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PROJECT	Radcliffe House (Landscape) Hitchin		CLIENT	Metric and Maker			
TITLE	Flood Risk Assessment		REFERENCE	24075-FRA-TN-02		P01	
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REV	COMMENTS			DATE	AUTH	CHKR	APPR
P01	Draft Issue			09/04/2026	DM	DM	TC

1 Introduction

- 1.1 Water Environment was commissioned by Metric and Maker to prepare a Flood Risk Assessment for the proposed landscaping (external changes) at Radcliffe House, Hitchin, SG5 2DW. The site is located within the jurisdiction of North Hertfordshire District Council (NHDC), with Hertfordshire County Council (HCC) fulfilling the role of Lead Local Flood Authority (LLFA).
- 1.2 The GOV.UK Flood Map for Planning¹ shows the site to lie within a Flood Zone 1. However, the site lies within an area with a high annual chance of surface water flooding, and therefore, a Flood Risk Assessment is required to support a planning application on the site.
- 1.3 This document has been prepared with due consideration of the National Planning Policy Framework² (NPPF), the latest Planning Practice Guidance for Flood Risk and Coastal Change³ (PPG), the planning guidance that governs flood risk considerations for prior approval applications⁴ and the Environment Agency's FRA guidance. In addition, this FRA will address local requirements for planning, including the North Hertfordshire Plan Policy NE7: Reducing flood risk.

2 Site description

Site Location

- 2.1 The application site measures approximately 7,181 m² (0.72 ha) and fronts onto Old Charlton Road in Hitchin (as shown in Figure 1). The site is primarily accessed via vehicles from Old Charlton Road, but

¹ Available at: <https://flood-map-for-planning.service.gov.uk/> [Accessed: 16/10/2025]

² Ministry of Housing, Communities and Local Government. Updated National Planning Policy Framework, Updated February 2025

³ Ministry of Housing, Communities and Local Government. Planning Practice Guidance: Flood risk and coastal change, Updated August 2022

⁴ Criterion MA.2(c) of Class MA, Part 3, Schedule 2 of the Town and Country Planning (General Permitted Development) Order 2015 (as amended)

also has a secondary vehicular access from Tilehouse Street. Pedestrian access is available from the two aforementioned streets, but is also available across Priory Park and Park Street.

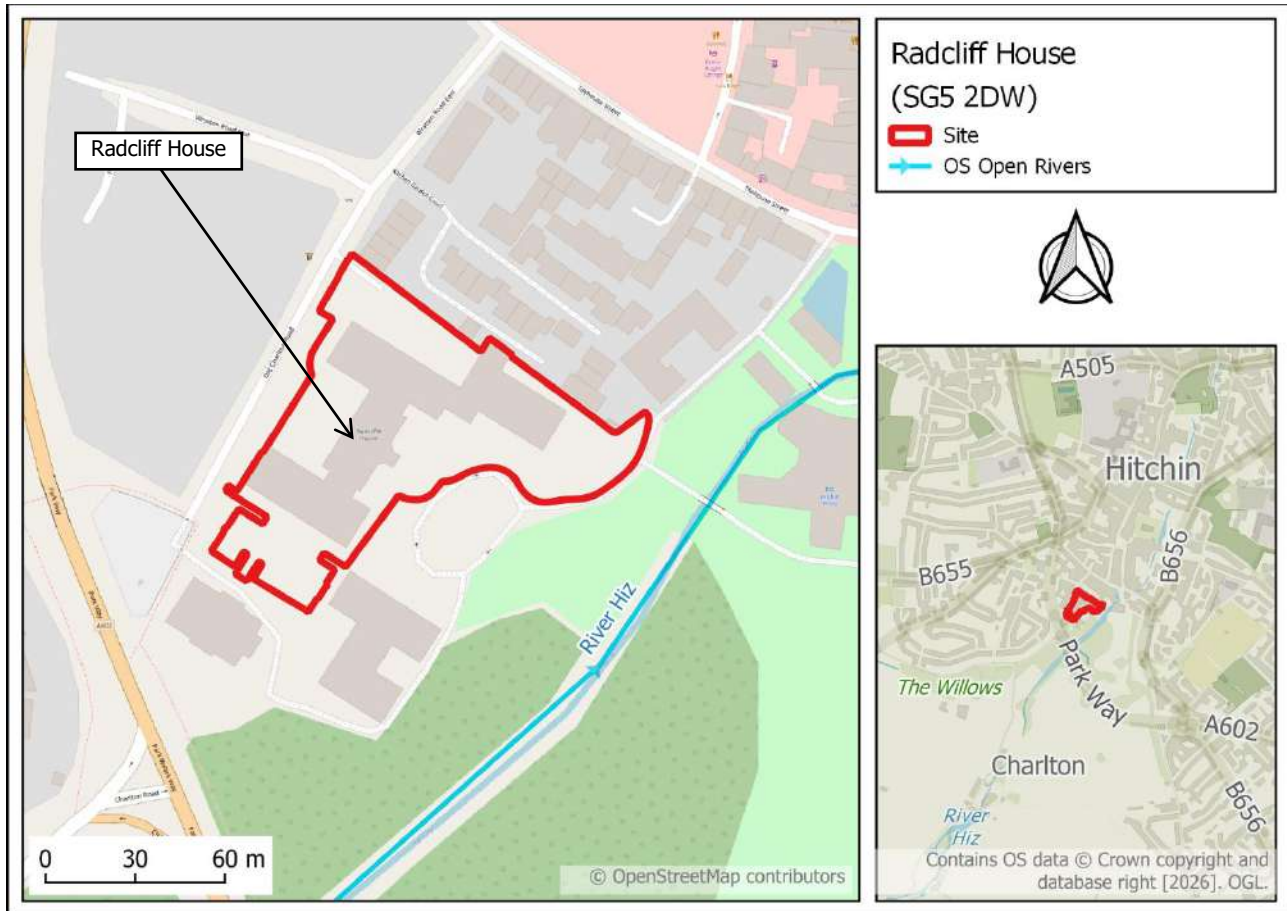


Figure 1: Site location

- 2.2 The River Hiz is located approximately 23 m to the south-east of the site. The River Hiz is an Ordinary Watercourse that flows through Hitchin and into the River Purwell (a Main River) 1.8 km to the north of the site. The River Hiz is a chalk stream starting from a spring just south of the village of Charlton, approximately 1 km to the southeast of the site.

Existing Development

- 2.3 The site comprises Radcliffe House, which is a large multi-floor building used for commercial purposes. The building is arranged across three floors above ground level, and a basement car park below.
- 2.4 The ground to second-floor levels of the current building are being used as service-providing offices. The basement houses a car park with 65 parking spaces and plant/service rooms. The building's eaves space is used for services and maintenance access.
- 2.5 The Ancillary Building A adjoins Radcliffe House on the North East, which houses a restaurant and mess hall for the offices. The separate Ancillary Building B is located on the eastern side of Ancillary Building A and includes a basement level.
- 2.6 Existing site drawings are included in the appendix to this technical note.

Site Levels

- 2.7 A topographic survey of the site was undertaken by Survey Solutions in May 2024. The survey shows that the site falls by approximately 4.7 m across the site in a south-easterly direction, towards the river.

- 2.8 The existing development and topographic survey drawings are included in the appendix.
- 2.9 The application site falls from 69.37 m AOD at the pedestrian archway of Old Charlton Road, to 65.37 m AOD at the eastern corner of the survey, east of the ancillary building. The EA LiDAR DTM shows that the site falls to a level of 64.70 m AOD at the eastern corner of the site, nearest to the River Hiz.
- 2.10 An interrogation of the topographic survey indicates that:
- External ground levels around the Radcliffe building basement vary from approximately 66.5 m AOD to 66.9 m AOD. The finished floor level of the ground floor level of Radcliffe House is at 68.02 mAOD, while the levels of the basement rise from 64.31 mAOD to 64.64 mAOD, from north to south. The levels in the courtyard parking area facing Old Charlton Road vary from 67.70 mAOD to 67.94 mAOD.
 - The external levels surrounding the Ancillary Building B are at 67.3 m AOD. The internal finished floor levels of the building are not known, but are higher than 67.3 m AOD. The basement level of the building is at 63.92 m AOD. The external threshold level of the stairs to the basement is at 65.85 m AOD.
- 2.11 The levels in Old Charlton Road fall along the boundary of the site in a Southerly direction, from 70.20 mAOD at the vehicular entrance to the site to 69.23 mAOD at the Western corner of the site.

3 Proposed development

- 3.1 The proposed development drawings are included in the appendix of this technical note.
- 3.2 The development proposals considered by this assessment incorporate changes to the external spaces surrounding the building, to optimise their use for the continued and future use of the Radcliffe House and Ancillary Buildings. These changes include areas of soft landscaping as well as paved areas.
- 3.3 The proposed development includes new gravel-surfaced (tar chip and spray) vehicular access driveways off the existing access road to the Ancillary Building B private gardens. The existing driveway and vehicular courtyard parking are to be replaced by pedestrian footpaths and new soft landscaping.

4 Assessment of flood risk

- 4.1 In assessing the risk of flooding to the site, the Hertfordshire County Council Strategic Flood Risk Assessment⁵ (SFRA) has been reviewed along with the latest Environment Agency Data.

History of flooding

- 4.2 The Environment Agency Historic Flood Extent Map shows the site to lie outside of all previously recorded flood extents.
- 4.3 No further records of flooding at the site or the surrounding area have been identified.

Risk of flooding from rivers and the sea

- 4.4 The Environment Agency Flood Map for Planning, presented in Figure 2, shows that the site is located within the present-day Flood Zone 1. Flood Zones 2 and 3 are closely constrained around the channel of the River Hiz, located 35 m to the south of the site.

