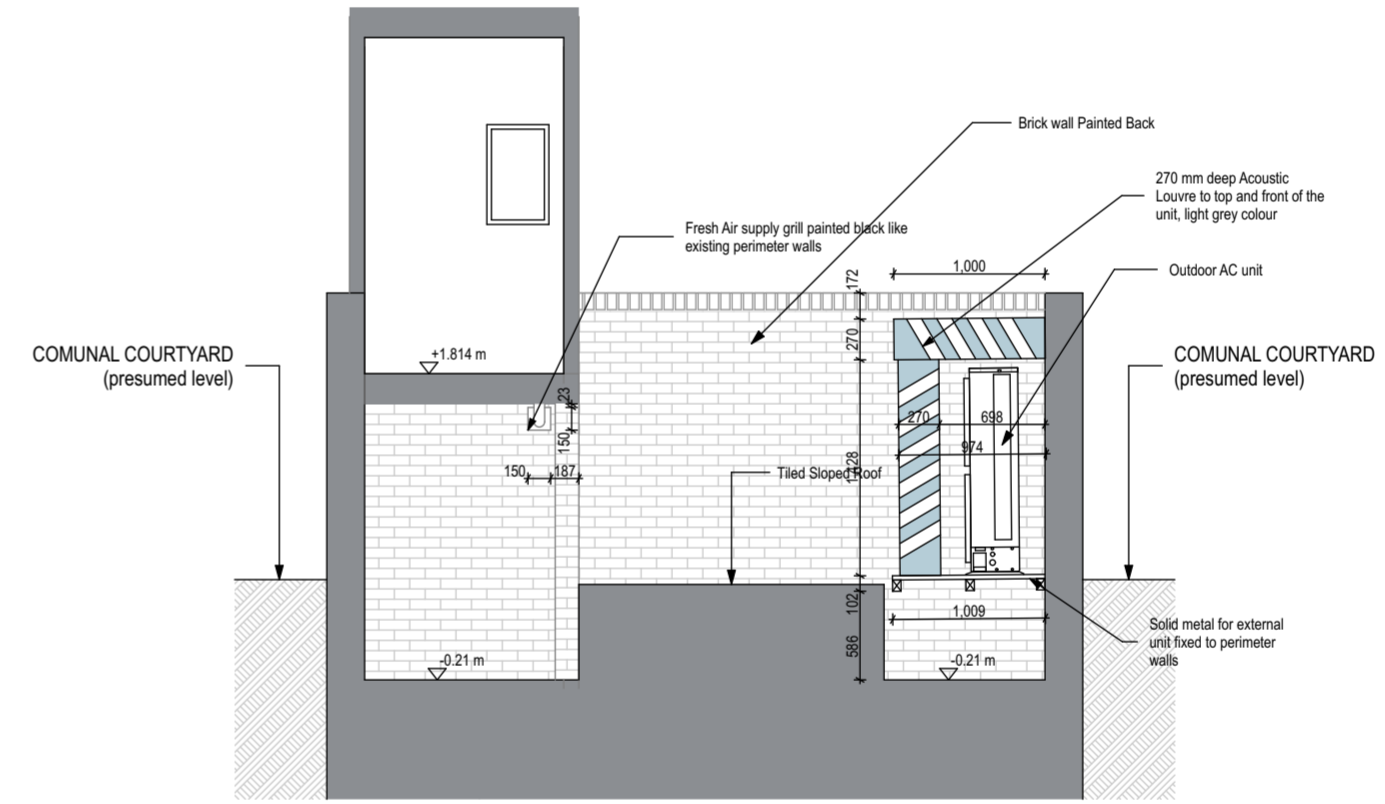
Scale(s): 1:50 @A2	Date: 29/08/2023	Dwn by: mv	Chd by: pc
Project No: 2317	Drawing No: 1200	Revision:	



