

FloodSmart BIA



Basement Impact Assessment

Site Address

13 Bedford Road
London
N22 7AU

Grid Reference

530194, 190470

Report Prepared for

Adelfia Properties Limited

Report Date

2023-06-20

Date Updated

2024-02-14

Report Status

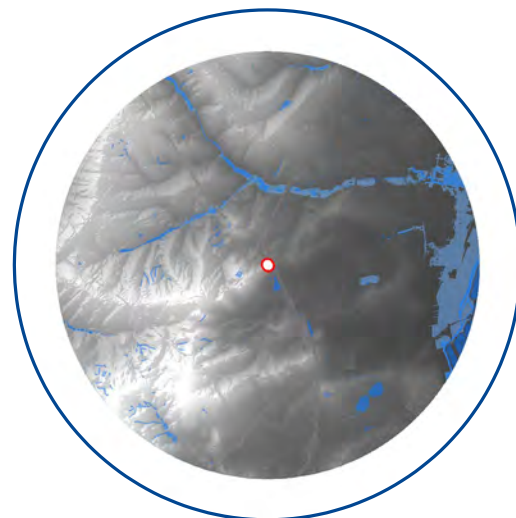
FINAL

Site Area

0.04 ha

Report Reference

79540.02.01R1



RISK – Very Low to Low

The proposed basement is located within the London Clay and is unlikely to interact with a significant groundwater system. The risk of the proposed basement to impact on surface water or groundwater flows and any related flooding is considered to be Very Low to Low. Flood resilient measures should however be incorporated into the basement design including tanking of the walls and floors, to prevent water ingress and to reduce flood damage should flooding occur.

Implementation of SuDS features as per the recommendations in the SuDSmart report (ref: 79540.03.01) should be undertaken at the Site.

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1. Executive summary



Site analysis

Flood risks and impacts	Baseline*	After Mitigation **
Groundwater flooding	Negligible (surface) / Low (below ground)	Low
Surface water flooding	Very Low	Very Low

*BASELINE risks have been calculated for the whole Site, using national risk maps, including the benefit of EA flood defences. Note that the risks presented in the baseline mapping are applicable to surface development only, whereas the risks presented within the table are applicable to the proposed subterranean development and therefore may be higher.

**FINAL RISK RATING Includes a detailed analyses of flooding risks over the lifetime of the proposed development, including allowances for climate change AND assumes recommended mitigation measures are implemented.

Summary of existing and proposed development

The Site is currently used within a commercial capacity as a garage and MOT centre, with associated car parking area. Access to the Site is possible via Bedford Road.

Development proposals comprise the demolition of the existing building and the construction of a five storey building with basement level, as well as paved pathways surrounding the building. The ground floor will comprise retail units, bike store and refuse store, whilst the first to fourth floors will comprise residential apartments. Site plans are included within Appendix A.

The basement level is proposed to be used for non-habitable use, comprising of services and a plant room. According to information provided by the Client the finished floor levels of the proposed basement are to be 3.00 m bgl (c. 45.34 mAOD). The depth of the foundations is unknown, but for the purpose of this assessment, they are assumed to be ~0.5 m. Access to the basement will be via a set of internal stairs and a lift with no external access. Site plans are included within Appendix A.

Summary of groundwater flood risks

The Site setting is summarised as follows:

- BGS 1:50,000 mapping indicates that there are no underlying superficial deposits, and the bedrock geology comprises London Clay, which is classified as Unproductive Strata. The London and Thames Valley Model indicates the geology underlying the Site comprises; London Clay Formation to a depth of 52 m bgl, Lambeth Group to a depth of 64 m bgl; Thanet Formation to a depth of 73 m bgl and the Chalk Group, which reaches a depth of 279 m bgl. The Chalk Group is a Principal Aquifer which is

likely to contain significant groundwater; however, this groundwater is at such a significant depth that the risk to the Site from the chalk aquifer is negligible.

- There are no nearby BGS borehole records from which the underlying groundwater depth can be inferred. The closest borehole to the Site (ref: TQ39SW264) was drilled as an abstraction borehole, located c. 300 m to the south east. The associated log recorded a rest water level of 51.64 m bgl within the Thanet Sands strata, significantly beneath the proposed basement and overlain by low permeable London Clay restricting vertical migration of groundwater.
- The New River is located c. 270 m south east of the Site at an approximate elevation of 30.77 mAOD compared with a minimum ground elevation on-Site of 48.34 mAOD. Given that ground levels fall towards the surface water feature as well as the absence of any superficial geologies and the underlying conditions being low permeability there is unlikely to be a hydraulic connection to the Site from the waterbodies.
- The Risk of Flooding from Surface Water (RoFSW) mapping shows the Site to be at Very Low risk of pluvial flooding. Flooding of up to 0.3 m is modelled approximately 45 m north of the Site and is therefore unlikely to affect the proposed development.
 - It is noted that the surface water flood risk mapping indicates the risk to the development at the surface. The proposed basement reflects an excavation however, as no ingress points can be identified at ground floor level, the risk of ponding/ collection of interflows can also be considered Very Low.

The sources reviewed, including BGS mapping and BGS borehole data (no site specific ground investigation has been undertaken) suggests that the Site is underlain by London Clay bedrock which is unlikely to contain significant groundwater. Groundwater seepage from isolated permeable horizons within the London Clay or Made Ground may be encountered and while this should be monitored, it is unlikely there will be significant flow.

Based on this information the proposed lower ground floor is unlikely to interact with the groundwater system and is also unlikely to be affected by surface water flooding.

Recommendations / Next steps

Recommendations for mitigation are provided below, based upon the proposed basement and wider development design:

- A watching brief should be implemented during the construction of the proposed development. Should groundwater be encountered, works should stop, further investigation of the risks should occur and appropriate mitigation measures should be implemented.
- A separate Sustainable Drainage Strategy report has been prepared for the Site (ref: 79540.03.01). The strategy suggested should be developed and implemented at the Site to ensure that the additional surface water run-off created by the proposed development are managed safely on-Site.

- Flood resilient measures, including tanking of the walls and floors, should be incorporated into the basement to prevent water ingress and to reduce flood damage should flooding occur.
- Non return flap valves on sewer lines should be implemented, and a sump and pump could also be considered.

2. Introduction



Background and purpose

GeoSmart Information Ltd was commissioned by Adelfia Properties Limited in June 2023 to undertake the groundwater and surface water aspects of a Basement Impact Assessment (BIA) for the proposed development at 13 Bedford Road, London, N22 7AU (the Site). The report was subsequently updated in February 2024.

The Site is located at national grid reference TQ 30194 90470 within the London Borough of Haringey. Existing and proposed Site plans and drawings are provided in Appendix A.

This Basement Impact Assessment was requested to support a planning application for the construction of a new apartment building.

Objective

This document comprises a desk-based assessment of the potential impact of the proposed basement development on surface water and groundwater flow and flooding and has been designed to support a planning submission for the proposed development.

Report scope

The scope of works undertaken includes:

- An outline of the hydrological and hydrogeological conditions with relevance to construction of the basement at the Site.
- An assessment of the impacts of the proposed development on surface water and groundwater flows and levels.
- Assessment will be presented using the clearly-defined reporting framework as outlined in the widely referenced Camden Planning Guidance for Basements. This report will consider the following sections:
 - 1) **Screening** – first stage in assessing the impact of a proposed basement development is to recognise what issues are relevant to the proposed site.
 - 2) **Scoping** – identify the potential impacts for each of the matters of concern identified in the screening stage.
 - 3) **Recommendations** – recommendations are made based on the outcome of the assessment.

Report limitations

It is noted that the findings presented in this report are based on a desk study of information supplied by third parties. Whilst we assume that all information is representative of past and present conditions, we can offer no guarantee as to its validity and a proportionate programme of site investigations would be required to fully verify these findings.

The basemap used is the OS Street View 1:10,000 scale, however the Site boundary has been drawn using BlueSky aerial imagery to ensure the correct extent and proportion of the Site is analysed.

This report excludes consideration of potential hazards arising from any activities at the Site other than normal use and occupancy for the intended land uses. Hazards associated with any other activities have not been assessed and must be subject to a specific risk assessment by the parties responsible for those activities.

Datasets

The following table shows the sources of information that have been consulted as part of this report:

Table 1. Datasets consulted to obtain confirmation of sources of flooding and risk

Source of flooding	Datasets consulted				
	Commercial Flood Maps	Local Policy & Guidance Documents	Environment Agency	Thames Water (Appendix C)	OS Data
Historical	X	X	X		
River (fluvial) / Sea (tidal/coastal)	X	X	X		
Surface water (pluvial)	X	X	X		
Groundwater	X	X			
Sewer		X		X	

Source of flooding	Datasets consulted				
	Commercial Flood Maps	Local Policy & Guidance Documents	Environment Agency	Thames Water (Appendix C)	OS Data
Culvert/bridges		X			X
Reservoir		X	X		

Relevant local guidance

For this report, several documents have been consulted for local policy and guidance and relevant information is outlined below:

Haringey Council Development Management DPD (Adopted July 2017):

Policy DM18: Residential Basement Development and Light Wells

Householder extensions to existing basements, and the construction of new basements, including in existing dwellings will only be permitted where it can be demonstrated that the proposal:

- a) Will not adversely affect the structural stability of the application building, neighbouring buildings and other infrastructure, including the adjoining highway, having regard to local geological conditions;
- b) Does not increase flood risk to the property and nearby properties from any source (see Policy DM24);
- c) Avoids harm to the appearance or setting of the property or the established character of the surrounding area;
- d) Will not adversely impact the amenity of adjoining properties by reason of noise or increased levels of internal or external activity;
- e) Will not adversely impact the local natural and historic environment;

And, where the proposed basement extends beneath the garden area:

- f) Will not cause loss, damage or long-term threat to trees of townscape or amenity value;
- g) Maintains adequate soil depth satisfactory for preservation of landscaping consistent with neighbouring properties;

And during the construction phase:

- h) Will not cause harm to pedestrian, cycle, vehicular and road safety, adversely affect bus or other transport operations, significantly increase traffic congestion, nor place unreasonable inconvenience on the day to day life of those living, working or visiting nearby; and
- i) Will minimise construction impacts such as noise, vibration and dust for the duration of the works.

Proposals for basements must not include habitable rooms or other sensitive uses in areas prone to flooding where there is no reasonable means of escape.

In determining applications for light wells, the Council will consider whether:

- a) The architectural character of the building is protected;
- b) The character and appearance of the surrounding area is harmed; and
- c) The development results in the loss of more than 50% of the front garden or amenity area

3. Site Setting



Location Description

The Site is located at 13 Bedford Road in a setting of primarily residential land use. It is bound to the south by Alexandra Park Road and to the east by Bedford Road with residential properties bounding the Site to the north and to the west.

It is not known whether basement developments are present within the vicinity of the Site, with no basements identified using Google Streetview or via a review of the Haringey planning portal.

Figure 1. Aerial imagery of the Site (Bluesky, 2024).



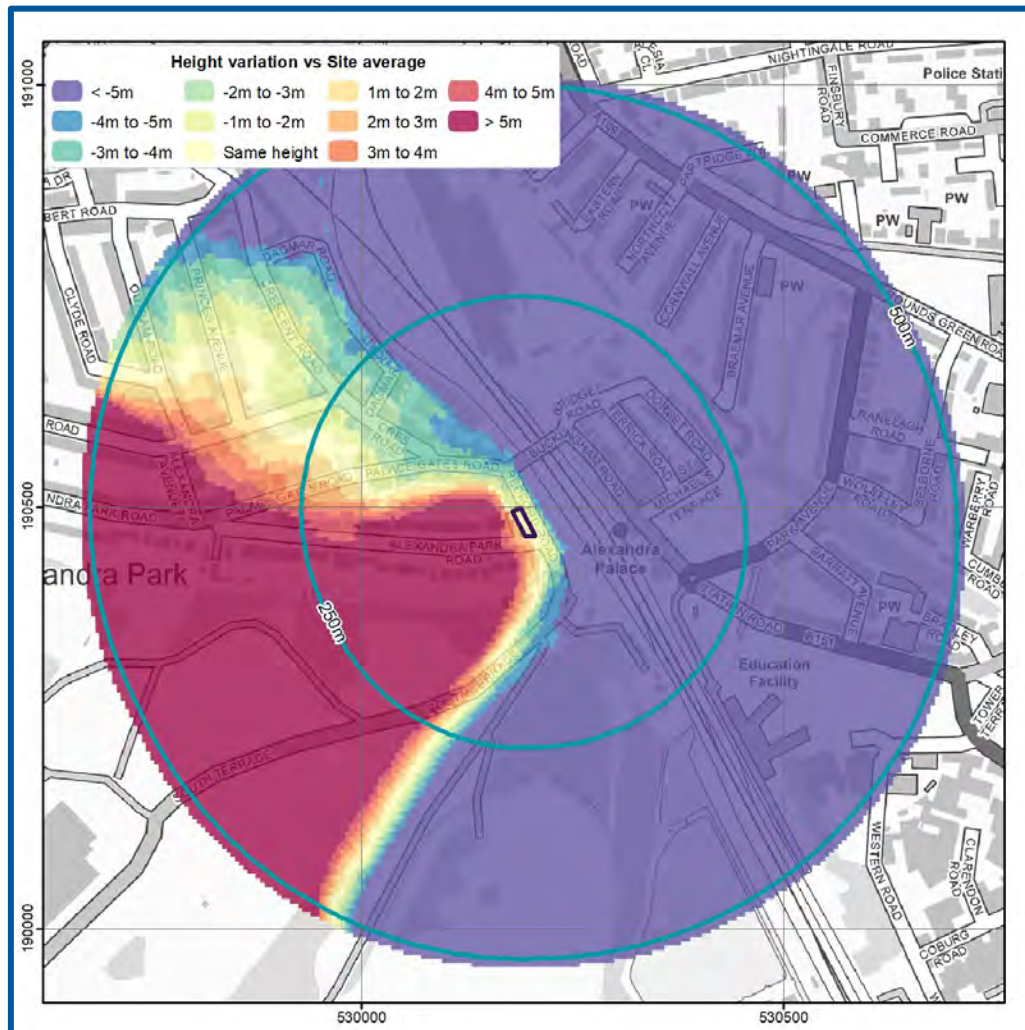
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Figure 2 (overleaf) indicates the Site is located on a hillside with local ground levels falling to the east.