⁵ Hertfordshire County Council Level Strategic Flood Risk Assessment, July 2022

- 4.5 At this location, Flood Zone 1 is defined as land having less than 0.1% annual probability of fluvial flooding. Typically, the site would therefore be considered to be at low risk of fluvial flooding.
- 4.6 When taking climate change into account, the future (2070-2125) Flood Zone 2 is shown to extend onto the site, but Radcliffe House (main and ancillary buildings) remains outside of the flood extent. The only landscaping changes within the future Flood Zone 2 extent are the proposed gravel-surfaced driveway off the existing access road.
- 4.7 The site is therefore at potential risk of fluvial flooding, which has been assessed in further detail.

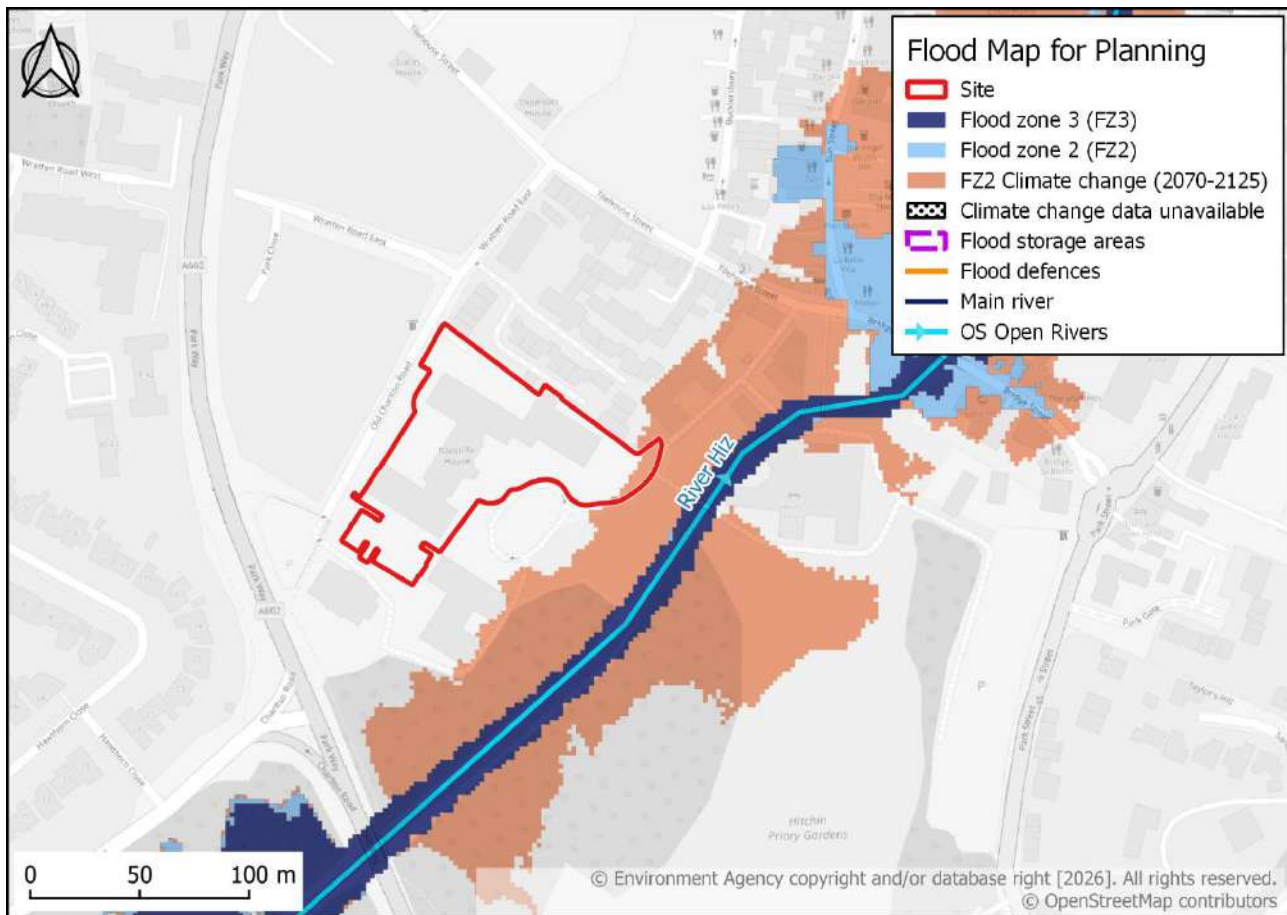


Figure 2: Flood Map for Planning

Climate change allowances

- 4.8 It is a requirement of the NPPF that climate change allowances over the lifetime of the development is included in the analysis of flood risk. Projected climate change is likely to result in increased flooding from rivers due to increased intensity and frequency of extreme rainfall events. Therefore, climate change allowances have been included as part of this flood risk assessment. The PPG defined the 'design' events for developments at risk of fluvial flooding as the 1% AEP event, plus an appropriate allowance for climate change.
- 4.9 Climate change allowances are provided by the Environment Agency's 'Flood risk assessments: climate change allowances' available on the GOV.UK website, defined by management catchments. Considering the landscaping is associated with the existing commercial and/or future considered residential use of the site, the appropriate lifespan for consideration is 100 years; therefore, the allowance for the 2080s epoch will be used to assess the fluvial flood risk.
- 4.10 The site lies within the Upper and Bedford Ouse Management Catchment. The climate change allowances for the Upper and Bedford Ouse Management Catchment are presented in Table 1.

Table 1: Upper and Bedford Ouse Management Catchment climate change allowances

Epoch	Allowance Category		
	Central	Higher	Upper
2020s	5%	10%	24%
2050s	4%	11%	30%
2080s	19%	30%	58%

4.11 The design flood event is therefore the 1% AEP event, plus a 19% uplift for climate change.

Flood defences

4.12 The site does not benefit from the protection of any flood defences.

Modelled flood levels

4.13 The Environment Agency provided outputs from the "Ivel Project Model (2019)", which is assumed to be the latest available data for the site. The extracted nodes applicable to the site are shown in Figure 3.

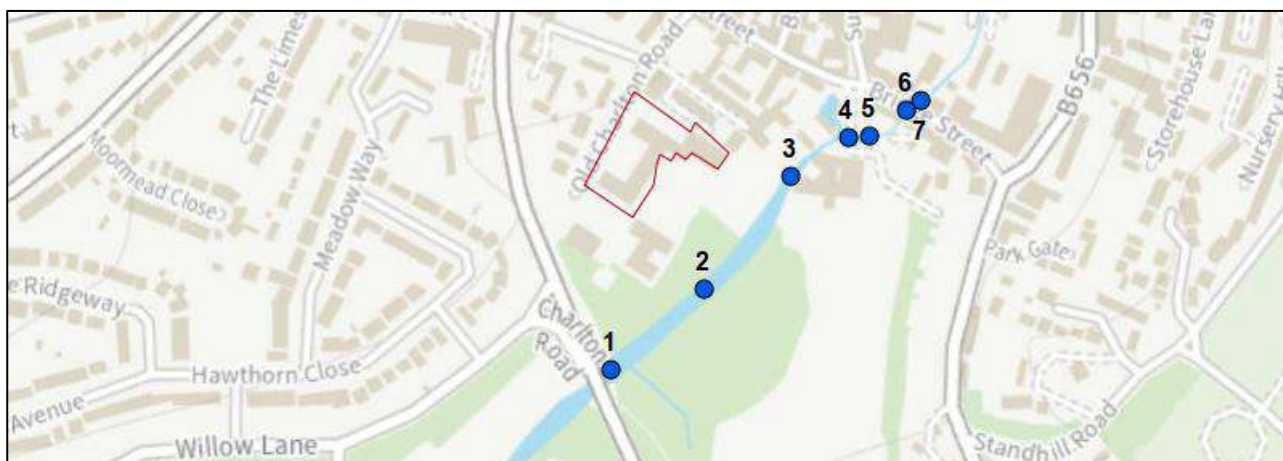


Figure 3: Model nodes from Ean Ivel Project Ivel Model 2019 model

4.14 Data included modelled flood extents and 1D in-channel flood levels for a range of return periods and climate change scenarios. Data was not provided for the relevant 19% climate change uplift; the 25% uplift, provided within the model data, has therefore been assessed as the design event.

4.15 The modelled peak flood water levels relevant to the site are shown in Table 2.

Table 2: Extracted Max Flood Water Levels from the Ivel Project Model (2019)

Node	5% AEP	1% AEP	1% AEP + 25% CC	0.1% AEP	0.1% AEP + 25% CC
2	63.43	63.67	63.75	64.17	64.23
3	63.42	63.66	63.73	64.13	64.17

4.16 The minimum level on site, within the development redline boundary, is 64.70 m AOD at the site access road. The site level is therefore 0.97 m above the 1% AEP plus 25% climate change level and 0.5 m above the 0.1% AEP plus 25% climate change level.

Summary Assessment

4.17 If the latest EA modelled information (Ivel Project Model 2019) is considered, then the application site should not be considered at risk of (fluvial/river) flooding from the River Hiz.

4.18 The Flood Zone 2 climate change river flooding extent shown by the EA on the Flood Map for Planning is based on updated national modelling that is not available for review. While the floodplain extent is shown to potentially reach the redline boundary, it is approximately 20 m from the Ancillary Building B footprint. Cross-referencing the edge of the flooding with the EA LIDAR data suggests a peak flood water level of 65.95 m AOD.

4.19 The development is not considered at risk of fluvial flooding.

Risk of flooding from surface water

4.20 Flooding from surface water can occur following intense local rainfall events when floodwater is unable to infiltrate into the ground or discharge into natural or artificial drainage infrastructure. In an urban environment, the risk of flooding from surface water and overloaded sewers is closely related, and both are included in the relevant surface water flooding datasets. Flood water subsequently follows the topography of the local area. Surface water events are typically of a short duration but can be severe.