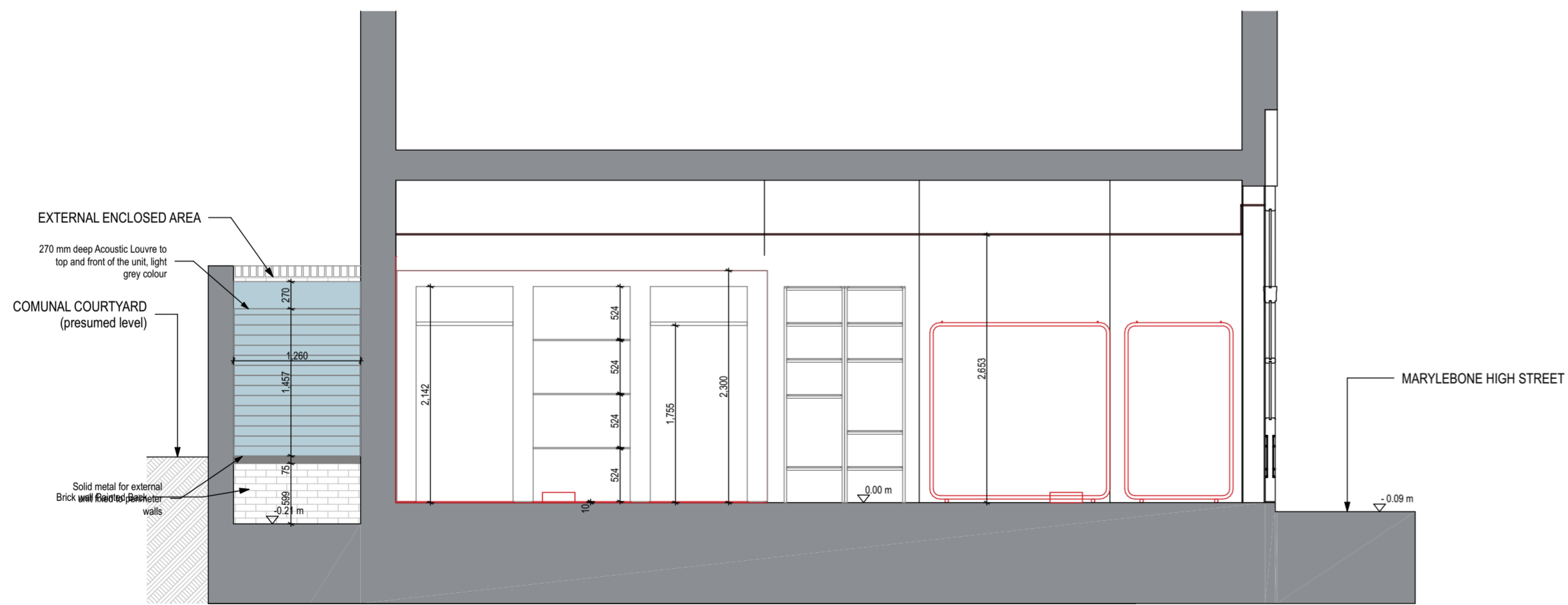
PROPOSED SECTION A-A  
scale 1:50@A1, 1:100@A3



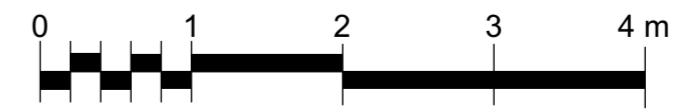
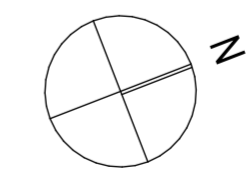
EXAMPLE OF ACOUSTIC LOUVRE  
scale NIS



PROPOSED SECTION C-C  
scale 1:50@A1, 1:100@A3



PROPOSED SECTION B-B  
scale 1:50@A1, 1:100@A3



scale 1:50

Notes:  
All copyrights retained.  
All information remains the property of Gregori\_Chiarotti Projects Ltd. and may not be used for any purpose whatsoever, or reproduced through any medium without the written consent of Gregori\_Chiarotti Projects Ltd. No responsibility is accepted for unauthorised use.  
All information is subject to statutory consents, rights of light and survey.  
Do not scale from drawings - Use figured dimensions only and verify on site.