The general ground levels on the Site are between 48.34 and 51.32 mAOD with the Site falling towards the northeast. This is based upon a Site specific topographic survey provided

by C G Architects (2024), in conjunction with EA elevation data obtained for the Site to a 1 m resolution with a vertical accuracy of ± 0.15 m (Appendix B).

Figure 2. Site Location and Relative Elevations (GeoSmart, 2024)



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Proposed Development

The Site is currently used within a commercial capacity as a garage and MOT centre, with associated car parking area. Access to the Site is possible via Bedford Road.

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~0.5 m. Access to the basement will be via a set of internal stairs and a lift with no external access. Site plans are included within Appendix A.

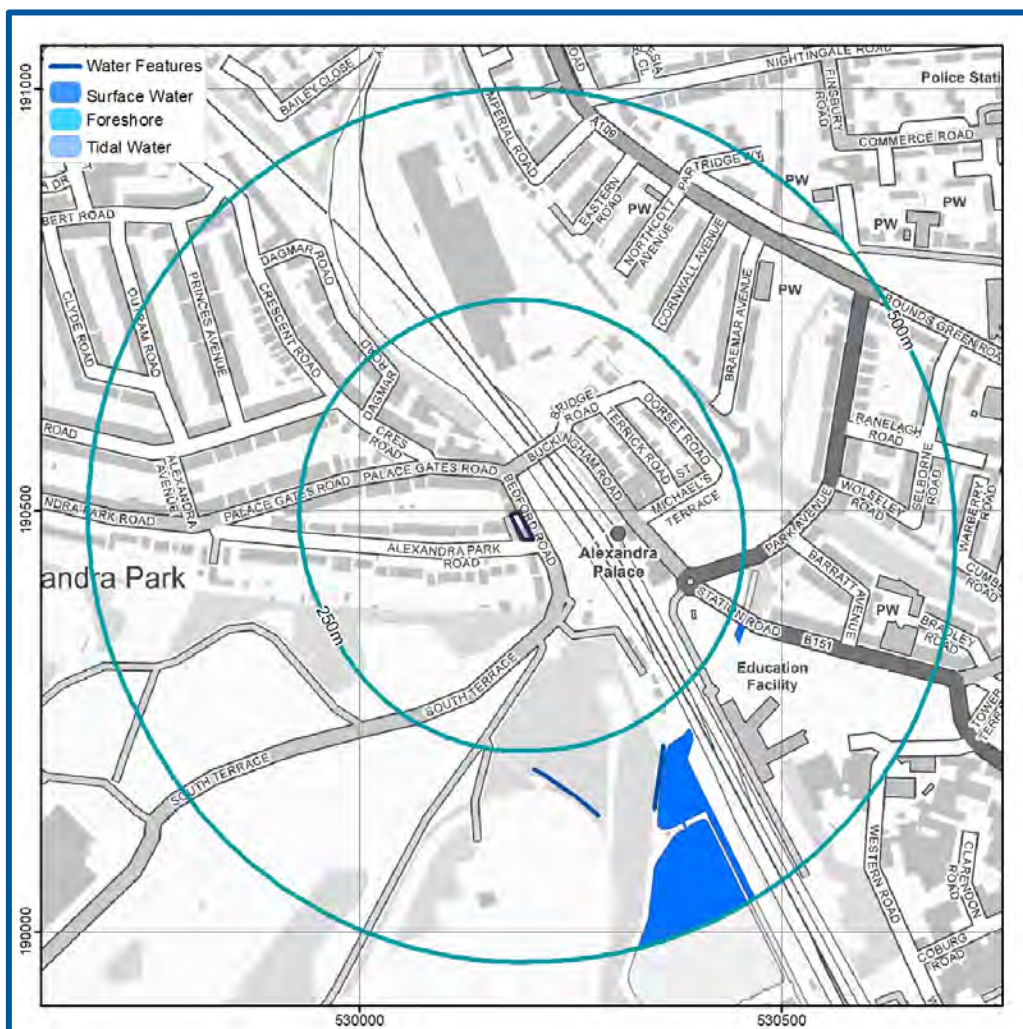
The effect of the overall development will result in an increase in number of occupants and/or users of the Site and will result in the change of use, nature or times of occupation. The estimated lifespan of the development is 100 years.

Surface Water Features

According to Ordnance Survey maps the New River is located c. 270m south east of the Site at an elevation of 30.77 mAOD.

No subterranean rivers have been identified within the vicinity of the Site (London's Lost Rivers, 2022).

Figure 3. EA Surface Water Features (OS, 2024)



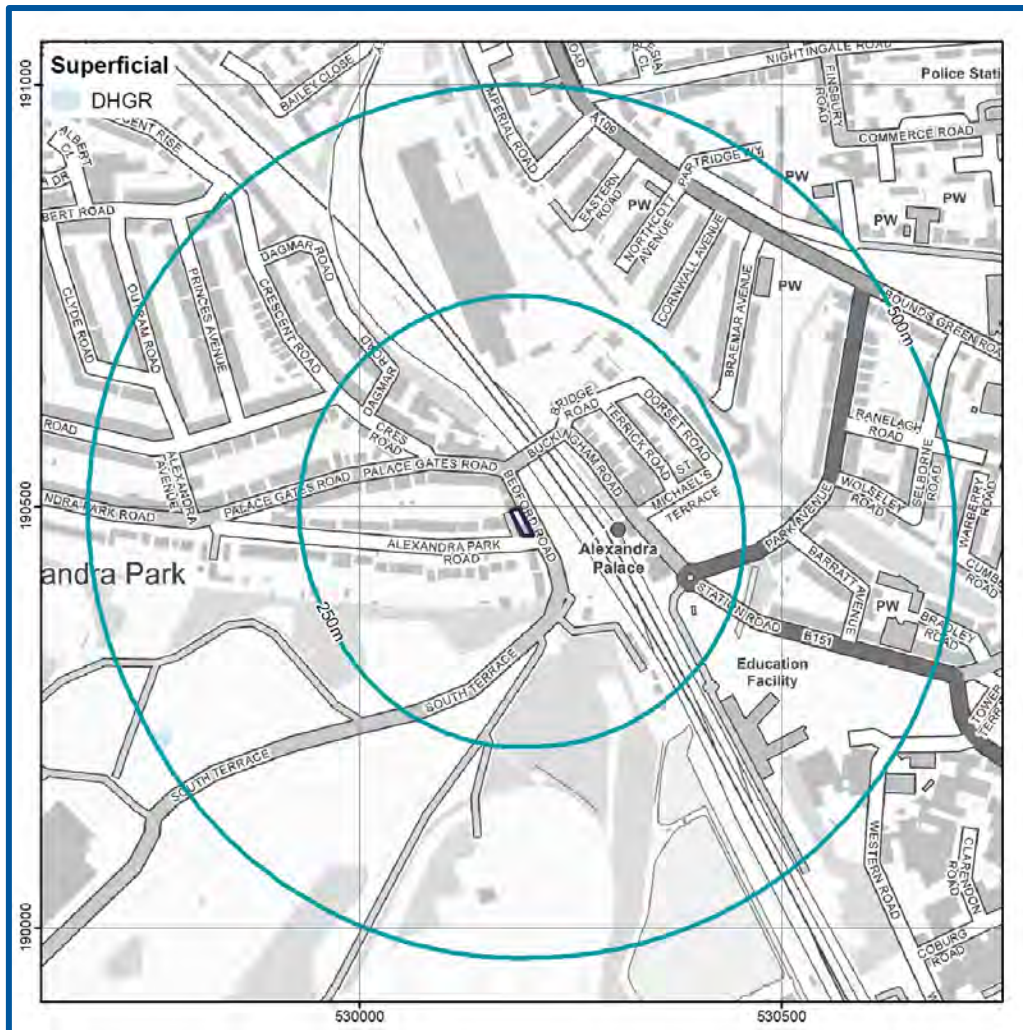
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Ground Conditions

British Geological Survey (BGS) mapping the absence of any underlying superficial deposits beneath the Site (Figure 4) (BGS, 2024).

Superficial deposits comprising the Dollis Hill Gravel Member (DHGR) are noted c. 480 m south-west of the Site.

Figure 4. Superficial Geology (BGS, 2024)



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BGS mapping indicates the underlying bedrock geology (Figure 5, overleaf) consists of the London Clay Formation (LC) (BGS, 2024) and is classified as Unproductive Strata (EA, 2024).

London Clay bedrock mainly comprises bioturbated or poorly laminated, blue-grey or grey-brown, slightly calcareous, silty to very silty clay, clayey silt and sometimes silt, with some layers of sandy clay (BGS, 2024). It is unlikely to support significant groundwater flow (EA, 2024).

Based on the known history of the Site, Made Ground is not anticipated to be present at the Site.

Figure 5. Bedrock Geology (BGS, 2024)



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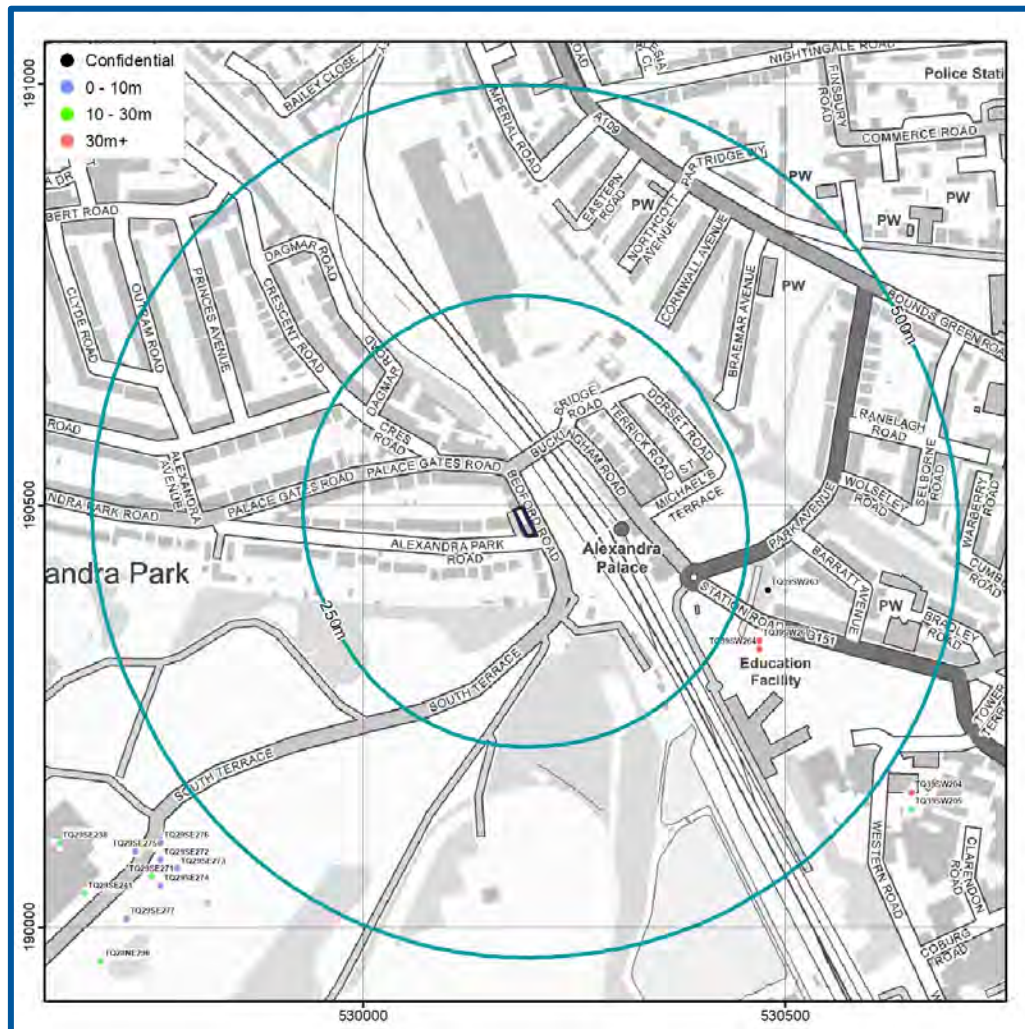
BGS Borehole Database

The BGS website was used to extract ground information from the nearest borehole records to the Site (Figure 6, overleaf). The full logs are presented in Appendix D.

The nearest BGS borehole record within the same geological strata as the Site, on the BGS Borehole Data Archive at the GeoIndex (Onshore) website, is TQ39SW264 located c. 300 m to the south east of the Site at an approximate elevation of 30.85 mAOD. Whilst this borehole is likely located at too great a distance to be directly representative of the underlying conditions at the Site, given the shared geologies it has been included for completion.