4.21 The GOV.UK long-term flood risk mapping includes the risk of surface water flooding. These maps are a useful tool in assessing the extent and frequency of flooding in a general area, but do come with a caveat that they should not be used at the property level. Therefore, engineering judgement is required when using these maps for site-specific assessment.

Environment Agency RoFSW Maps

4.22 The Environment Agency Risk of Flooding from Surface Water (RoFSW) extent map for the site and surrounding area is presented in Figure 4. These maps were updated in 2025 with outputs from improved national modelling from the Environment Agency.

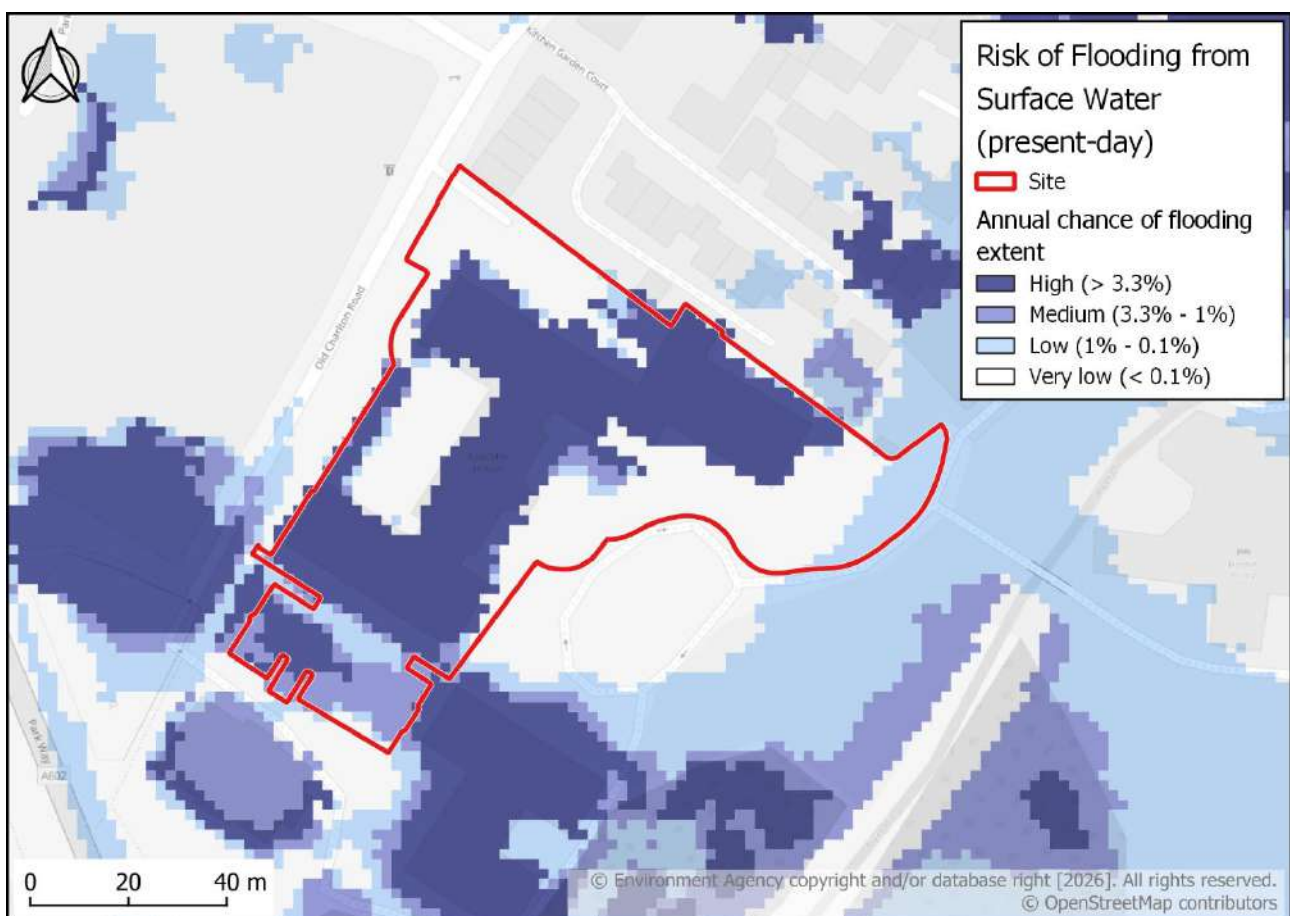


Figure 4: Risk of Flooding from surface water – extent

- 4.23 The dark blue shaded areas show locations with a high chance of surface water flooding, which have a greater than 3.3% (1 in 30 years) chance of flooding in each year, lighter blue areas represent medium chance between 3.3% and 1% (1 in 100 years) annual chance of flooding and the pale blue areas represent a low chance between 1% and 0.1% (1 in 1000 years) annual chance of flooding. Areas that are not highlighted in blue are classed as having a very low chance of surface water flooding, with less than 0.1% annual chance of flooding.
- 4.24 Figure 4 shows that the majority of the site has a 'high' (greater than 3.3%) annual chance of surface water flooding. However, the surface water flood risk to the site is considered inaccurate due to the modelling not having incorporated local obstructions and topographic features, as well as modifications made by the modellers to building footprints.
- 4.25 Radcliffe House includes a basement. If overland catchment surface water flooding does flood the lower ground levels around the main building, the basement level may be at risk of flooding. However, the risk of the site flooding from the road is not considered wholly accurate.

Existing obstructions to catchment surface water flow routes

- 4.26 Surface water flooding of the site from overland catchment surface water flow routes would be resisted by the existing obstructions along the north-western and north-eastern boundaries of the site.
- 4.27 As shown in Figure 5 there is an existing high brick wall along the length of the site along Old Charlton Road, which would prevent surface water flooding in the road from accessing the site. The only way for surface water to enter the site directly off the road would be via the driveway entrance and the pedestrian archway 'gap' in the brick wall.



Figure 5: Aerial view of the site from the north-west (Google Earth)

- 4.28 Along the north-eastern site boundary, a high brick wall extends from the driveway entrance off Old Charlton Road to tie into the Radcliffe House Ancillary Building A. This would obstruct any surface water from the adjacent areas north of the site from flowing onto the site.
- 4.29 As shown in Figure 6 the high brick walls separating the site from the residential houses north of the site extend along the full boundary of the site, past Radcliffe House Ancillary Building B. This would obstruct any surface water from the adjacent areas north of the site from flowing onto the site.
- 4.30 Internally, within the site, there are existing landscaping walls separating the onsite car park, between Radcliffe House and Keynes House, from the lowered area surrounding the lower ground (basement) level of Radcliffe House.



Figure 6: Aerial view of the site from the south-east (Google Earth)

Assessment of surface water flow routes

4.31 The Most Probably Overland Flow Pathways dataset, provided by the EA, applicable to the site and surrounding catchment, is shown in Figure 7.

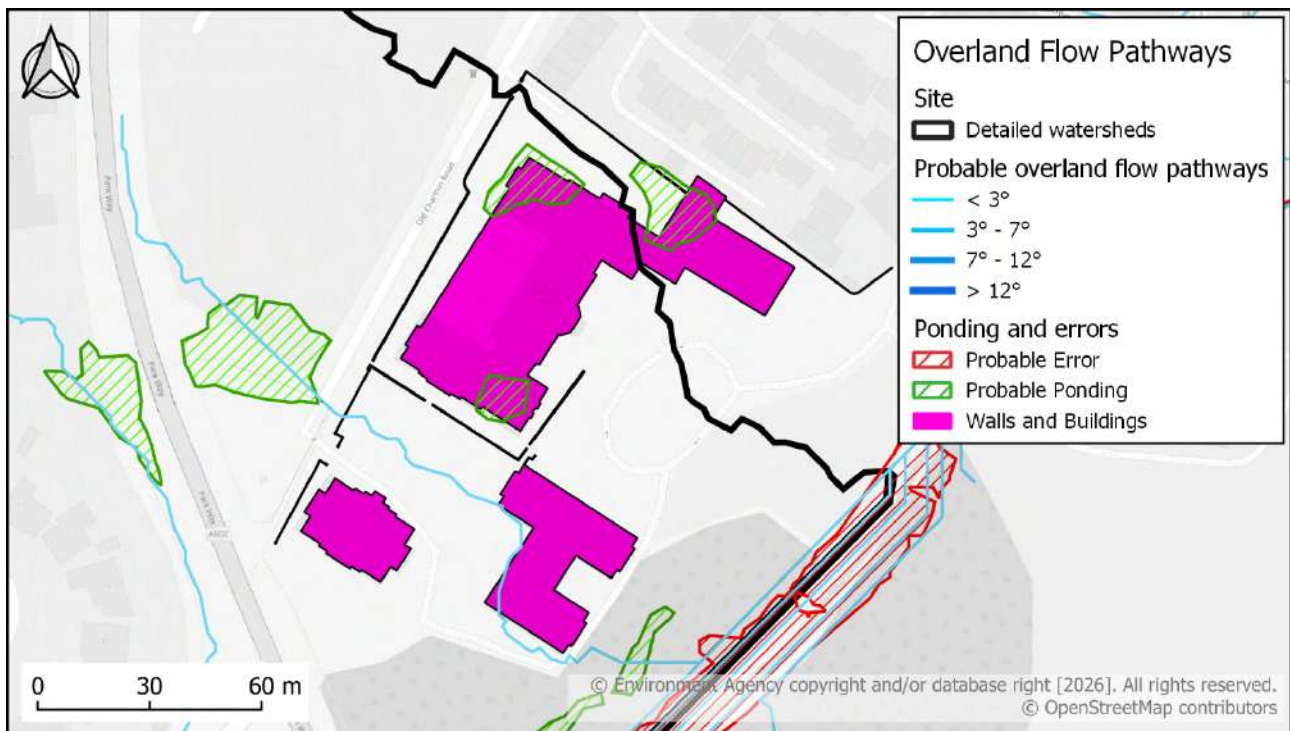


Figure 7: EA Overland Flow Pathways (with additional buildings and walls shown)

- 4.32 The Overland Flow Pathways map shows that the surface water flow route into the site is from the catchment to the north-west, with the flow route to the west of Radcliffe House at the driveway access towards Pease House.
- 4.33 The existing driveway access to Radcliffe House and the basement level is shown located along the watershed line (at the crest of the local topography), and as such, overland surface water will not flow into the site via this opening through the existing boundary wall. Any surface water on Old Charlton Road will flow in a southwest direction, towards that southern driveway access.
- 4.34 Overland surface water flow from the upper catchment will flow under the A602 Park Way and arrive at the boundary of the business park (including the site) as shown in Figure 8. The figure has been annotated to show the existing assumed dominant flow path for surface water through the existing developed site.