Rev.	Date	Dwn.	Description

Gregori | Chiarotti

Gregori | Chiarotti Projects  
United House North Road London N7 9DP  
Telephone +44 (0)20 7619 0522  
Facsimile +44 (0)20 7619 0532  
e-mail gc@gregori-chiarotti.com

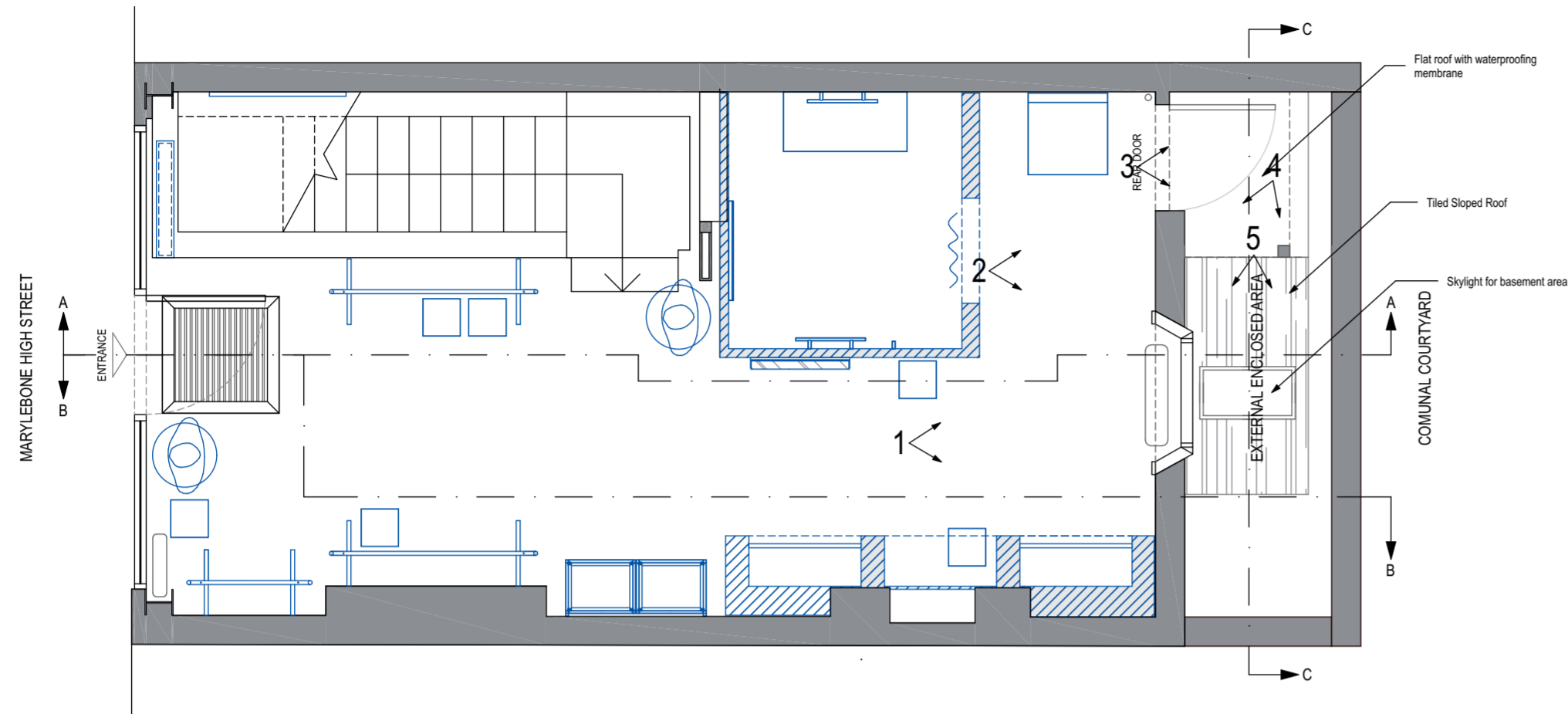
Client:  
**GANNI**

Project:  
GANNI  
69 Marylebone High Street  
London  
W1U 5JJ

Status:  
**FOR APPROVAL**

Drawing:  
Proposed Sections A-A, B-B and C-C

Scales:  
1:50 @ A2  
Date:  
29/08/2023  
Dwn by:  
mv  
Chd by:  
pc  
Project No:  
2317  
Drawing No:  
1300  
Revision:



EXISTING GROUND FLOOR PLAN  
scale 1:25@A1, 1:50@A3



PHOTO VIEW 1  
scale NIS



PHOTO VIEW 2  
scale NIS



PHOTO VIEW 3  
scale NIS



PHOTO VIEW 4  
scale NIS



PHOTO VIEW 5  
scale NIS

Notes:  
All copyrights retained.  
All information remains the property of Gregori\_Chiarotti Projects Ltd. and may not be used for any purpose whatsoever, or reproduced through any medium without the written consent of Gregori\_Chiarotti Projects Ltd. No responsibility is accepted for unauthorised use.  
All information is subject to statutory consents, rights of light and survey.  
Do not scale from drawings - Use figured dimensions only and verify on site.

Rev.	Date	Dwn.	Description

Rev.	Date	Dwn.	Description

Gregori | Chiarotti

Gregori | Chiarotti Projects  
United House North Road London N7 9DP  
Telephone +44 (0)20 7619 0522  
Facsimile +44 (0)20 7619 0532  
e-mail gc@gregori-chiarotti.com

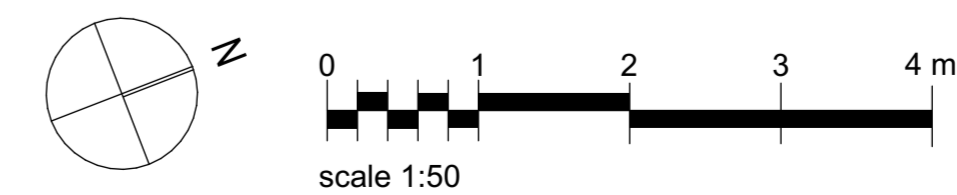
Client:  
**GANNI**

Project:  
GANNI  
69 Marylebone High Street  
London  
W1U 5JU

Status:  
**FOR APPROVAL**

Drawing:  
Existing Site Photos