The borehole record indicates the underlying geology is comprised of Made Ground to a depth of 5.00 m below ground level (bgl), overlying London clay to a depth of 32.50 m bgl, overlying Reading Beds to a depth of 39.50 m bgl, overlying Woolwich Beds to a depth of 44.25 m bgl, overlying Thanet Sand to a depth of 52.00 m bgl, overlying Upper Chalk where the borehole was terminated. The full log can be found within Appendix D.

Figure 6. Borehole records (BGS, 2024)



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London and Thames Valley Model

The London and Thames Valley Model has also been considered to further infer the local geology at the Site (BGS, 2024) (Figure 7, overleaf). This model is a visualisation of the geology across the London and Thames Valley Model which is constructed from publicly available data, and as such should not be used as a replacement for site investigation. However, it is a useful tool at inferring the stratigraphy that could be at the Site and presenting the data in a helpful visualization.

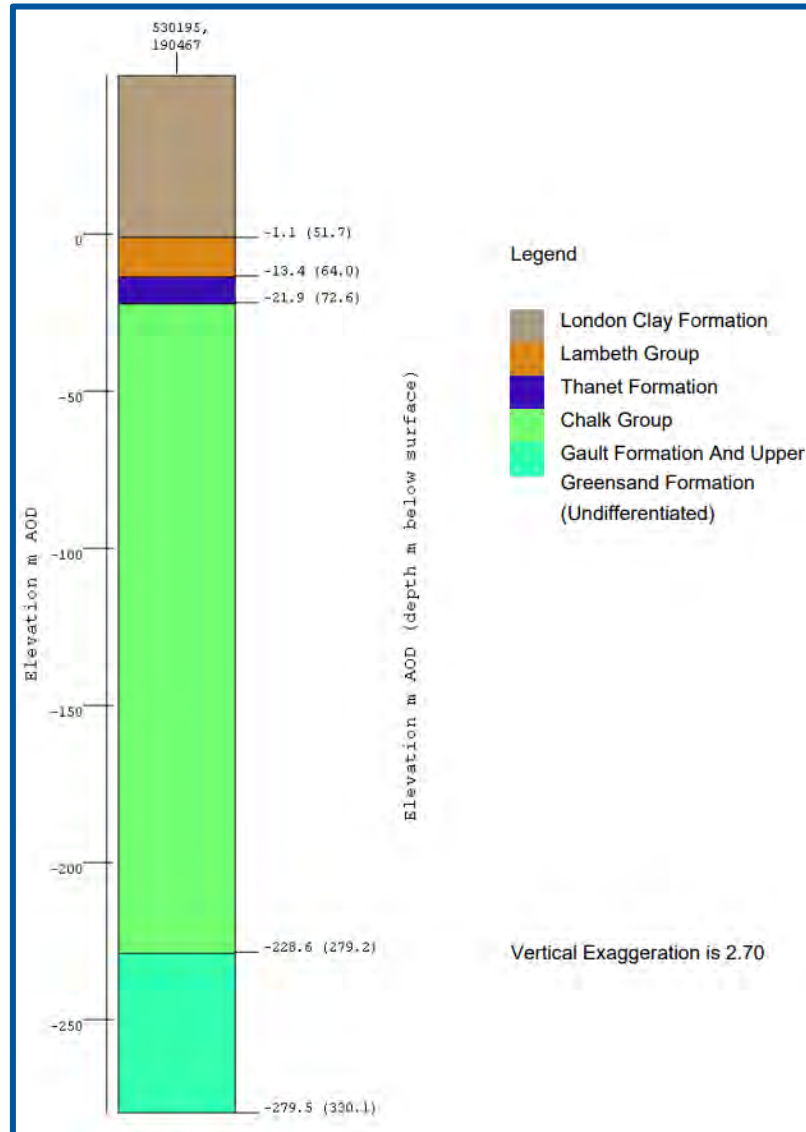
The London and Thames Valley Model indicates the geology underlying the Site comprises:

- London Clay Formation to a depth of 52 m bgl;
- Lambeth Group to a depth of 64 m bgl;
- Thanet Formation to a depth of 73 m bgl,
- The Thanet Formation is underlain by the Chalk Group, which reaches a depth of 279 m bgl. The Chalk Group is a Principal Aquifer which is likely to contain significant

groundwater; however, this groundwater is at such a significant depth that the risk to the Site from the chalk aquifer is negligible.

The boreholes and London and Thames Valley Model are consistent with the published geological mapping (BGS, 2024), and indicate the underlying geology to comprise London Clay (clay and silt) bedrock.

Figure 7. BGS London and Thames Valley Model (BGS, 2024)



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Groundwater

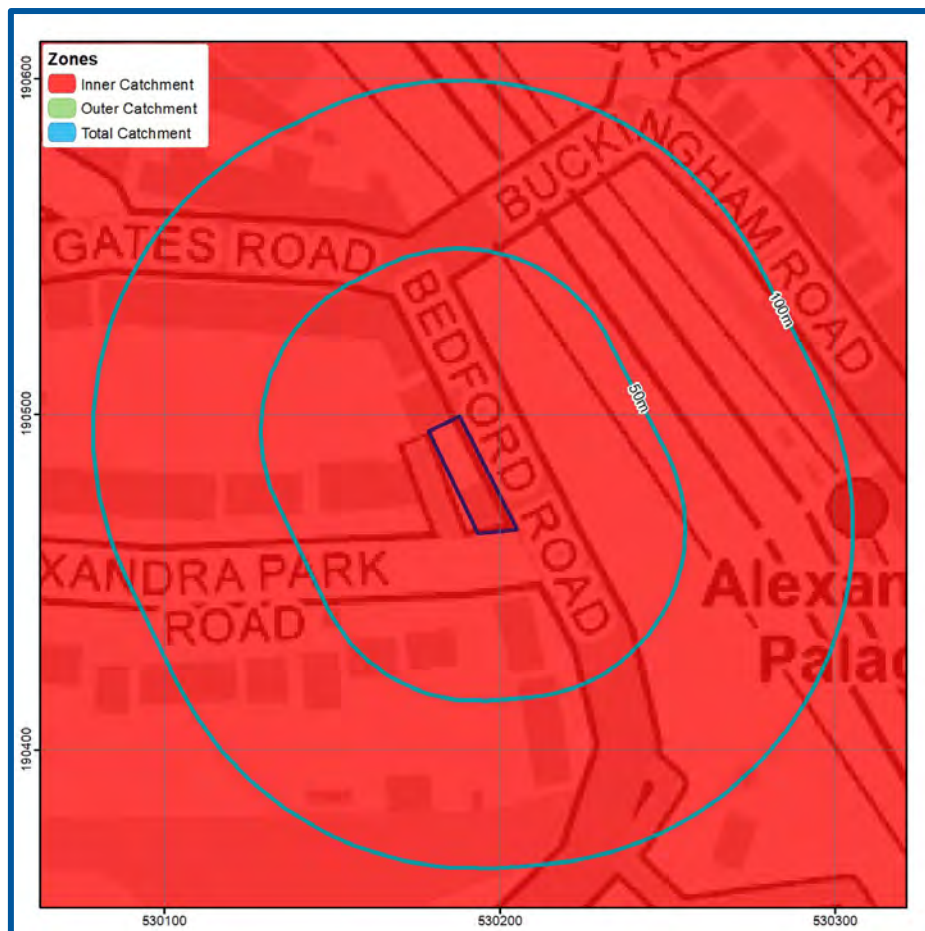
There have been no ground investigations on-Site to confirm the depth of the local water table. A review of the planning register for nearby sites could also not identify any site investigation which may be of relevance.

There are no nearby BGS borehole records from which the underlying groundwater depth can be inferred. The closest borehole to the Site (ref: TQ39SW264) was drilled as an abstraction borehole, located c. 300 m to the south east. The associated log recorded a rest water level of 51.64 m bgl.

The New River is located 270 m south east of the Site at an approximate elevation of 30.77 mAOD compared with a minimum ground elevation on-Site of 48.34 mAOD. Given that ground levels fall towards the surface water feature as well as the absence of any superficial geologies and the underlying conditions being low permeability there is unlikely to be a hydraulic connection to the Site from the waterbodies.

An assessment of the EA's groundwater Source Protection Zones (SPZs) has been undertaken within the vicinity of the Site and confirms the Site lies within an inner groundwater Source Protection Zone (SPZ I).

Figure 8. Source protection zone map (EA, 2024)



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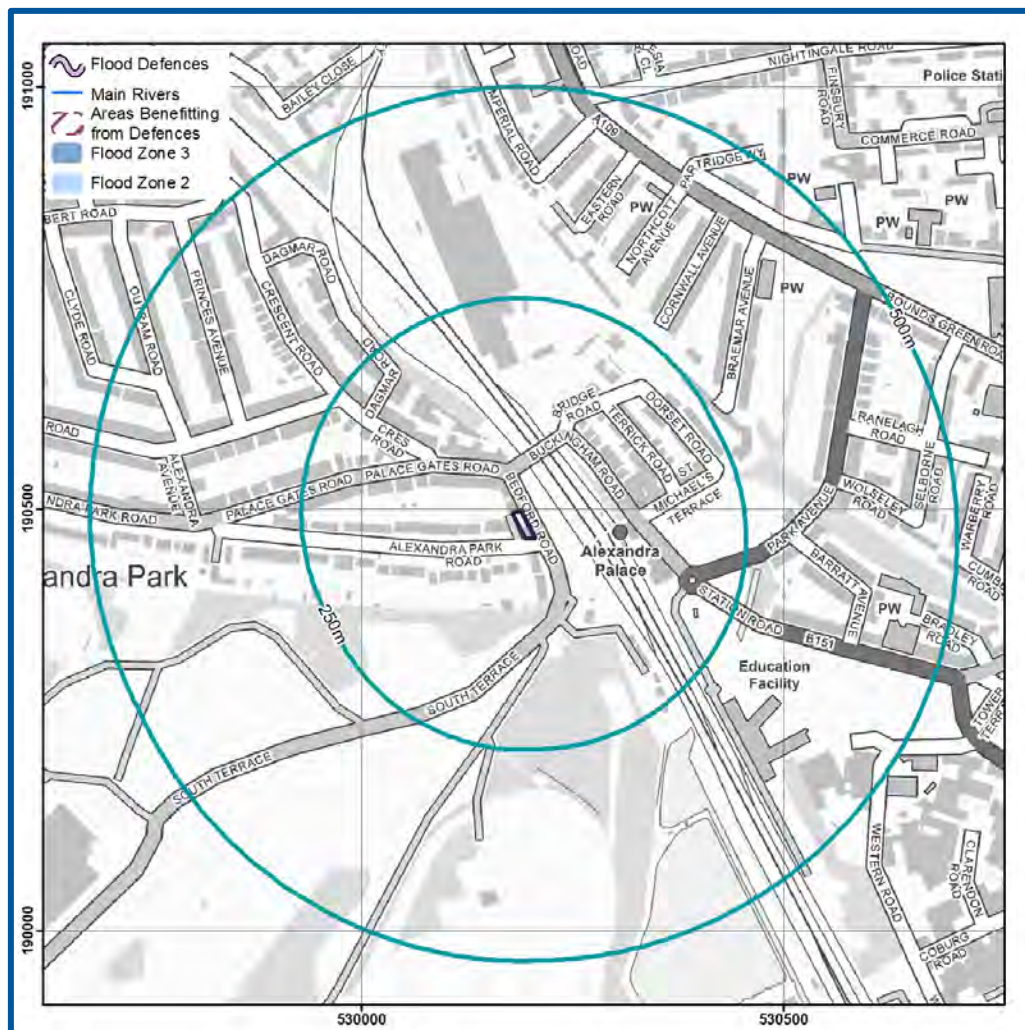
4. Flood risk



Fluvial and tidal flood risk

According to the Environment Agency's (EA) Flood Map for Planning Purposes (Figure 9), the Site is located within Flood Zone 1 and is classified as being at Low probability of fluvial and tidal flooding (EA, 2024).

Figure 9. EA Flood Map for Planning Purposes (EA, 2024)



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According to the EA's Risk of Flooding from Rivers and the Sea (RoFRS) mapping (Figure 10, overleaf), which considers the crest height, standard of protection and condition of defences, the flood risk from Rivers and the Sea is Very Low.

A separate Flood Risk Assessment has been undertaken (ref: 79540.01.01), where the potential risks to the development are discussed further.