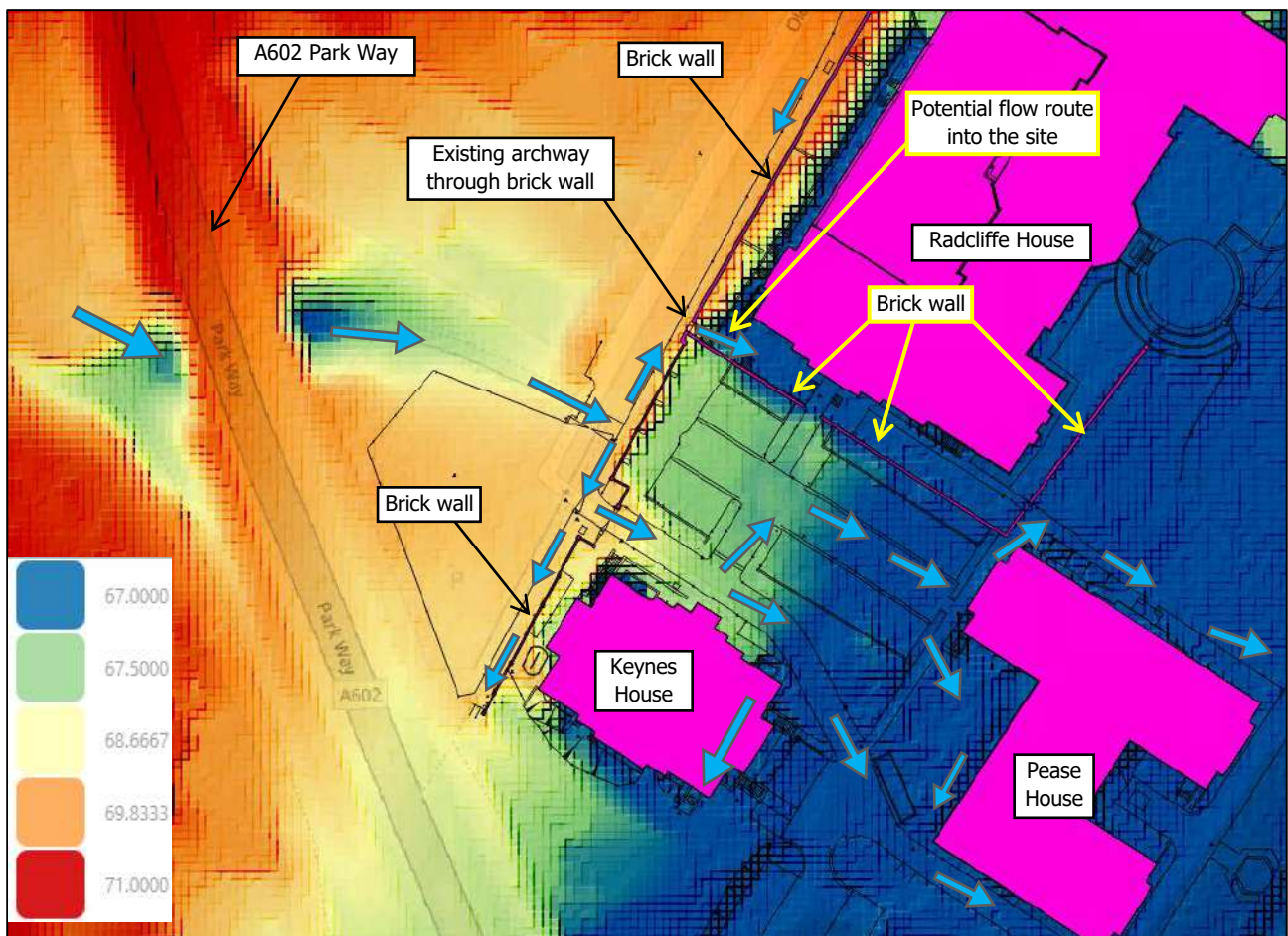


Figure 8: LIDAR DTM showing upstream overland surface water flow paths towards the site

- 4.35 The assumed arrival of the upstream catchment surface water flow at the site boundary wall along Old Charlton Road is shown in Figure 9. The figure also shows the existing pedestrian archway “gap” in the boundary brick wall through which surface water might flow should water levels in the road reach sufficient depths.

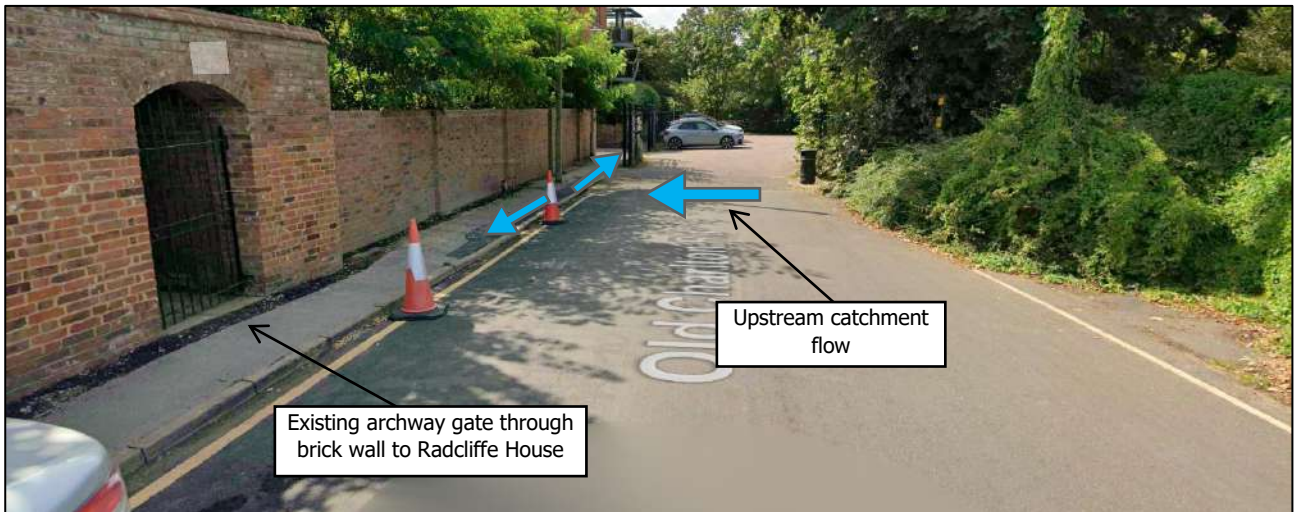


Figure 9: Old Charlton Road showing flow directions for overland surface water flows

4.36 Based on the topographic survey levels, it is considered that surface water flows will predominantly continue southward, along the road kerb and brick wall, until the driveway entrance through the wall (as shown in Figure 10).

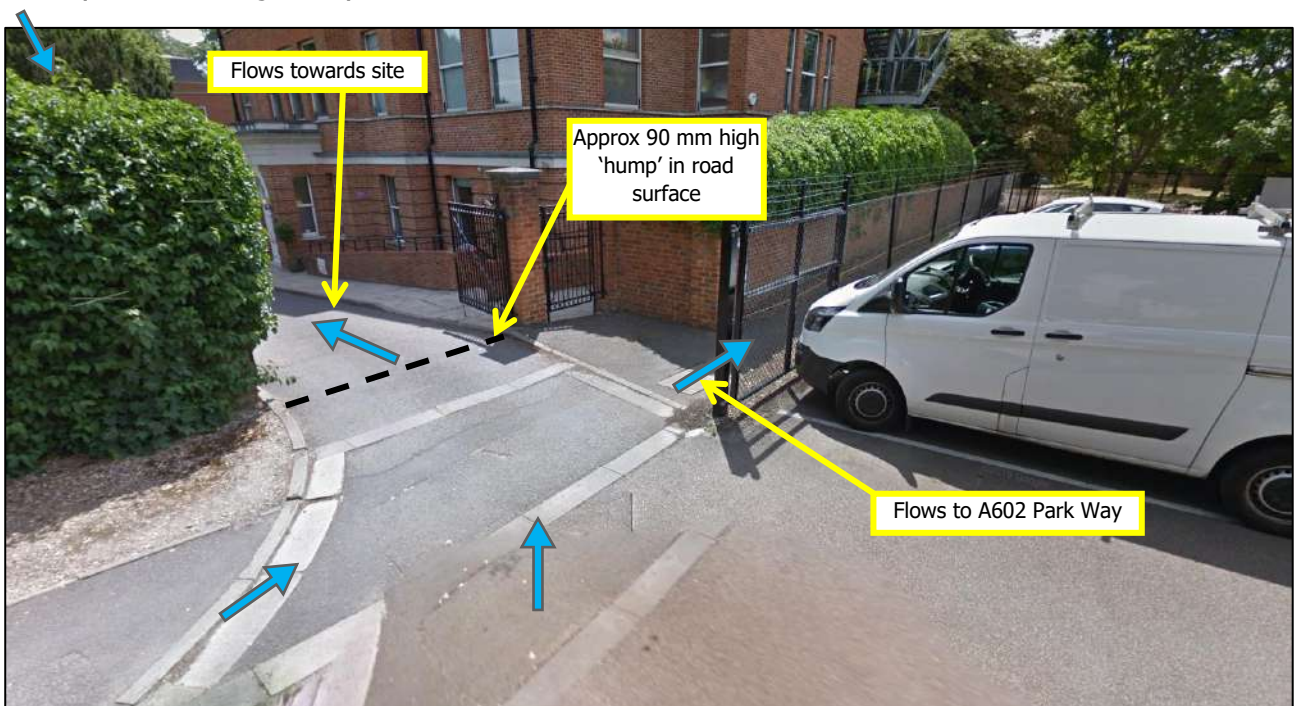


Figure 10: Overland surface water flow route into driveway entrance/access off Old Charlton Road