Scale(s): 1:50 @ A2	Date: 29/08/2023	Dwn by: mv	Chd by: pc
Project No: 2317	Drawing No: 1400	Revision:	



# Flood map for planning

Your reference  
<Unspecified>

Location (easting/northing)  
528308/181917

Created  
9 Oct 2023 11:09

**Your selected location is in flood zone 1, an area with a low probability of flooding.**

You will need to do a flood risk assessment if your site is **any of the following**:

- bigger than 1 hectare (ha)
- In an area with critical drainage problems as notified by the Environment Agency
- identified as being at increased flood risk in future by the local authority's strategic flood risk assessment
- at risk from other sources of flooding (such as surface water or reservoirs) and its development would increase the vulnerability of its use (such as constructing an office on an undeveloped site or converting a shop to a dwelling)

## Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

Flood risk data is covered by the Open Government Licence **which** sets out the terms and conditions for using government data. <https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/>

Use of the address and mapping data is subject to Ordnance Survey public viewing terms under Crown copyright and database rights 2022 OS 100024198. <https://flood-map-for-planning.service.gov.uk/os-terms>







## Flood map for planning

Your reference  
**<Unspecified>**

Location (easting/northing)  
**528308/181917**

Scale  
**1:2500**

Created  
**9 Oct 2023 11:09**

-  Selected area
-  Flood zone 3
-  Flood zone 2
-  Flood zone 1
-  Flood defence
-  Main river
-  Water storage area