Figure 10. Risk of Flooding from Rivers and Sea map (EA, 2024)



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Surface water (pluvial) flood risk

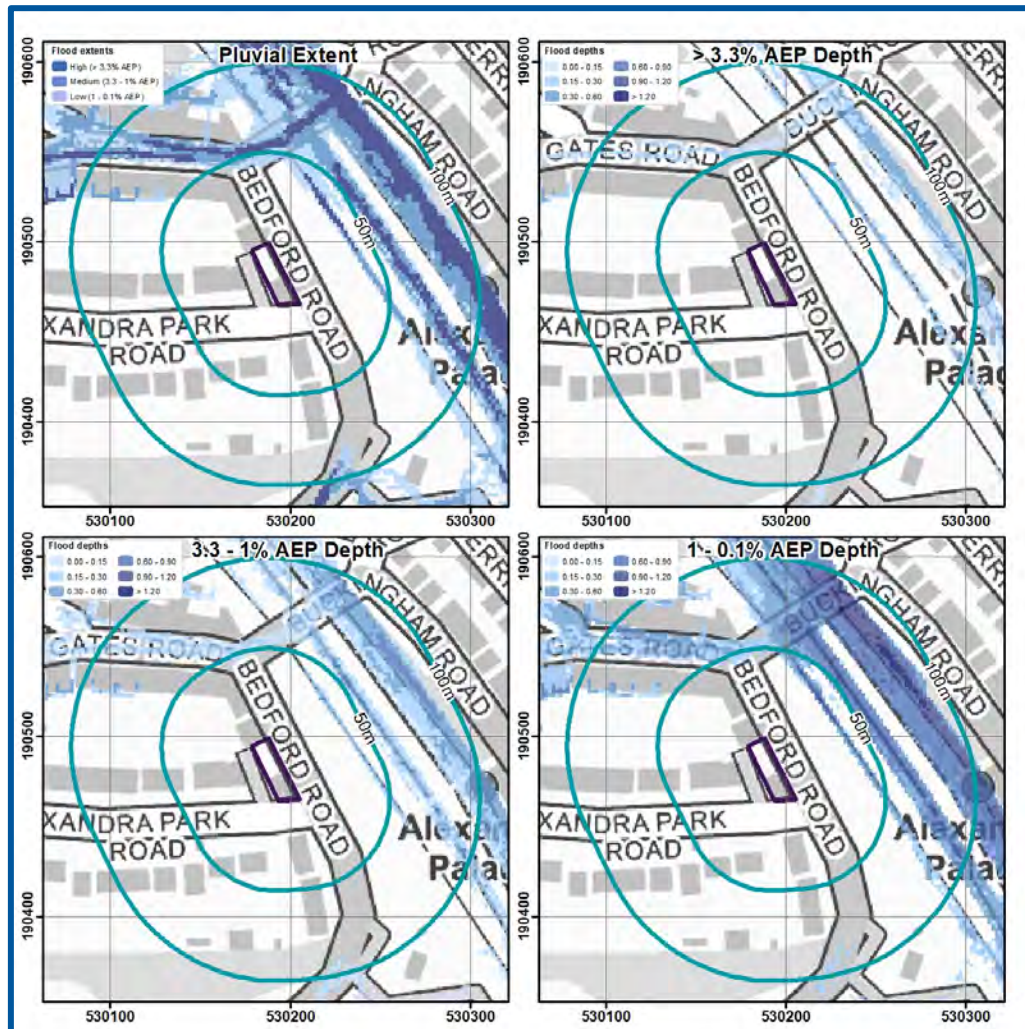
Surface water flooding occurs when intense rainfall exceeds the infiltration capacity of the ground and overwhelms the drainage systems. It can occur in most locations even at higher elevations and at significant distances from river and coastal floodplains.

According to the EA's Risk of Flooding from Surface Water (pluvial) flood mapping, the Site has a Very Low risk of pluvial flooding.

Figure 11 confirms the extent and depth of flooding during a 3.3% AEP (1 in 30 year - high risk) event; 1% AEP (1 in 100 year - medium risk) event and a 0.1% AEP (1 in 1000 year - low risk) event. This indicates the proposed development is located in an area at Very Low risk of surface water flooding. Flooding of up to 0.3 m is modelled 45 m north of the Site, given the distance from the development this is unlikely to impact the Site.

The Level 2 SFRA confirms the Site is located within a Critical Drainage Area (CDA) ref: Group4_073 (Alexandra Palace Railway Station and mainline railway, Wood Green) (JBA, 2015).

Figure 11. Risk of Flooding from Surface Water (pluvial) depth map (EA, 2024)



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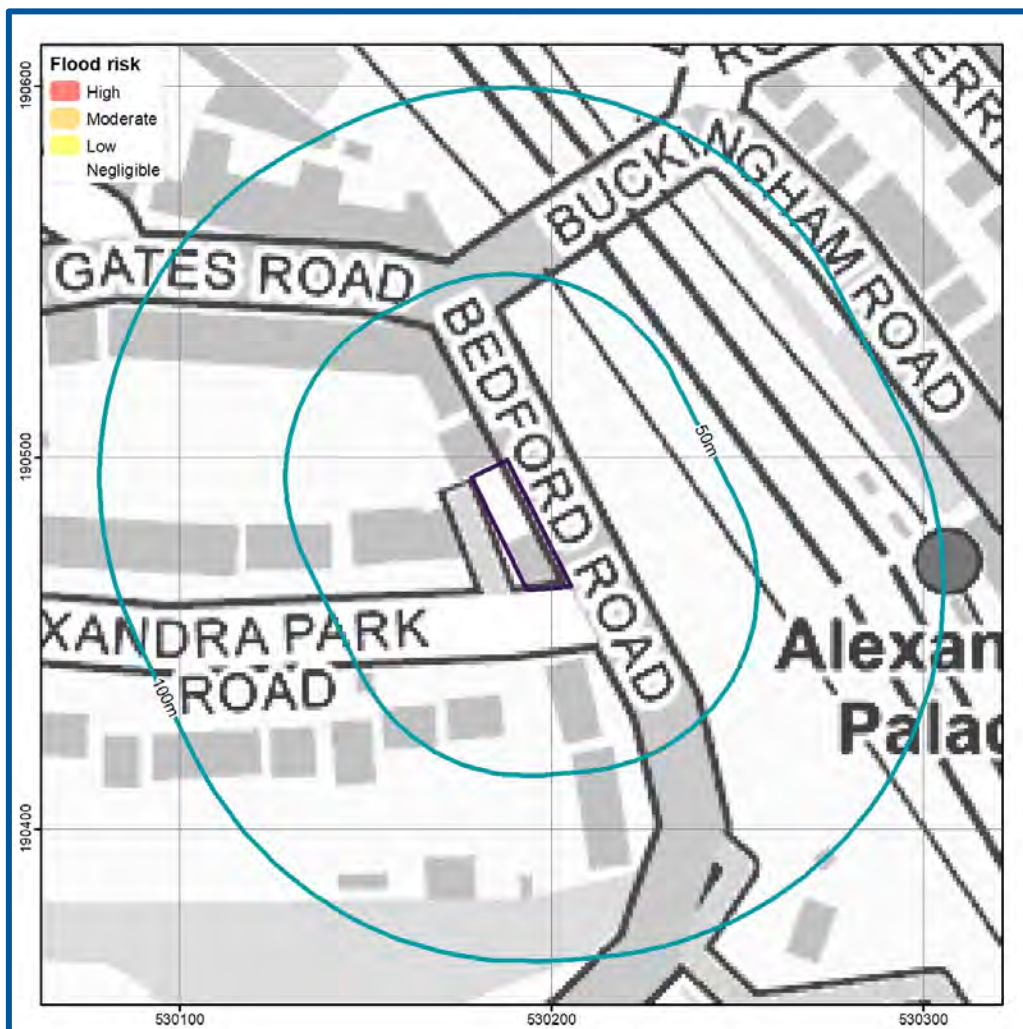
It is noted that the surface water flood risk mapping indicates the risk to the development at the surface. The proposed basement reflects an excavation and therefore is at increased risk ponding of surface water or collection of interflows. However, based on the EA's mapping, the proposed basement is not located in an area at risk of surface water flooding with no obvious points of ingress at ground level and therefore the risk of ponding within the basement is considered to be limited.

Groundwater flood risk

Groundwater flooding occurs when sub-surface water emerges from the ground at the surface or into Made Ground and structures. This may be as a result of persistent rainfall that recharges aquifers until they are full; or may be as a result of high river levels, or tides, driving water through near-surface deposits. Flooding may last a long time compared to surface water flooding, from weeks to months. Hence the amount of damage that is caused to property may be substantially higher.

Groundwater Flood Risk screening data (Figure 12) indicates there is a Negligible risk of groundwater flooding at surface in the vicinity from regional scale mechanisms during a 1 in 100 year event.

Figure 12. GeoSmart GW5 Groundwater Flood Risk Map (GeoSmart, 2024)



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The Level 1 and Level 2 SFRA do not indicate any reported incidents of groundwater flooding within the vicinity of the Site (JBA Consulting, 2015). According to Table 3-4 of the SWMP there have been no record of groundwater flooding within the vicinity of the Site (Capita Symonds, 2011).

However, the risks will be higher for the proposed basement. The risks to the basement are summarised below:

- The Site is not underlain by superficial deposits and the underlying London Clay bedrock is classified as Unproductive Strata.
- There have been no Site-specific ground investigations on Site to confirm the depth of the water table.
- There are no nearby BGS borehole records from which the underlying groundwater depth can be inferred. The closest borehole to the Site (ref: TQ39SW264) was drilled as an abstraction borehole, located c. 300 m to the south east. The associated log recorded a rest water level of 51.64 m bgl within the Thanet Sands strata, significantly beneath the proposed basement and is overlain by low permeability London Clay restricting vertical migration of groundwater.
- The New River is located c. 270 m south east of the Site at an approximate elevation of 30.77 mAOD compared with a minimum ground elevation on-Site of 48.34 mAOD. Given that ground levels fall towards the surface water feature as well as the absence of any superficial geologies and the underlying conditions being low permeability there is unlikely to be a hydraulic connection to the Site from the waterbodies.

The proposed basement foundations will be located within the London Clay strata and therefore is unlikely to be affected by significant groundwater flows.

The potential impacts of the proposed development on the local groundwater system and nearby development are summarised below:

- Basements have not been identified within the vicinity of the Site.
- As the proposed basement development is not considered likely to interact with the underlying groundwater system, it will have no cumulative impacts on any potential unidentified nearby basements or groundwater.
- The basement is also detached and therefore any groundwater would be able to flow around either side of the basement. Therefore, the proposed basement is unlikely to cause an increase in groundwater flood risk at the Site and for other properties in the vicinity.

Sewer flood risk

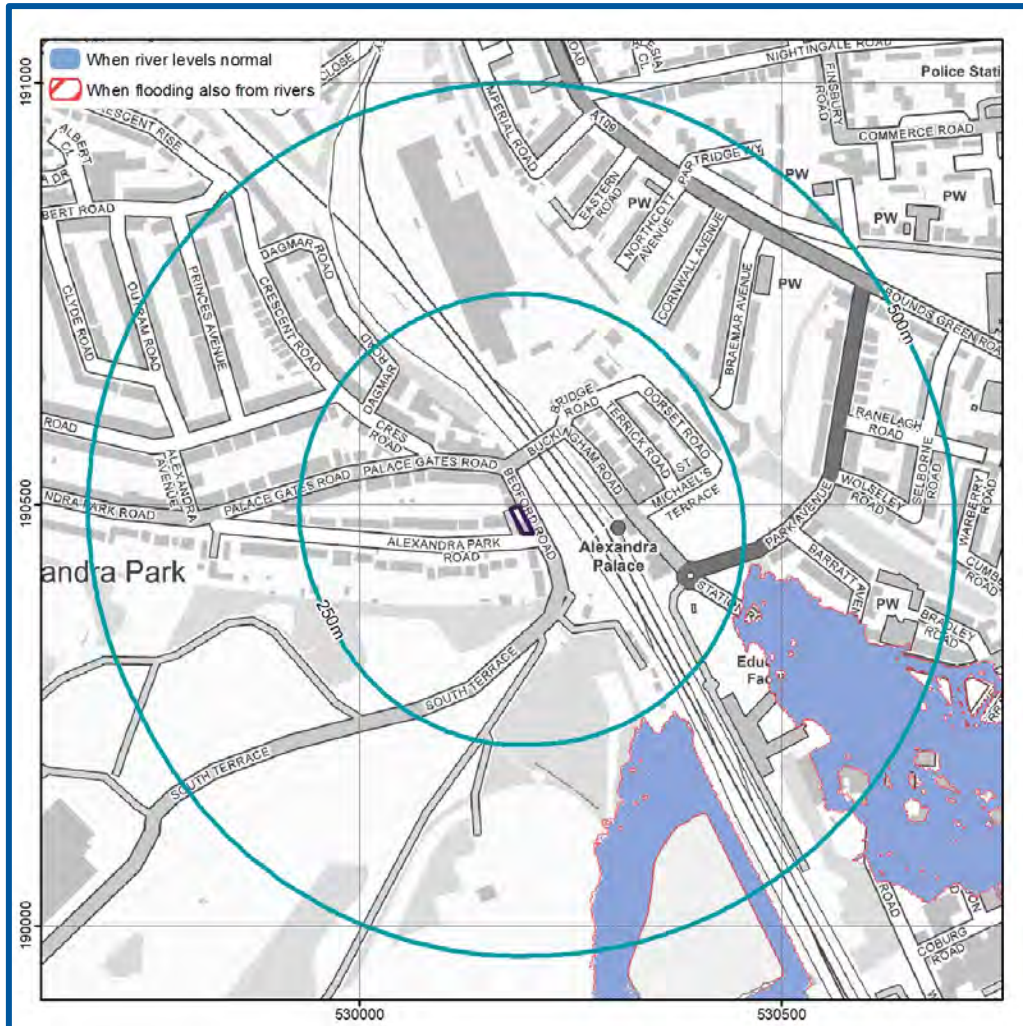
Records held by Thames Water indicate that there have been no incidences of flooding related to the surcharging of public sewers at the Site (Thames Water, 2023; Appendix C).

Note that in the event of a leak in the sewer or water main service trenches could provide a potential pathway for water to enter the basement. It is therefore recommended that water proof construction methods are used on the basement.

Flooding from artificial sources

According to the EA's Risk of Flooding from Reservoir mapping, the Site is not at risk of flooding from reservoirs (Figure 13) (EA, 2024).