4.37 There is an approximately 90 mm raised 'hump' across the driveway entrance, such that some surface water (overland) flows will be diverted to continue flowing along the further section of the brick wall and onto the A602 Park Way.

4.38 The remainder of the overland flows will continue down the driveway as shown in Figure 11.

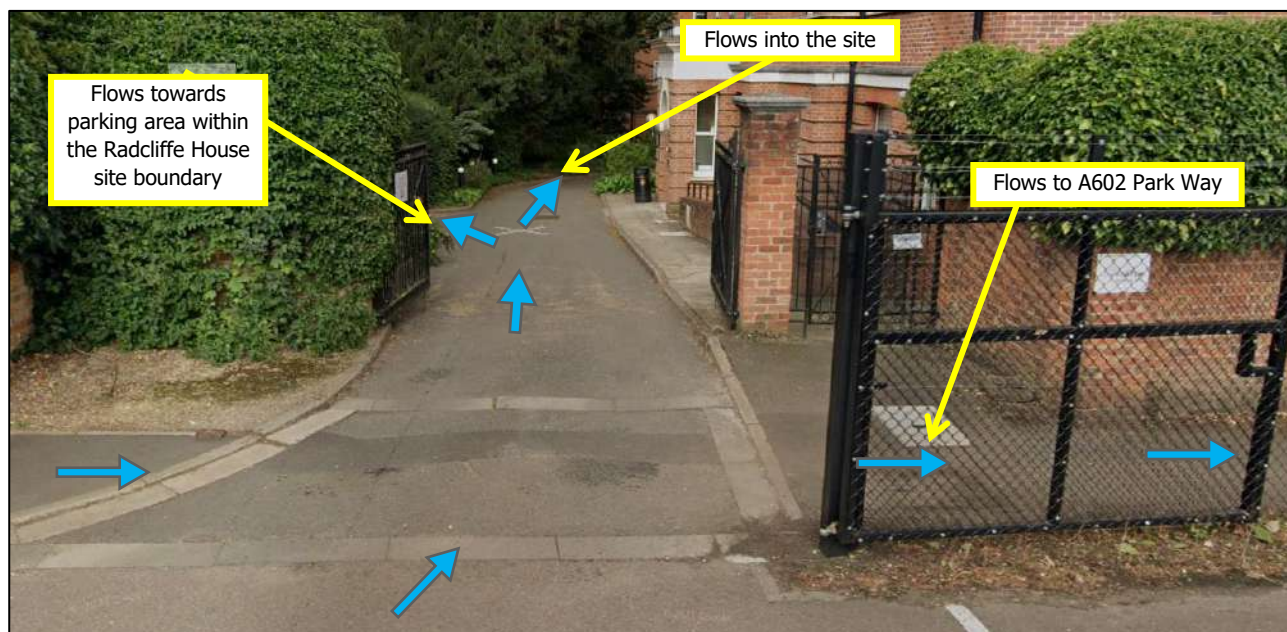


Figure 11: Surface water flow route down the driveway towards Pease House

- 4.39 Park way down the driveway, some of the overland flows will be diverted off the driveway and onto the car park between the driveway and Radcliffe House (within the application site boundary), with the remainder continuing to follow the driveway toward Pease House.
- 4.40 The flows that continue down the driveway will then flow down the footpath, alongside the south-western side of the Pease House. The flows that flow onto the parking area would then flow down the parking area onto the footpath north-west of Pease House. These assumed flow directions are shown in Figure 8. The flow split around Pease House or between Radcliffe House and Pease House is unknown; however, it is assumed that the dominant flow route should remain around Pease House.
- 4.41 As identified previously, there is a possibility that some catchment surface water may currently flow through the Radcliffe House pedestrian archway, gated entrance, through the brick wall along Old Charlton Road. However, the current extant planning permission for Radcliffe House includes approved changes to the access route, which will raise the threshold level of stairs to prevent surface water from flowing onto the Radcliffe House site. The drawing showing the proposed works is included in the Appendix.
- 4.42 The existing car park to the south of Radcliff House is separated from the lower levels surrounding the building by two brick walls. However, there is a pedestrian access walkway from the car park into the ground floor level of Radcliffe House that passes between the two walls. Catchment surface water flooding that flows onto the car park from the access road should continue down the car park surface towards Pease House, rather than flooding the basement level of Radcliff House. This flow route/risk is considered further later in this technical note.
- 4.43 The qualitative assessment of likely overland surface flow routes has been based on an assessment of the available topographic information, as well as extensive experience in undertaking surface water hydraulic modelling. The only way to confirm these assumptions would be to undertake further site-specific hydraulic modelling.

Assessment of surface water flood risk

- 4.44 The assessment of surface water flood risk to the existing Radcliffe House and associated landscaping works is based on the updated assessment detailed previously in this technical note.
- 4.45 The EA RoFSW mapping for depths greater than 0.2 m is shown in Figure 12.

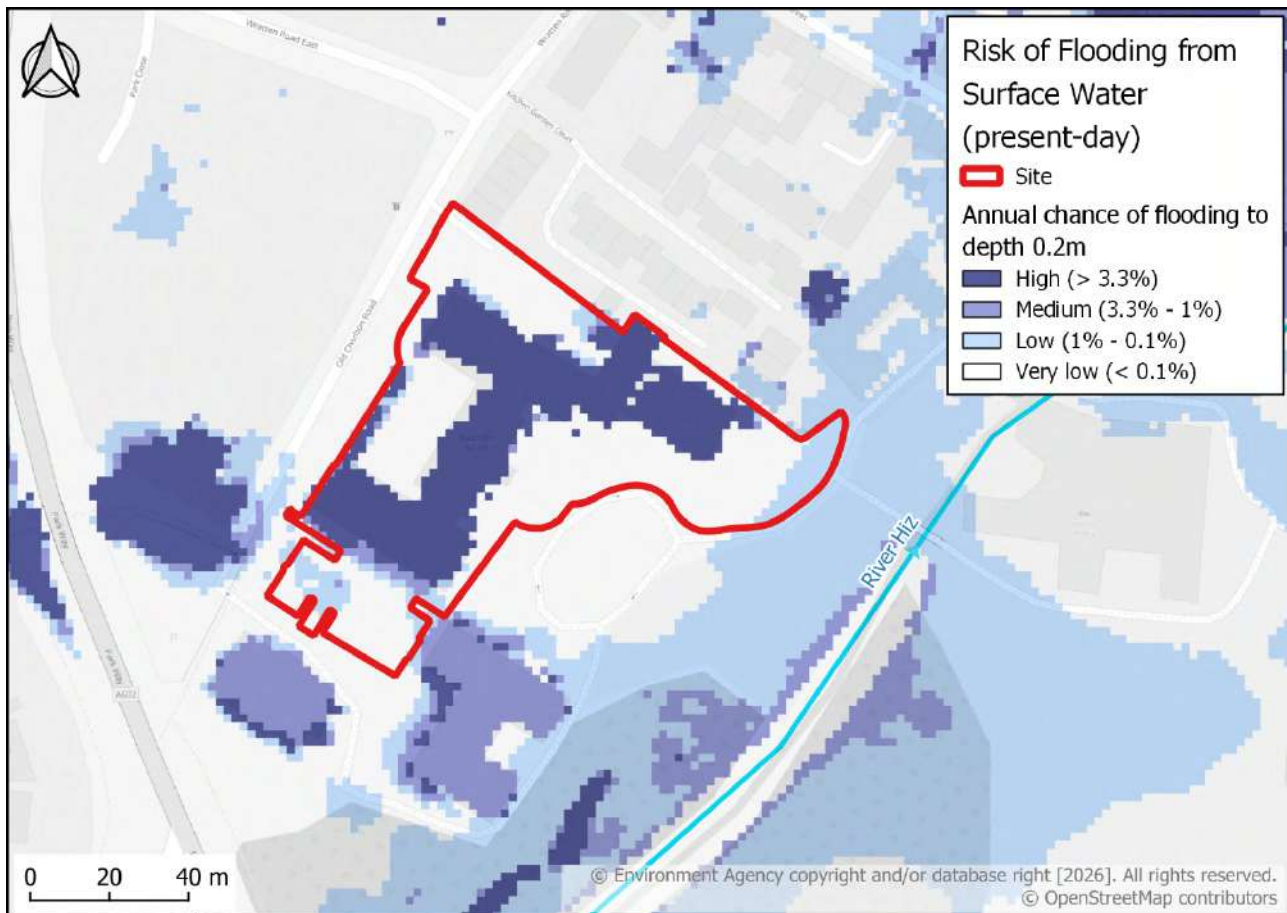


Figure 12: Risk of Flooding from surface water – Depths > 0.2 m

- 4.46 The only area within the site boundary at risk of catchment surface water flooding is the existing car park on the southern side of Radcliffe House.
- 4.47 A possible surface water flow route off the car park to around Radcliffe House for consideration is the existing raised pedestrian access near the upper third of the car park (as shown in Figure 13). The survey shows that the threshold level for the access is at 67.70 m AOD, whilst the level in the car park opposite the access link is at 67.40 m AOD. The access threshold is set 0.3m above the level in the car park. As shown in Figure 12, the flow across the car park is modelled at mostly less than 0.2 m in depth, thus unlikely to reach a depth to risk flow off the car park to the lower area around Radcliffe House.
- 4.48 The proposed landscaping arrangement plan includes new pedestrian access off the car park to Radcliffe House, located near the lower end of the car park (as shown in Figure 13). The ground levels in the car park are approximately the same as the levels surrounding Radcliffe House (at approximately 66.70 m AOD). This new pedestrian access may increase the risk of catchment surface water flowing off the car park and onto the ground surrounding Radcliffe House. Additional design works should consider measures to prevent surface water from flowing off the car park via this proposed pedestrian access link.

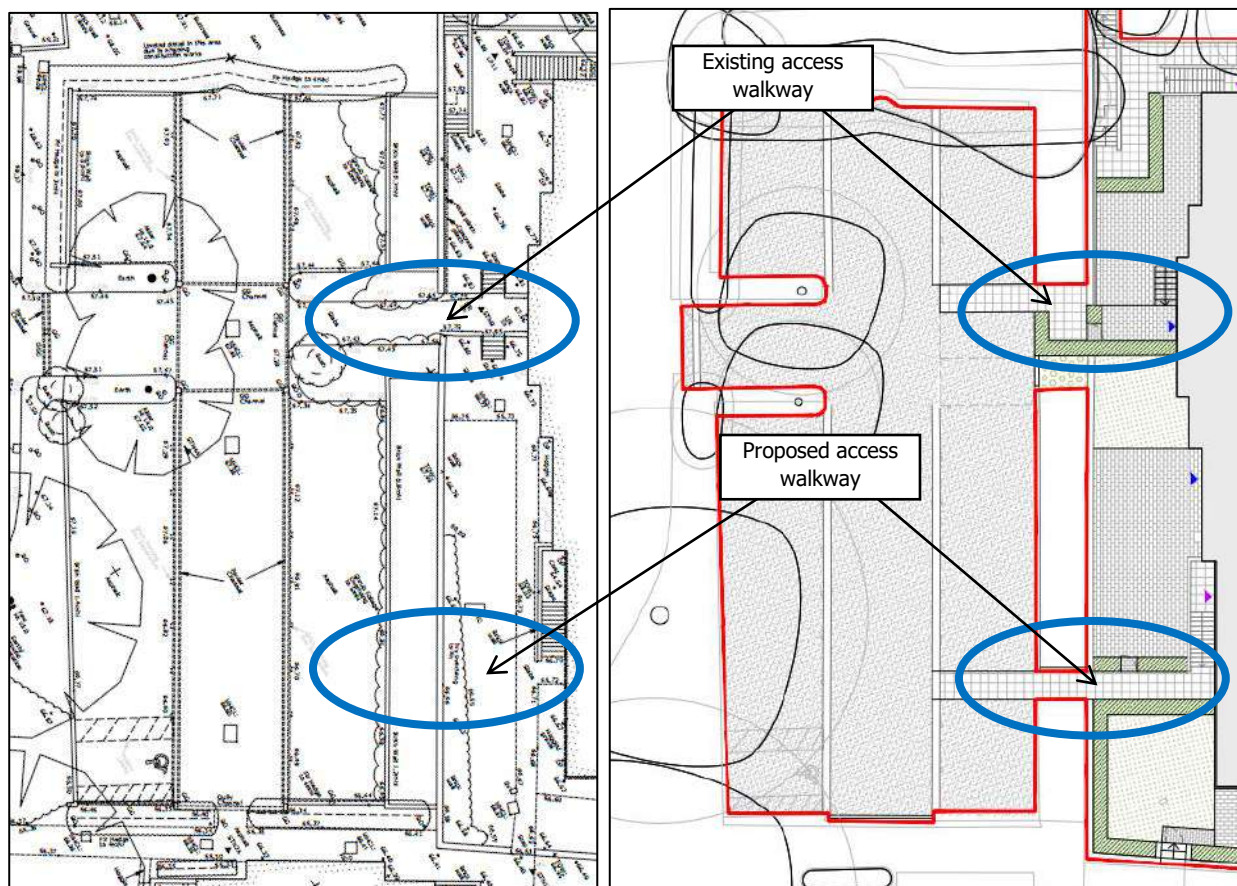


Figure 13: Comparison of existing (topographic survey) vs landscape proposal for access off the car park

- 4.49 Radcliffe House is currently at risk of catchment surface water flowing through the existing archway pedestrian entrance off Old Charlton Road. This risk should be avoided by the proposed (previously approved) works to raise the threshold level to prevent surface water from flowing off the road and into the site.
- 4.50 All other areas within the site where landscaping is proposed should only be at risk of local direct rainfall runoff, which should be managed by existing site drainage.

Risk of flooding from sewers

- 4.51 Sewer flooding generally results in localised short-term flooding caused by intense rainfall events overloading the capacity of sewers. Flooding from sewers and highways is linked to the risk of flooding from surface water in urban areas, with the exact source of flooding often indistinguishable.
- 4.52 A plan showing the location of Anglian Water sewer assets is attached in the appendix of this technical note. The plan shows a 300 mm surface water sewer running south along Park Way to the west of the site, and a 225 mm foul sewer running northeast directly adjacent to the southern boundary of the site.
- 4.53 Sewer flooding is likely to be closely related to the surface water flooding in this area, and any surcharging of the local drainage system emerging at ground level would follow the topography of the local area.
- 4.54 The risk to the development from sewer flooding, independent of other sources, is considered low.

Risk of flooding from groundwater

- 4.55 Groundwater flooding occurs as a result of water rising from an underlying aquifer or flowing from springs. This typically occurs following prolonged periods of intense rainfall, and the areas at greatest risk are usually low-lying, where the water table is likely at a shallow depth.
- 4.56 Groundwater flooding can interact with other flooding sources, further exacerbating their risk by reducing the infiltration of floodwater into the ground. The main mechanisms for elevated groundwater are associated with periods of heavy rainfall in permeable superficial deposits and/ or hydraulic continuity of river baseflow and high river water levels within permeable deposits.
- 4.57 Figure 14 shows the 1:50k British Geological Society (BGS) map, which indicates that the bedrock geology consists of Zig Zag chalk formation (chalk). The majority of the site is underlain by Mid Pleistocene Glaciofluvial deposits (sand and gravel), with Lowestoft formation (diamicton) superficial deposits in the north west of the site and alluvium (clay, silt, sand and gravel) in the south east.