Figure 13. Risk of reservoir flooding map (GeoSmart, 2024)



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5. Basement Impact Assessment



The following sections follow guidance discussed in the relevant sections of the Camden Planning Guidance for Basements. This provides a clearly defined reporting framework against which to consider potential matters of concern and to scope out further work required.

Screening

Table 2. Groundwater Screening

Groundwater			
Impact Question	Answer	Justification	Reference
1a. Is the site located directly above an aquifer?	No	The Site is not underlain by superficial deposits. The underlying bedrock comprises the London Clay Formation (Aquifer Designation - Unproductive Strata).	BGS (2024) EA (2024)
1b. Will the proposed basement extend beneath the water table surface?	Unlikely	Site investigation has not been undertaken at the Site to confirm the depth to the local water table. The proposed basement will be set at approximately 3.00 m bgl, which is located within horizons in the London Clay and is therefore not expected to contain significant groundwater. As such, the basement is expected to be significantly above the groundwater table.	BGS (2024)

2. Is the site within 100m of a watercourse, well (used / disused) or potential spring line?	No	There are no watercourses within 100 m of the Site. There are no wells within 100 m of the Site. No potential spring lines have been identified within 100 m of the Site.	OS (2024) EA (2024) BGS (2024)
3. Will the proposed basement development result in a change in the proportion of hard surfaced / paved areas?	No	In both the pre-development and post-development scenario the Site is wholly impermeable.	Site plans
4. As part of site drainage, will more surface water (e.g. rainfall and run-off) than at present be discharged to the ground (e.g. via soakaways and/or SUDS)?	No	The impermeable coverage at the Site is not proposed to change. Furthermore, the proposed SuDS strategy is to discharge to the nearby sewer network restricting surface water able to infiltrate to ground.	Site plans SuDSmart report ref: 79540.03.01
5. Is the lowest point of the proposed excavation (allowing for any drainage and foundation space under the basement floor) close to, or lower than, the mean water level in any local pond or spring line?	No	The New River is located c. 270 m south east of the Site at an approximate elevation of 30.77 mAOD compared with a minimum ground elevation on-Site of 48.34 mAOD. Given that ground levels fall towards the surface water feature as well as the absence of any superficial geologies and the underlying conditions being low permeability there is unlikely to be a hydraulic connection to the Site from the waterbodies.	OS (2024) BGS (2024) EA (2024)

Table 3. Surface Water and Flooding Screening

Surface Water and Flooding			
1. As part of the proposed site drainage, will surface water flows (e.g. volume of rainfall and peak run-off) be materially changed from the existing route?	Yes	The implementation of the SuDS scheme will alter the peak run-off by restricting flows off-Site.	Site plans SuDSmart report ref: 79540.03.01
2. Will the proposed basement development result in a change in the proportion of hard surfaced / paved external areas?	No	In both the pre-development and post-development scenario the Site is wholly impermeable.	Site plans
3. Will the proposed basement result in changes to the profile of the inflows (instantaneous and long-term) of surface water being received by adjacent properties or downstream watercourses?	No	As surface water is proposed to be attenuated and discharged to the nearby sewer network adjacent properties/ downstream watercourses are unlikely to be affected.	Site plans SuDSmart report ref: 79540.03.01
4. Will the proposed basement result in changes to the quality of surface water being received by adjacent properties or downstream watercourses?	Yes	The existing use is for a commercial garage, the change of the Site to residential as well as the implementation of a SuDS scheme will likely improve runoff water quality.	Site plans SuDSmart report ref: 79540.03.01

5. Is the site in an area identified to have surface water flood risk according to either the Local Flood Risk Management Strategy or the Strategic Flood Risk Assessment or is it at risk from flooding, for example because the proposed basement is below the static water level of nearby surface water feature.	Yes	The Level 2 SFRA confirms the Site is located within a Critical Drainage Area (CDA) ¹ ref: Group4_073 (Alexandra Palace Railway Station and mainline railway, Wood Green). The risk of pluvial flooding across the Site is Very Low according to EA mapping.	SFRA (JBA Consulting, 2015) EA (2024)
--	-----	---	---

¹ 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, 2021). CDA's are specific to Flood Zone 1, defined as areas where runoff can and may have historically contributed to flooding downstream, although they are not necessarily areas where flooding problems may occur. Where a Site is located in Flood Zone 1 and within a CDA, a Flood Risk Assessment (FRA) is required and the Council may also request Sustainable Drainage Scheme (SuDS) features to be included within the proposed development.

Screening summary

The screening process identifies the following issues to be carried forward to scoping for further assessment:

- The proportion of impermeable areas at the Site will increase as a result of the proposed development and therefore the peak run-off is likely to alter;
- The profile of inflows and water quality of runoff will change from the existing development through the implementation of a sustainable drainage system.
- The Site is located within an area identified to have a surface water flood risk according to the SFRA CDA mapping (JBA Consulting, 2015)

The other potential concerns considered within the screening process have been demonstrated to be not applicable or not significant when applied to the proposed development.

Scoping

Where a potential impact has been identified at the screening stage above, the potential further need for assessment is considered and scoped. The scoping stage should aim to build on the information provided in the screening stage. During this phase, a desk study should be undertaken to determine the preliminary impacts of the proposed basement development. This initial assessment should be used to identify any site investigation works required.

Table 4. Surface Water and Flooding Scoping

Surface Water and Flooding		
1. As part of the proposed site drainage, will surface water flows (e.g. volume of rainfall and peak run-off) be materially changed from the existing route?	Yes	A separate SuDS strategy has been prepared for the proposed development by GeoSmart (ref: 79540.03.01) where the effective management of surface water runoff is discussed. Through the use of SuDS features the rate of runoff is likely to be reduced by providing sufficient attenuation for the 1 in 100 plus 40% allowance for climate change as well improvements to the overall quality of runoff through the use of source control and green SuDS features. On the implementation of this no further action would be considered necessary.
4. Will the proposed basement result in changes to the quality of surface water being received by adjacent properties or downstream watercourses?		

6. Conclusions and Recommendations



Site setting constraints

Flood risks and impacts	Baseline*	After Mitigation **
Groundwater flooding	Negligible (surface) / Low (below ground)	Low
Surface water flooding	Very Low	Very Low

*BASELINE risks have been calculated for the whole Site, using national risk maps, including the benefit of EA flood defences. Note that the risks presented in the baseline mapping are applicable to surface development only, whereas the risks presented within the table are applicable to the proposed subterranean development and therefore may be higher.

**FINAL RISK RATING Includes a detailed analyses of flooding risks over the lifetime of the proposed development, including allowances for climate change AND assumes recommended mitigation measures are implemented.

Recommendations / Next steps

Recommendations for mitigation are provided below, based upon the proposed basement and wider development design:

- A watching brief should be implemented during the construction of the proposed development. Should groundwater be encountered, works should stop, further investigation of the risks should occur and appropriate mitigation measures should be implemented.
- A separate Sustainable Drainage Strategy report has been prepared for the Site (ref: 79540.03.01). The strategy suggested should be developed and implemented at the Site to ensure that the additional surface water run-off created by the proposed development are managed safely on-Site.
- Flood resilient measures, including tanking of the walls and floors, should be incorporated into the basement to prevent water ingress and to reduce flood damage should flooding occur.
- Non return flap valves on sewer lines should be implemented, and a sump and pump could also be considered.

7. References



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8. Appendices

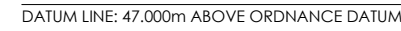


Appendix A

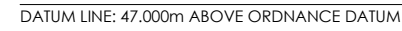


Site plans

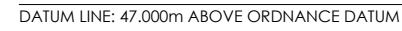




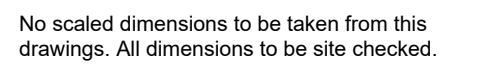
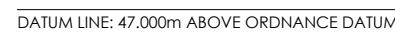
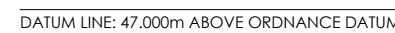
DATUM LINE: 47.000m ABOVE ORDNANCE DATUM