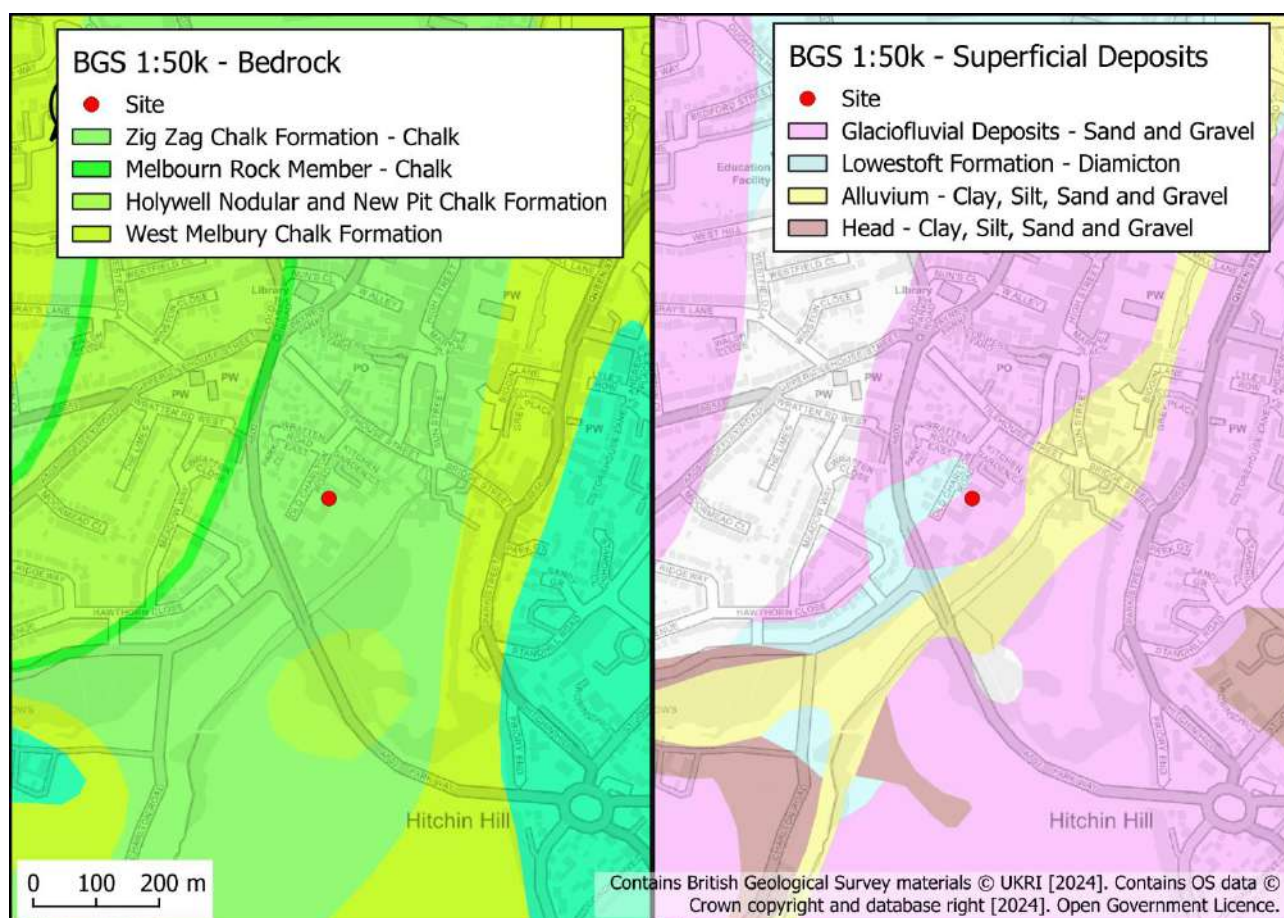


Figure 14: BGS 1:50k geology

- 4.58 The DEFRA Magic Maps⁶ show that the bedrock is classified as a principal aquifer, defined as "*geological strata which — (a) exhibit a high intergranular or fracture permeability, and (b) provide a high level of water storage and support water supply or base flow to rivers, lakes and wetlands on a strategic scale*". The superficial deposits are defined as a Secondary A aquifer, defined as "*permeable strata capable of supporting water supplies at a local rather than strategic scale*".
- 4.59 There is no ground investigation available. Therefore, publicly available borehole records have been used to verify local ground conditions. The nearest borehole record (TL12NE202) to the site is located

⁶ Available at: <https://magic.defra.gov.uk/MagicMap.html> [Accessed: 16/10/2025]

approximately 60 m to the west of the site. The borehole was excavated to a depth of 20.8 m, and the log shows the geology to be predominantly made up of clay, overlain by clay, silt and gravel. Groundwater was not recorded to have been encountered.

- 4.60 Hertfordshire County Council provides online mapping for the areas susceptible to groundwater flooding, which shows the site to lie in a 1km square area classified as having a <25% susceptibility to groundwater emergence (see Figure 15). The mapping does not show the likelihood of groundwater flooding occurring.

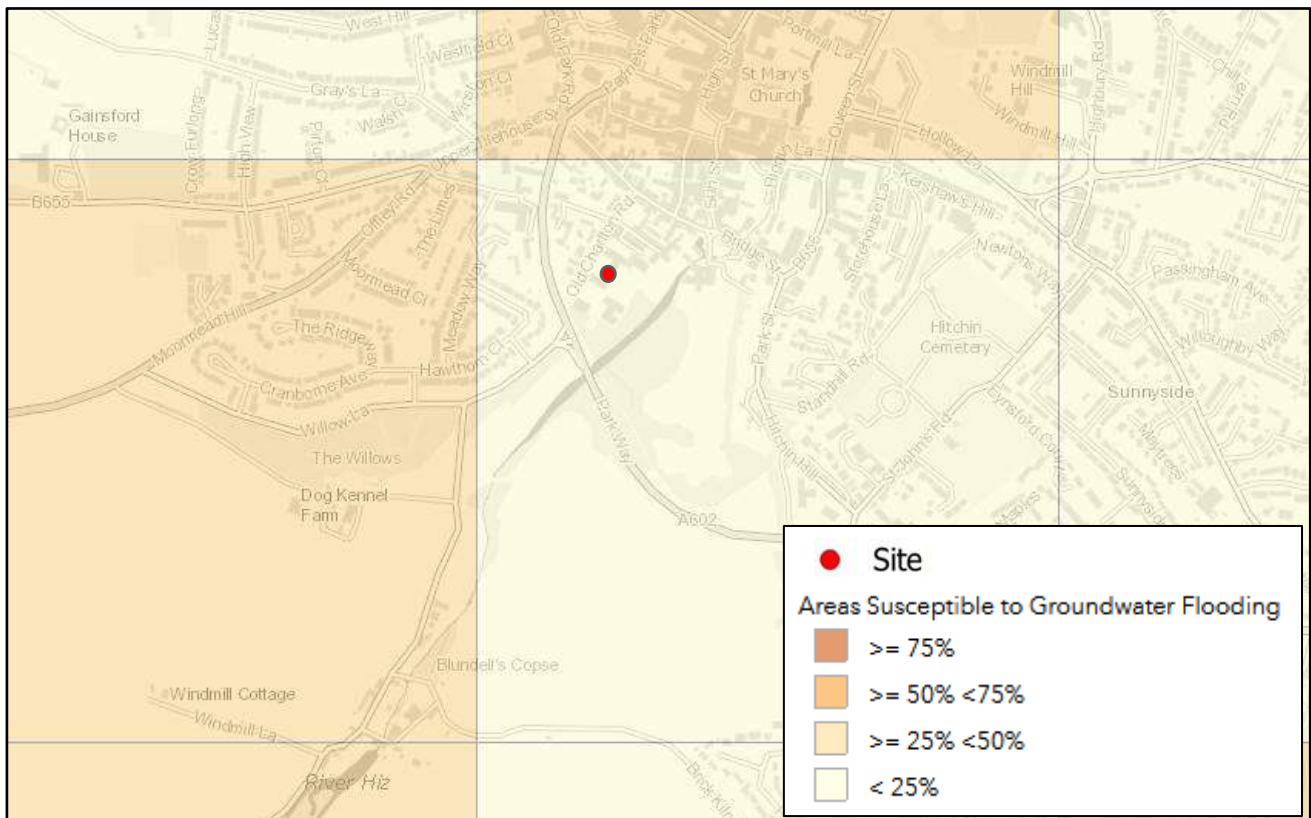


Figure 15: HCC Flood Risk Management Viewer⁷ – Showing Areas Susceptible to Groundwater Flooding

- 4.61 Considering the development proposed, it is considered unlikely that any recent borehole investigations have been undertaken on site. The publicly available BGS borehole records show historic boreholes on site (dated 1983); however, access to these is restricted. The nearest public borehole records for the Hitchin Priory Bypass (dated 1978) recorded groundwater levels at approximately 1 m below ground level. However, these boreholes are near the crossing of the River Hiz, where ground levels are at least 2 m to 3 m below the application site/existing basement levels.
- 4.62 The existing building does include a basement used primarily for parking, which will be retained by the proposed development. It is not known whether the basement parking area has experienced groundwater flooding in the past.
- 4.63 The proposed development is therefore not considered at high risk of groundwater flooding.

⁷ <https://webmaps.hertfordshire.gov.uk/waterman/index.htm>

Risk of flooding from artificial waterbodies

- 4.64 The risk of flooding from artificial sources has been defined as the risk arising from the failure of man-made infrastructure or human intervention that causes flooding. This includes failure of canals or reservoir embankments, as well as activities such as groundwater.
- 4.65 The site lies outside the GOV.UK modelled reservoir flood extents.
- 4.66 Furthermore, the Environment Agency are the enforcement authority for the Reservoirs Act 1975 in England, ensuring that reservoirs are inspected regularly, and that all essential safety work is carried out. All reservoirs must be inspected and supervised by reservoir panel engineers. There has been no loss of life in the UK from reservoir flooding since 1925.
- 4.67 The site is therefore not at risk of flooding in the event of failure of reservoirs, and there are no further artificial waterbodies in the area that would constitute a significant risk of flooding on the site.

5 Development response to flood risk

Assessment of flood risk

- 5.1 The only flood risk identified for the site, where a development response is required, is from surface water flooding. The external landscaping changes to Radcliffe House lie outside of the fluvial flood risk from the River Hiz, and no other sources of flood risk are identified as posing a risk to the proposed development.
- 5.2 Radcliffe House is currently potentially at risk of catchment water flooding due to the existing archway pedestrian entrance off Old Charlton Road.
- 5.3 The car park on the south-western side of Radcliffe House is assumed to be at risk of surface water flooding from the off-site driveway entrance at the end of Old Charlton Road. No changes are proposed to the car park directly; therefore, the flood flows should be shallow and not pose a risk to the use of the car park.
- 5.4 A new pedestrian access link between the car park and Radcliffe House is proposed at the lower end of the car park, which poses a risk of surface water flooding in the car park flowing towards the low-lying areas surrounding Radcliffe House.
- 5.5 None of the other proposed landscaping changes are considered at risk of catchment surface water flooding, only local rainfall runoff, which should be managed by site drainage.

Proposed protection against flood risk

- 5.6 To reduce the risk of damage to Radcliffe House and/or internal flooding, the following is proposed:
- The previously proposed and approved works to the archway pedestrian access entrance off Old Charlton Road should be undertaken.
 - The new pedestrian access link off the car park to Radcliffe House should be raised above the catchment surface water flooding in the car park. It is recommended that a level of at least 67.0 m AOD should provisionally be considered, providing a minimum 300 mm freeboard above the minimum adjacent car park surface levels.
- 5.7 Any work required to finalise the design form (level and accessibility ramps, etc) of the new access link can be submitted for consideration and approval to satisfy an appropriate planning condition.

Safe access and egress

- 5.8 In the event of a surface water flooding event or a fluvial flooding event, the proposed external landscaping changes do not adversely impact the existing safe access and egress route via the main entrance off Old Charlton Road.