357 ALEXANDA PARK ROAD - EAST ELEVATION



8-10 BEDFORD ROAD

CG ARCHITECTS

36 CANNON HILL, LONDON N14 6LG
T. 020 8449 5100

Client:
Adelfia Property Ltd

Site:
13 Bedford Road
London, N22 7AU

Title:
Existing

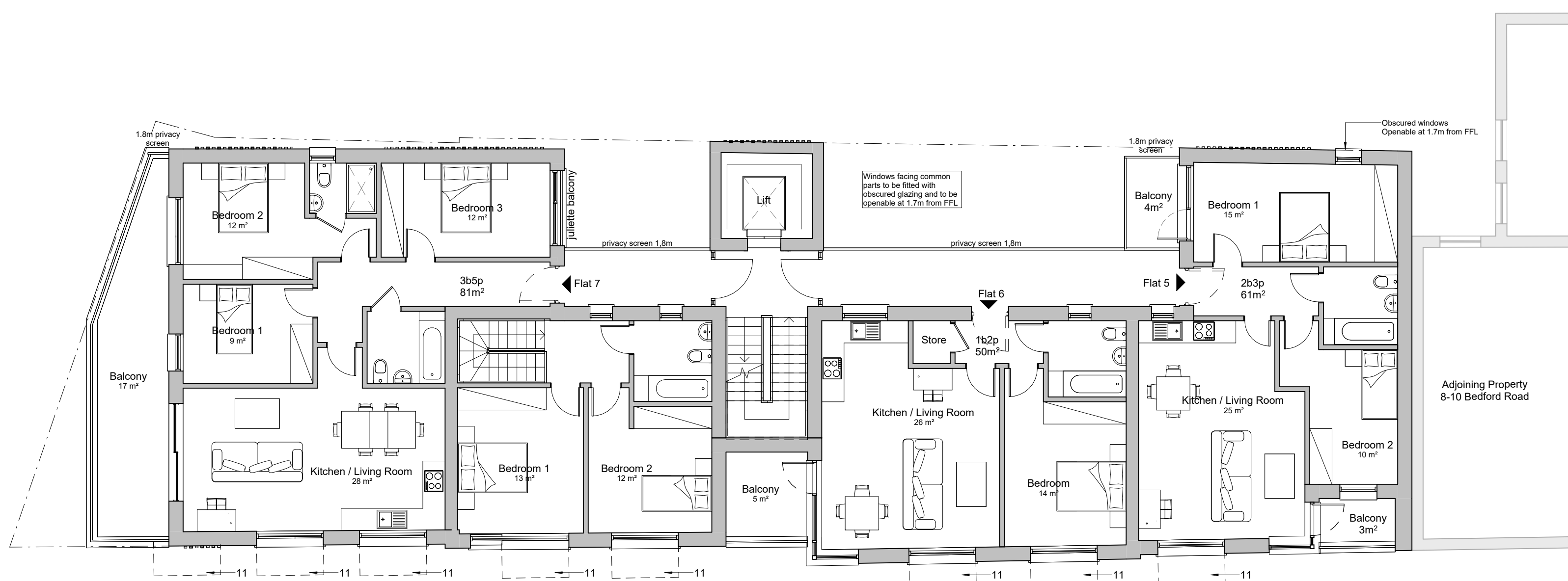
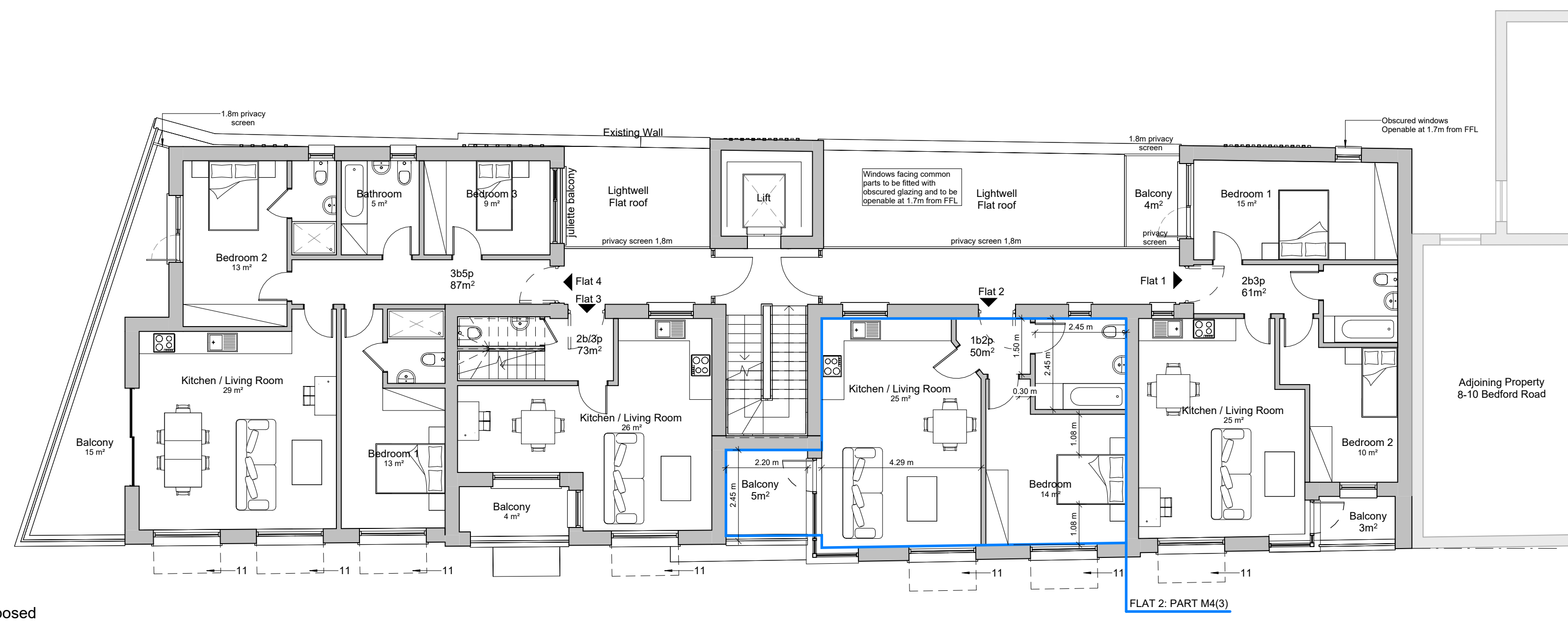
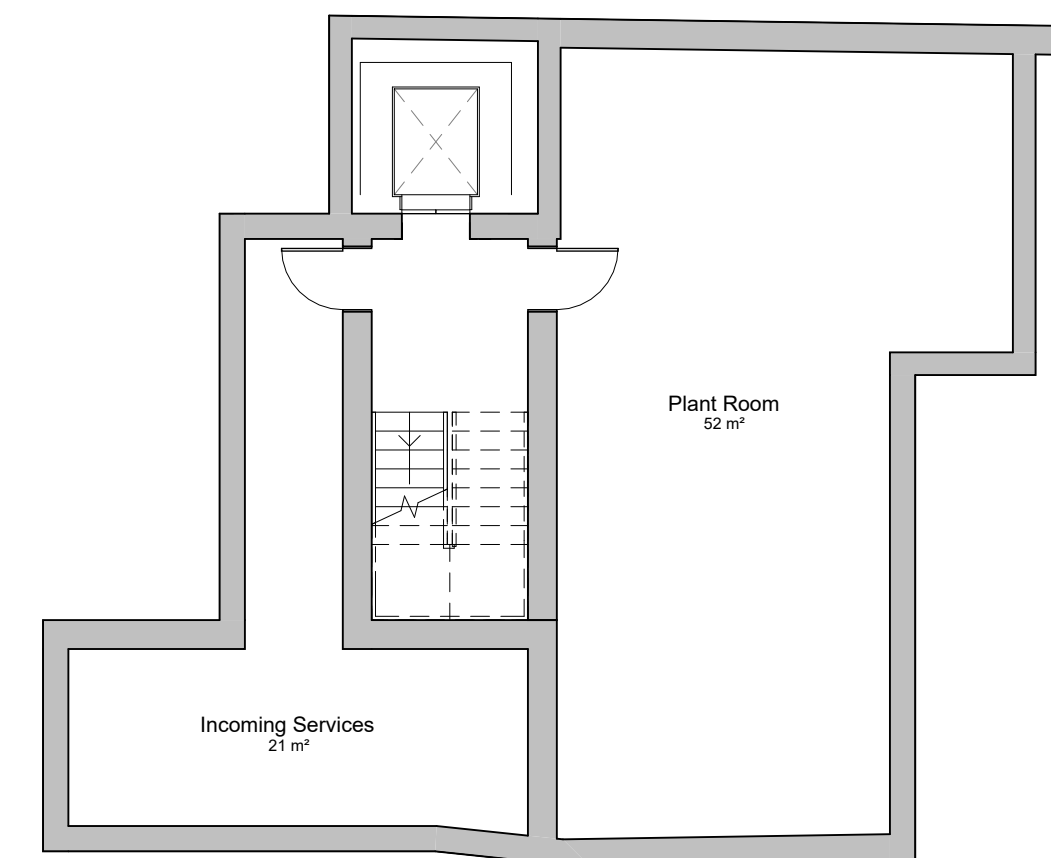
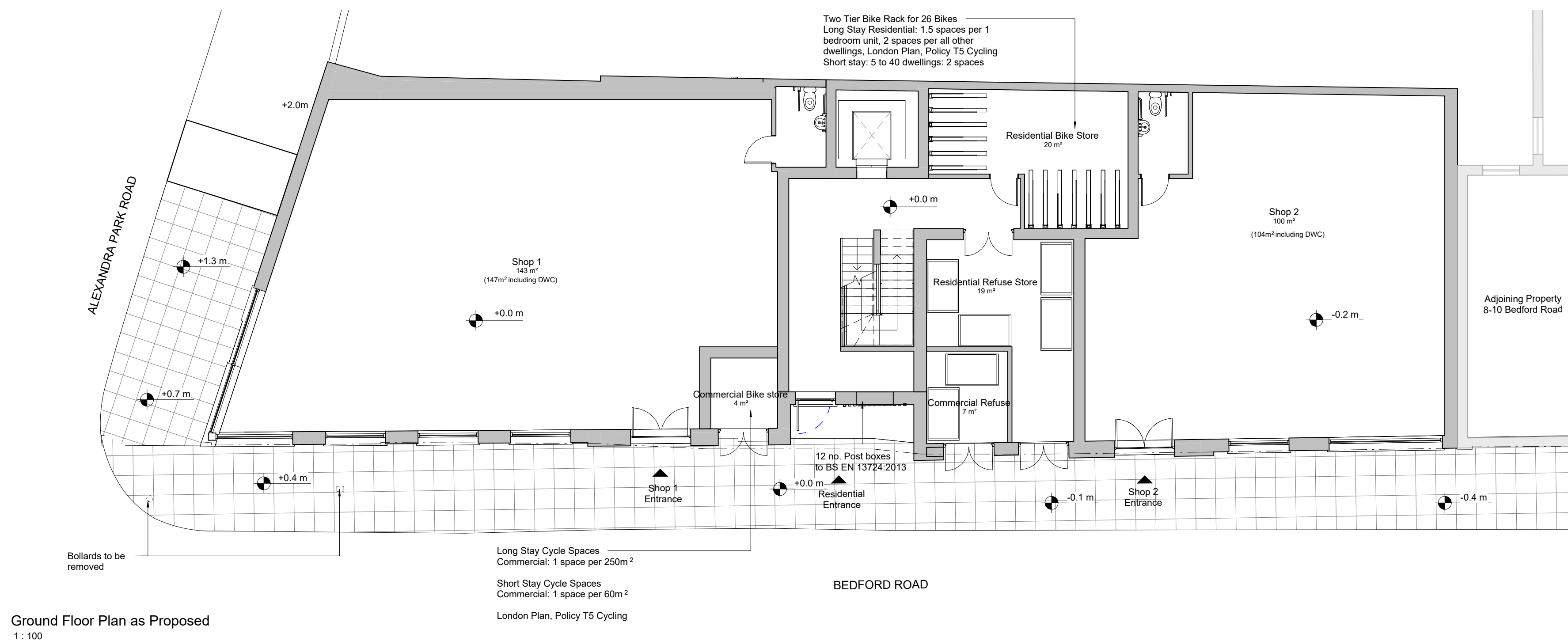
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Date: February 2024

Drg No
1544/04

Drawn:	Checked:
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CG



Issue:

Planning

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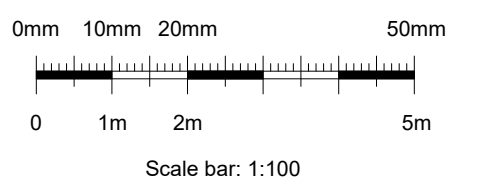
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2. External walls: Buff Brickwork;
3. External walls: Zinc cladding;
4. Aluminium shop front;
5. Double glazed aluminium windows/doors;
6. Double glazed aluminium windows with obscure glazing;
7. Metal balustrades;
8. Retractable awnings;
9. Aluminium Louvered Doors;
10. AOV (Automatic Opening Vent).
11. Aluminium brise soleil

General Notes

1. Indicative Lift Model: KONE
MonoSpace® 500
Rated Load: 800Kg
Number of persons: 10

Car Size: 1350 (W) x 1400 (D)
Lift Shaft: 1700 (D) x 1940 (W)



No scaled dimensions to be taken from this drawings. All dimensions to be site checked.

[illegible]

CG ARCHITECTS

36 CANNON HILL, LONDON N14 6LG
T. 020 8449 5100

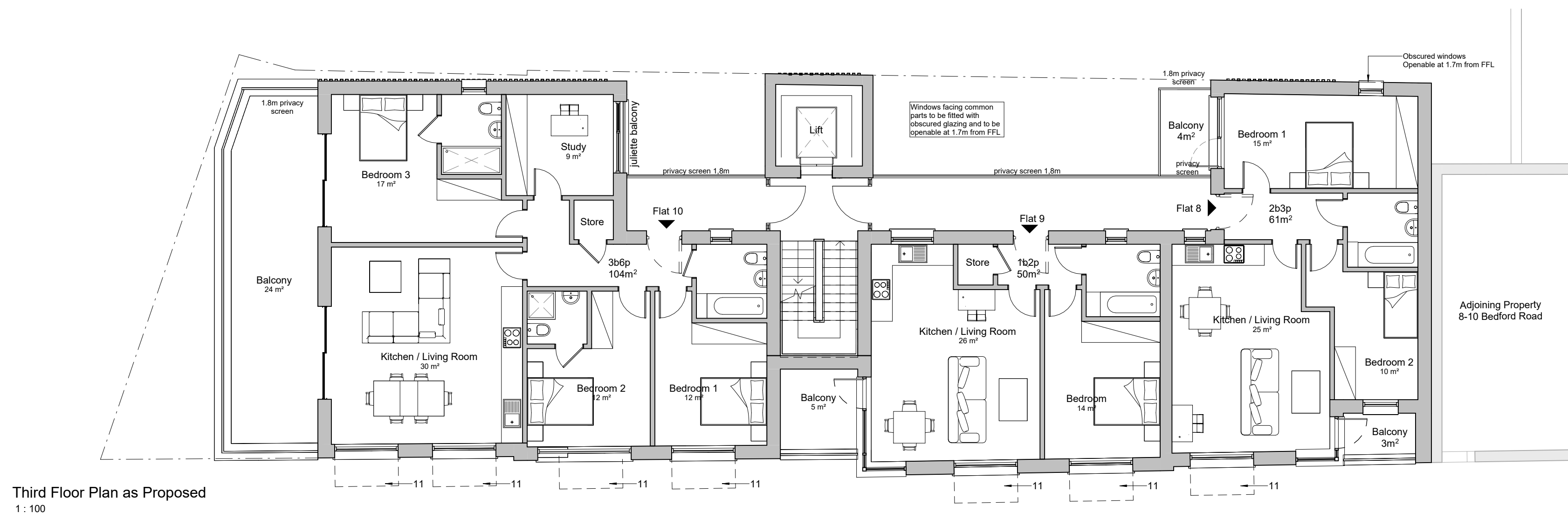
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Adelfia Property Ltd

Site:
13 Bedford Road
London, N22 7AU

Title:

Floor Plans as Proposed

Scale: As indicated@ A1	Drawn: -	Checked: CG
Date: February 2024		
Drg No 1544/05	REV A	

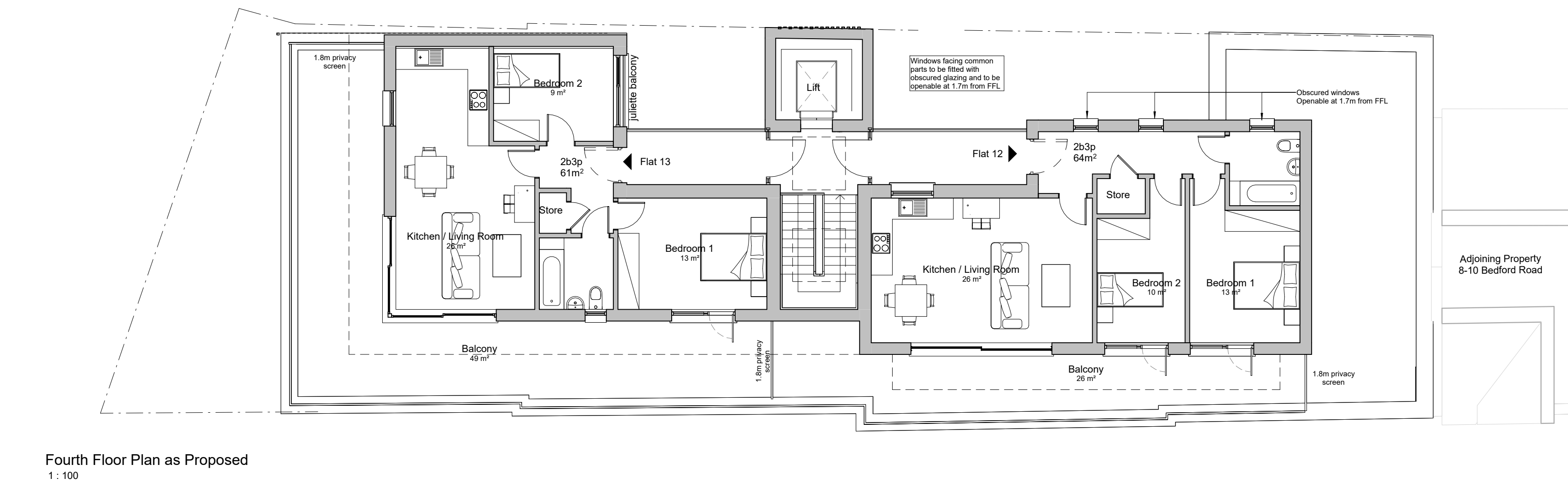


Proposed Areas - GIA

Third Floor

No. of Flats: 3

Flat 8:	2b3p	63m ²
Flat 9:	1b2p	50m ²
Flat 10:	3b6p	111m ²

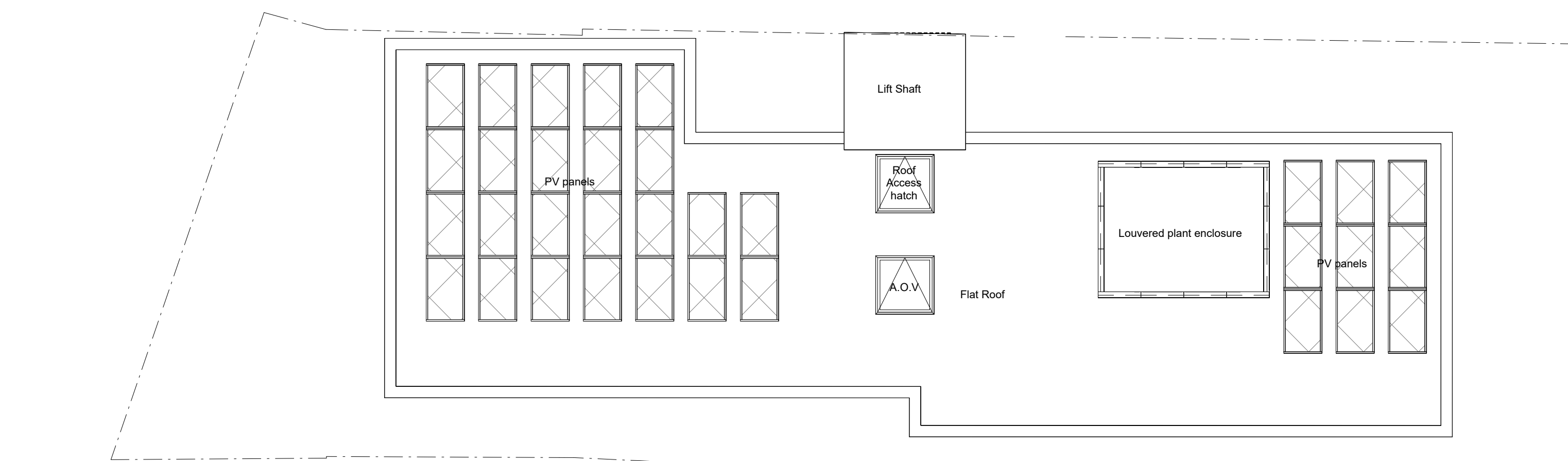


Proposed Areas - GIA

Fourth Floor

No. of Flats: 2

Flat 11: 2b3p 64m²
Flat 12: 2b3p 61m²



Total

No. of Flats: 12

Type of Flats:

1b	x 3 - 25%
2b	x 6 - 50%
3b	x 3 - 25%

Issue:

Planning

Key_General

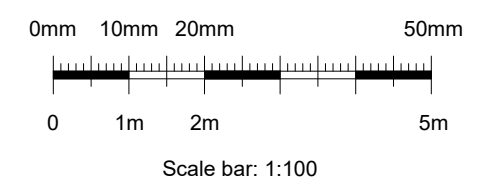
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CG ARCHITECTS

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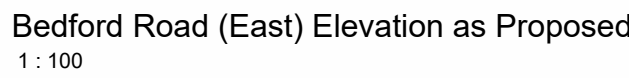
Client:
Adelfia Property Ltd

Site:
13 Bedford Road
London, N22 7AU

Title:

Floor Plans as Proposed

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Date: February 2024		
Drg No 1544/06	REV A	



Planning

Key_General

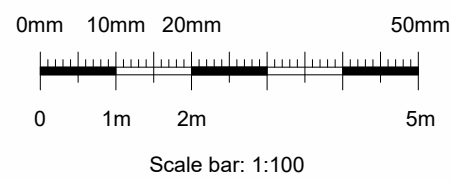
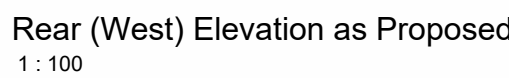
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MonoSpace® 500
Rated Load: 800Kg
Number of persons: 10

Car Size: 1350 (W) x 1400 (D)
Lift Shaft: 1700 (D) x 1940 (W)



No scaled dimensions to be taken from this drawings. All dimensions to be site checked

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CG ARCHITECTS

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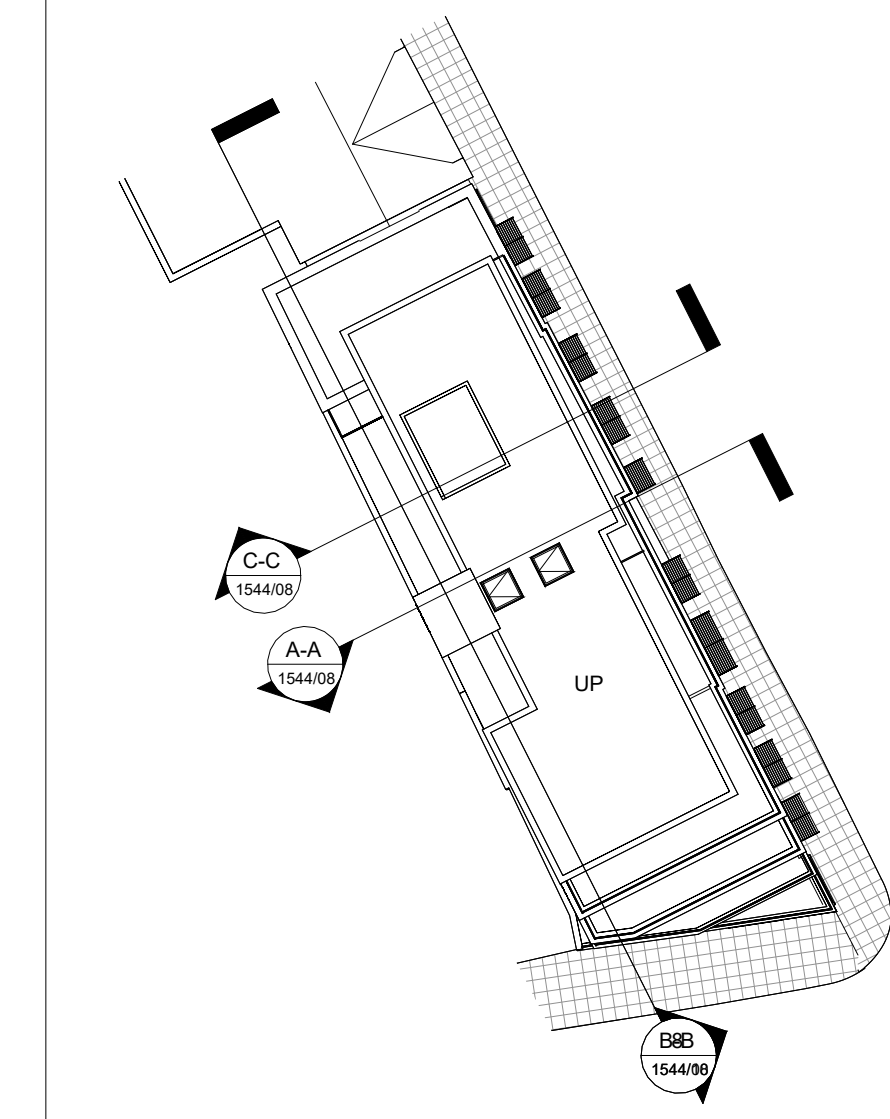
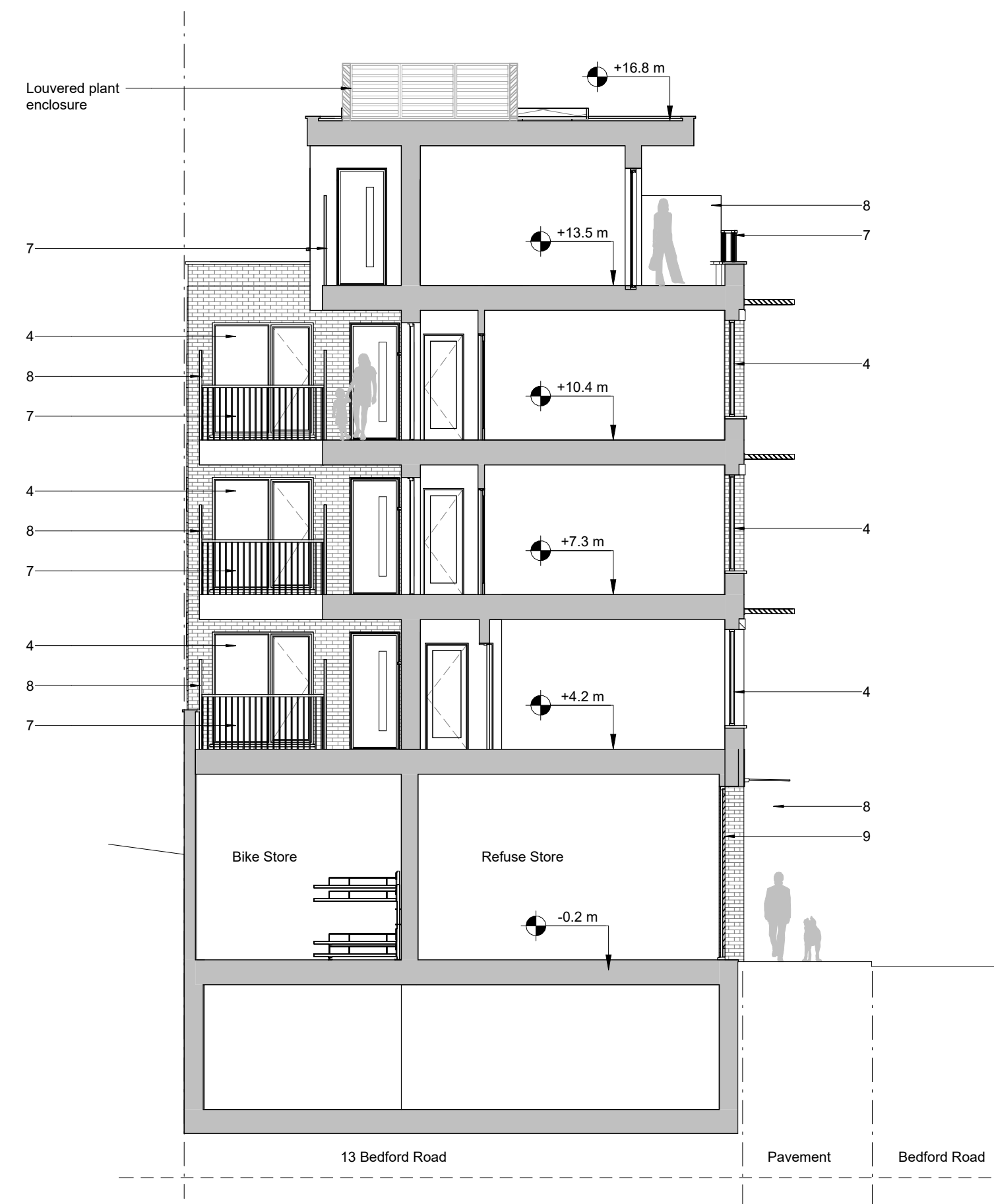
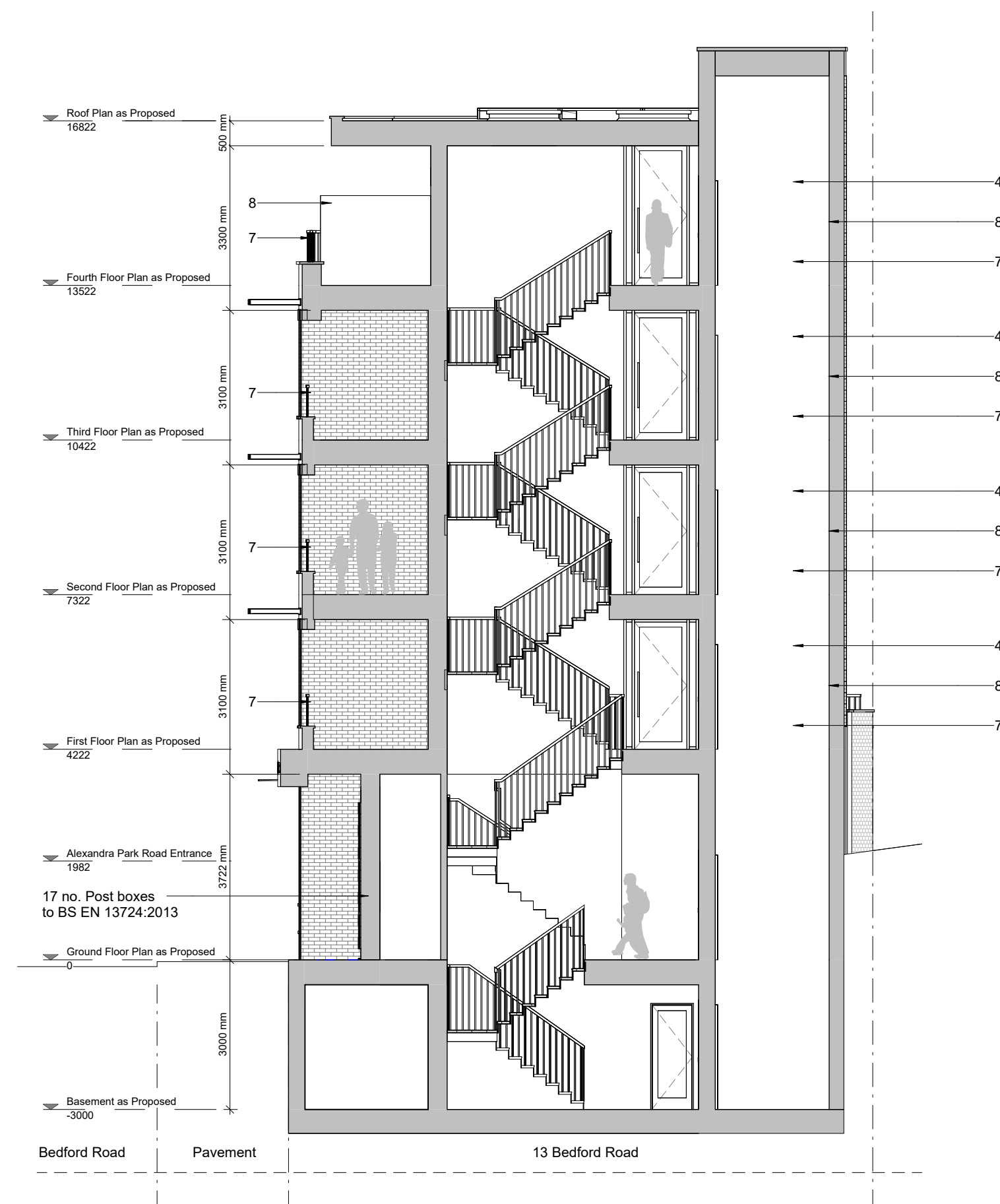
Client:
Adelfia Property Ltd

Site:
13 Bedford Road
London, N22 7AU

Title:

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Date: February 2024		CG
Dwg No 1544/07	REV	A



Planning

Key_General

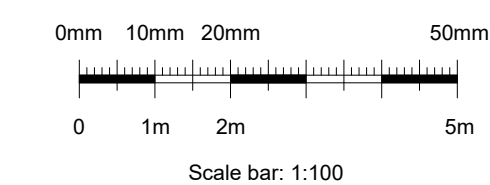
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10. AOV (Automatic Opening Vent).
11. Aluminium brise soleil

General Notes

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MonoSpace® 500
Rated Load: 800Kg
Number of persons: 10

Car Size: 1350 (W) x 1400 (D)
Lift Shaft: 1700 (D) x 1940 (W)



No scaled dimensions to be taken from this drawings. All dimensions to be site checked

[illegible]

CG ARCHITECTS

36 CANNON HILL, LONDON N14 6LG
T. 020 8449 5100

Client:
Adelfia Property Ltd

Site:
13 Bedford Road
London, N22 7AU

Title

Sections as Proposed

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Date: February 2024		
Drg No 1544/08	REV	A



Environment Agency LiDAR ground elevation data

Contours

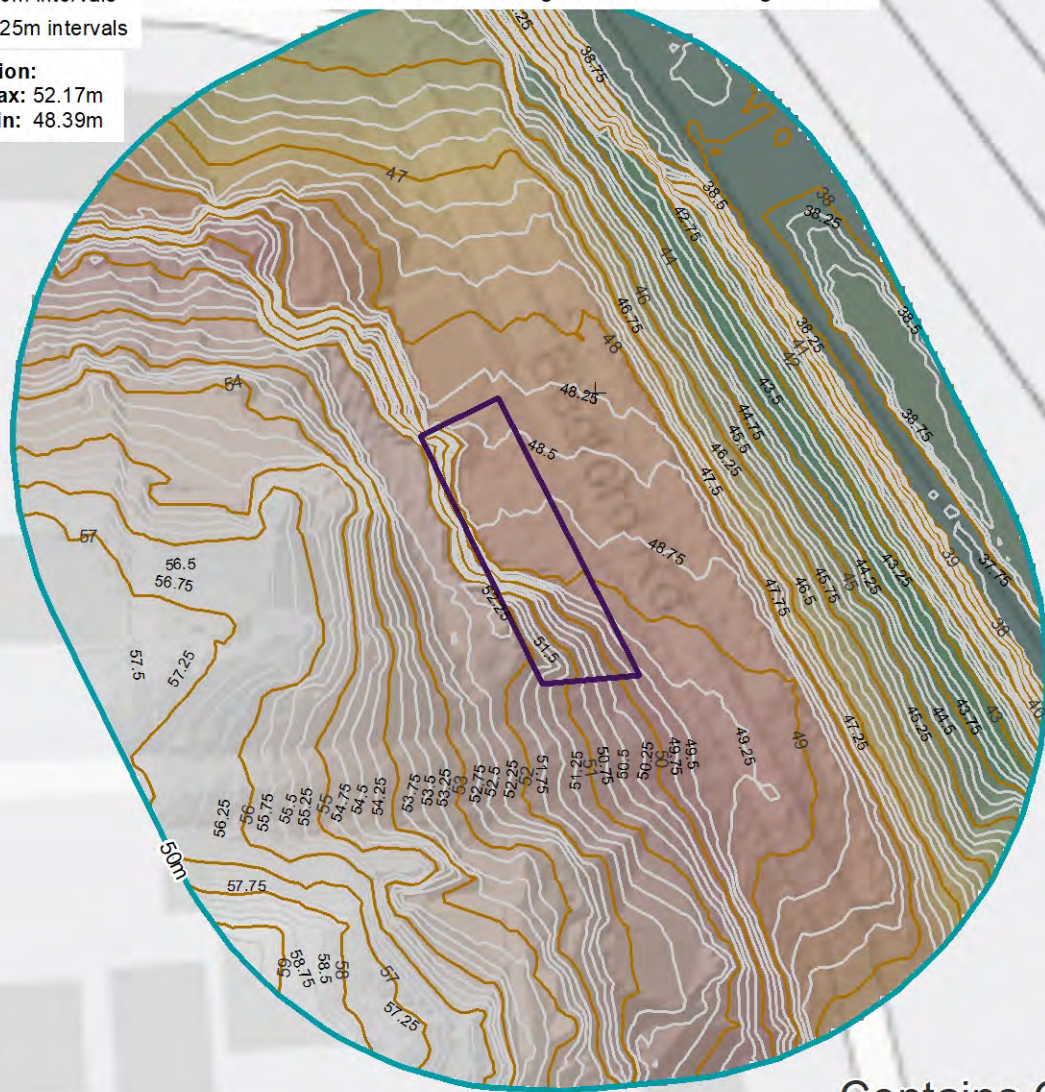
- 1.0m intervals
- 0.25m intervals

Elevation:

- Max: 52.17m
- Min: 48.39m

LIDAR data sourced from TQ39sw at 1m resolution
One or more 5km tiles are missing hence weird looking contours

190500





Thames Water sewer flooding report

Sewer Flooding

History Enquiry



Property
Searches

GeoSmart Information Ltd

Bellstone

Search address supplied Alexandra Coachworks
13
Bedford Road
London
N22 7AU

Your reference 79540

Our reference SFH/SFH Standard/2023_4838378

Received date 6 June 2023

Search date 6 June 2023



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



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



0800 009 4540

Sewer Flooding

History Enquiry



Property
Searches

Search address supplied: Alexandra Coachworks,13,Bedford
Road,London,N22 7AU

**This search is recommended to check for any sewer flooding in a specific
address or area**

TWUL, trading as Property Searches, are responsible in respect of the following:-

- (i) any negligent or incorrect entry in the records searched;
- (ii) any negligent or incorrect interpretation of the records searched;
- (iii) and any negligent or incorrect recording of that interpretation in the search
report
- (iv) compensation payments



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



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



0800 009 4540

History of Sewer Flooding

Is the requested address or area at risk of flooding due to overloaded public sewers?

The flooding records held by Thames Water indicate that there have been no incidents of flooding in the requested area as a result of surcharging public sewers.

For your guidance:

- A sewer is “overloaded” when the flow from a storm is unable to pass through it due to a permanent problem (e.g. flat gradient, small diameter). Flooding as a result of temporary problems such as blockages, siltation, collapses and equipment or operational failures are excluded.
- “Internal flooding” from public sewers is defined as flooding, which enters a building or passes below a suspended floor. For reporting purposes, buildings are restricted to those normally occupied and used for residential, public, commercial, business or industrial purposes.
- “At Risk” properties are those that the water company is required to include in the Regulatory Register that is presented annually to the Director General of Water Services. These are defined as properties that have suffered, or are likely to suffer, internal flooding from public foul, combined or surface water sewers due to overloading of the sewerage system more frequently than the relevant reference period (either once or twice in ten years) as determined by the Company’s reporting procedure.
- Flooding as a result of storm events proven to be exceptional and beyond the reference period of one in ten years are not included on the At Risk Register.
- Properties may be at risk of flooding but not included on the Register where flooding incidents have not been reported to the Company.
- Public Sewers are defined as those for which the Company holds statutory responsibility under the Water Industry Act 1991.
- It should be noted that flooding can occur from private sewers and drains which are not the responsibility of the Company. This report excludes flooding from private sewers and drains and the Company makes no comment upon this matter.
- For further information please contact Thames Water on Tel: 0800 316 9800 or website www.thameswater.co.uk



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



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



0800 009 4540

Eastern L.S.
Thames NRA

NN920015
TQ 39 1818

* * G. STOW PLC * *

Code: TW052

Reading Road - Henley-on-Thames - RG9 1DX

BOREHOLE RECORD

Borehole No: CHALK OBH

Date Completed: 03-04-92

256 TQ395W

* All depths to be measured from Ground Level *

Client : THAMES WATER UTILITIES

Exact Site : STATION ROAD, WOOD GREEN, LONDON N.22

NGR: TQ 3050 9040

Ground Level 30 m AOD approx

3047 9033

Depth of Bore 104 m Diameter: Top 250 mm Bottom 250 mm nom.

Details of Permanent Lining Tubes:

Diameter Length Inserted

250 mm	58.9 m Plain	 m Slotted	Top: 0.3 m BGL
.... mm	 m Plain	 m Slotted	Top: m BGL

Rest Level of Water below GL: 51.64 m

Yield on test hours Pumping:..... L/sec Date:

Pumping Water Level: m below GL

Time of Recovery :

Remarks :

GEOLOGICAL CLASSIFICATION	STRATA RECORD NATURE OF STRATA	THICKNESS	DEPTH
		METRES	METRES
	top soil	0.3	0.3
	made ground	4.7	5.0
London Clay	grey CLAY	34.0	39.0
Thanet Sands	SANDY CLAY	13.0	52.0
Upper Chalk	CHALK and flints	52.0	104.0

Disclaimer

This report has been prepared by GeoSmart in its professional capacity as soil, groundwater, flood risk and drainage specialists, with reasonable skill, care and diligence within the agreed scope and terms of contract and taking account of the manpower and resources devoted to it by agreement with its client and is provided by GeoSmart solely for the internal use of its client.

The advice and opinions in this report should be read and relied on only in the context of the report as a whole, taking account of the terms of reference agreed with the client. The findings are based on the information made available to GeoSmart at the date of the report (and will have been assumed to be correct) and on current UK standards, codes, technology and practices as at that time. They do not purport to include any manner of legal advice or opinion. New information or changes in conditions and regulatory requirements may occur in future, which will change the conclusions presented here.

This report is confidential to the client. The client may submit the report to regulatory bodies, where appropriate. Should the client wish to release this report to any other third party for that party's reliance, GeoSmart may, by prior written agreement, agree to such release, provided that it is acknowledged that GeoSmart accepts no responsibility of any nature to any third party to whom this report or any part thereof is made known. GeoSmart accepts no responsibility for any loss or damage incurred as a result, and the third party does not acquire any rights whatsoever, contractual or otherwise, against GeoSmart except as expressly agreed with GeoSmart in writing.

For full T&Cs see <http://geosmartinfo.co.uk/terms-conditions>

Important consumer protection information

This search has been produced by GeoSmart Information Limited, Suite 9-11, 1st Floor, Old Bank Buildings, Bellstone, Shrewsbury, SY1 1HU.

Tel: 01743 298 100

Email: info@geosmartinfo.co.uk

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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 practice 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.
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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.

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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 up to £5,000 to you if the Ombudsman finds that you have suffered actual financial loss and/or aggravation, distress or inconvenience 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

Complaints procedure

GeoSmart Information Limited is registered with the Property Codes Compliance Board as a subscriber to the Search Code. A key commitment under the Code is that firms will handle any complaints both speedily and fairly. If you want to make a complaint, we will:

- Acknowledge it within 5 working days of receipt.
- Normally deal with it fully and provide a final response, in writing, within 20 working days of receipt.
- Keep you informed by letter, telephone or e-mail, as you prefer, if we need more time.
- Provide a final response, in writing, at the latest within 40 working days of receipt.
- Liaise, at your request, with anyone acting formally on your behalf.

If you are not satisfied with our final response, or if we exceed the response timescales, you may refer the complaint to The Property Ombudsman scheme (TPOs): Tel: 01722 333306, E-mail: admin@tpos.co.uk.

We will co-operate fully with the Ombudsman during an investigation and comply with his final decision. Complaints should be sent to:

Martin Lucass

Commercial Director

GeoSmart Information Limited

Suite 9-11, 1st Floor,

Old Bank Buildings,

Bellstone, Shrewsbury, SY1 1HU

Tel: 01743 298 100

martinlucass@geosmartinfo.co.uk

9. Terms and conditions, CDM regulations and data limitations



Terms and conditions can be found on our website:

<http://geosmartinfo.co.uk/terms-conditions/>

CDM regulations can be found on our website:

<http://geosmartinfo.co.uk/knowledge-hub/cdm-2015/>

Data use and limitations can be found on our website:

<http://geosmartinfo.co.uk/data-limitations/>