6 Surface water drainage

- 6.1 The proposed landscaping will increase the extent of hard surfacing across the site; however, some of the increases will be offset by the proposed change of the existing courtyard parking to a landscaped garden. The surface water drainage of the site will need to be addressed as part of a site-wide sustainable drainage (SuDS) strategy.
- 6.2 An existing drainage plan of the site is not available at the time of this application; however, it is assumed that the new areas of hardstanding will likely be connected to the existing surface water drainage, which is assumed to discharge to the River Hiz.
- 6.3 The new hardstanding surfaces are distributed across the site, surrounding existing drained areas, such that it would likely not be possible to mitigate for each of the new drained hardstanding surfaces independently.
- 6.4 It is considered likely that the SuDS strategy may need to make changes to the existing hardstanding surface and drainage system to offset the impact of the landscaping proposals.

7 Conclusions

- 7.1 This technical note has assessed the risk of flooding to the proposed development from all sources.
- 7.2 The future risk of fluvial (river) flooding, due to climate change, was identified to extend into the application site boundary; however, it did not reach any of the proposed landscaping changes included as part of this planning application. The existing Radcliffe House buildings are not shown at risk of fluvial flooding.
- 7.3 The site was identified at risk of surface water flooding by the EA Risk of Surface Water flood map. However, it was shown that the EA flood mapping was not correct for the site and likely overestimated the actual flood risk to the Radcliffe House.
- 7.4 The site is partially protected from catchment surface water flooding by the high brick walls along Old Charlton Road and the north-eastern site boundary.
- 7.5 The existing vehicular entrance into the site is at the crest of the topography, so there is not considered any risk of catchment surface water flooding entering the site via that entrance.
- 7.6 There is a risk of catchment surface water flooding entering the site via the pedestrian archway entrance through the brick wall; however, a design for reducing/removing this risk was proposed and accepted as part of the previous application for Radcliffe House. The changes to the access stairs would be undertaken as part of the Radcliffe House landscaping works.
- 7.7 The car park to the South-west of Radcliffe House will be at risk of surface water flooding, arising from catchment surface water flows entering the wider business park site boundary driveway access towards Pease House.
- 7.8 The existing pedestrian access off the car park into Radcliffe House was considered to likely be sufficiently elevated above the car park levels, such that it should prevent surface water flooding from using this route to flood the lower ground surrounding Radcliffe House.

- 7.9 A new pedestrian access off the car park into Radcliffe House is proposed, which was considered to pose a risk of surface water using this route to flood the lower ground surrounding Radcliffe House. It is recommended that the access be raised above the levels of the car park to reduce this risk. The final required level of the footpath should be finalised as part of the detailed design; however, it is recommended that the footpath be at least 300 mm above the adjacent level in the car park.
- 7.10 Any work required to finalise the design form (level and accessibility ramps, etc) of the new access link can be submitted for consideration and approval to satisfy an appropriate planning condition.
- 7.11 The site was found to be at low risk of all other sources of flooding.
- 7.12 In the event of flooding, safe access and egress from Radcliffe House will not be adversely impacted by the proposed external landscaping.
- 7.13 The landscape proposals will not increase flood risk elsewhere.
- 7.14 A sustainable drainage (SuDS) strategy will need be prepared to offset the increases in drained surface water runoff from the site as a result of the proposed development changes. This SuDS strategy would be informed by details of the existing site drainage, which are not currently available. This strategy can be submitted for consideration and approval to satisfy an appropriate planning condition.

Appendix

- Topographic survey
- Landscaping General Arrangement Plan
- Hard Landscaping Plan
- Soft Landscaping Plan
- Proposed Works to Arch Access to Reduce Surface Water Flood Risk
- Anglian Water Asset Data



TOPOGRAPHICAL & MEASURED BUILDING SURVEYS

ABBREVIATIONS & SYMBOLS

AH	Arch Head Height	ER	Earth Rod	RSD	Roller Shutter Door
AB	Air Brick	ET	EP+Transformer	RSJ	Rolled Steel Joist
AR	Assumed Route	FB	Flower Bed	SI	Sign Post
AV	Air Valve	FBD	Floor Board Direction	SP	Arch Spring Point Height
BB	Beltsha Beacon	FH	Fire Hydrant	SV	Stop Valve
BH	Bore Hole	FL	Floor Level	SW	Surface Water
BL	Bed Level	FP	Flag Pole	SY	Cable Stay
BO	Bollard	FW	Foul Water	Tac	Tactile Paving
BrP	Brace Post	GG	Gully Grate	TC	Telecom Cover
BS	Bus Stop	GV	Gas Valve	TH	Trail Pit
BU	Bush	HH	Head Height	THL	Threshold Level
B/W	Barbed Wire Fence	IC	Inspection Cover	TL	Traffic Light
BX	Box (Utilities)	IL	Invert Level	ToW	Top of Wall
CB	Close Board Fence	IR	Iron Railings	TP	Telegraph Pole
CH	Cill Height	KO	Kerb Outlet	TS	Traffic Signal Cover
CL	Cover Level	LP	Lamp Post	TV	Cable TV Cover
C/L	Chain Link Fence	MH	Manhole	UB	Universal Beam
C-Lev	Ceiling Level	MP	Marker Post	UC	Unknown Cover
Col	Column	NB	Name Board	UK	Unknown Tree
CIP	Chestnut Paving Fence	OHL	Overhead Line (approx)	UMG	Unmade Ground
CR	Cable Riser	Par	Panel Fence	USB	Under Side Beam
C/W	Chicken Wire	PB	Post Box	UTL	Unable To Lift
DC	Drainage Channel	PM	Parking Meter	UTS	Unable To Survey
DH	Door Head Height	PO	Post	VP	Vent Pipe
DL	Disagitated	PR	Post & Rail Fence	WB	Waste Bin
DP	Down Pipe	P/W	Post & Wire Fence	WH	Weep Hole
DR	Drain	P/Wall	Partition Wall	WL	Water Level
EBx	Electric Box	RE	Rodding Eye	WM	Water Meter
EC	Electric Supply Cover	RL	Ridge Level	WO	Wash Out
EL	Eaves Level	RP	Reflector Post	WC	Wash Out
EP	Electric Pole	RS	Road Sign	WC/C	Floor to Ceiling Height
					Floor to False Ceiling HT

Indicative, Multi-bolt tree

Survey Control Station

DRAWING NOTES

Topographical Surveys

Trees are drawn to scale showing the average canopy spread. Descriptions and heights should be used as a guide only.

All building names, descriptions, number of storeys, construction type including roof line details are indicative only and taken externally from ground level.

All below ground details including drainage, voids and services have been identified from above ground and therefore all details relating to these features including: sizes, depth, description etc will be approximate only. All critical dimensions and connections should be checked and verified prior to starting work.

Detail, services and features may not have been surveyed if obstructed or not reasonably visible at the time of the survey.

Surveyed physical features may not necessarily represent the legal boundary line.

Measured Building Surveys

Measurements to internal walls are taken to the wall finishes at approx 1m above the floor level and the wall assumed to be vertical.

Cill heights are measured as floor to the cill and head heights are measured from cill to the top of window.

General

The contractor must check and verify all site and building dimensions, levels, utilities and drainage details and connections prior to commencing work. Any errors or discrepancies must be notified to Survey Solutions immediately.

The accuracy of the digital data is the same as the plotting scale implies. All dimensions are in metres unless otherwise stated.

The survey control listed is only to be used for topographical surveys at the stated scale. All control must be checked and verified prior to use.

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NOTTINGHAM YEOVIL

PROJECT TITLE
THE PRIORY, TILEHOUSE STREET,
HITCHIN, HERTFORDSHIRE SG5 2DL

DRAWING DETAIL
TOPOGRAPHICAL SURVEY
Sheet 2 of 2

CLIENT PETIT PAPILLON				SCALE 1:200
SURVEYOR LP	SURVEY DATE 05/2024	CHECKED BY GJ	APPROVED BY MM	DWG STATUS FINAL
DRAWING NUMBER 67384BDLS-02			REVISION	ISSUE DATE 20/05/2024





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LEGEND

Site boundary

Existing trees retained and Root Protection Area (RPA)

Access to Ground Floor

Access to Basement

PROPOSED SOFT LANDSCAPE

Biodiverse lawns

Wildflower meadows

Ornamental planting

Hedges

Proposed trees

PROPOSED HARD LANDSCAPE

Proposed gravel surface dressing

Existing paving treatment to Back of House (BOH) areas retained and extended as needed

Proposed paving treatment to private terraces and garden patios

Proposed paving treatment to thresholds and private amenity areas

Existing paving treatment to key building entrances retained and upgraded as needed

Raised decks / landings to Architect's design and specification

Proposed edging / boundary treatment

Steps and direction of travel (all direct access to buildings - refer to Architect's design and specification)

Gated entrance

Proposed cycle stand (visitor)

Proposed cycle storage (private)

Proposed refuse storage (private)

Proposed bench

Proposed central garden feature

Drawing notes:

- Drawing to be read in conjunction with HTA's Hard and Soft Landscape information, Design Statement and all other information provided by consultants.
- All work within root protection areas (RPA) of existing retained trees to be undertaken under arboricultural supervision and done by hand such as digging and removal of existing hard landscape.
- M&E, lighting and drainage consultants' input is to be incorporated at detailed design stage.

F	09.04.26	SHS	Issued For Planning
E	30.03.26	SHS	Issued For Planning
D	30.03.26	SHS	Issued For Coordination
C	25.03.26	SHS	Issued For Coordination
B	20.03.26	SHS	Issued For Coordination
A	18.02.26	SHS	Issued For Coordination
-	06.03.26	SHS	Preliminary Issue

Rev Date Drawn Description

Status

FOR PLANNING

client / project

Metric + Maker

Hitchin Priory

drawing title

Radcliffe House

Landscape General Arrangement Plan

drawing number

MAM-HPL-050-RH-HTA-L-DR-0900

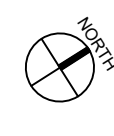
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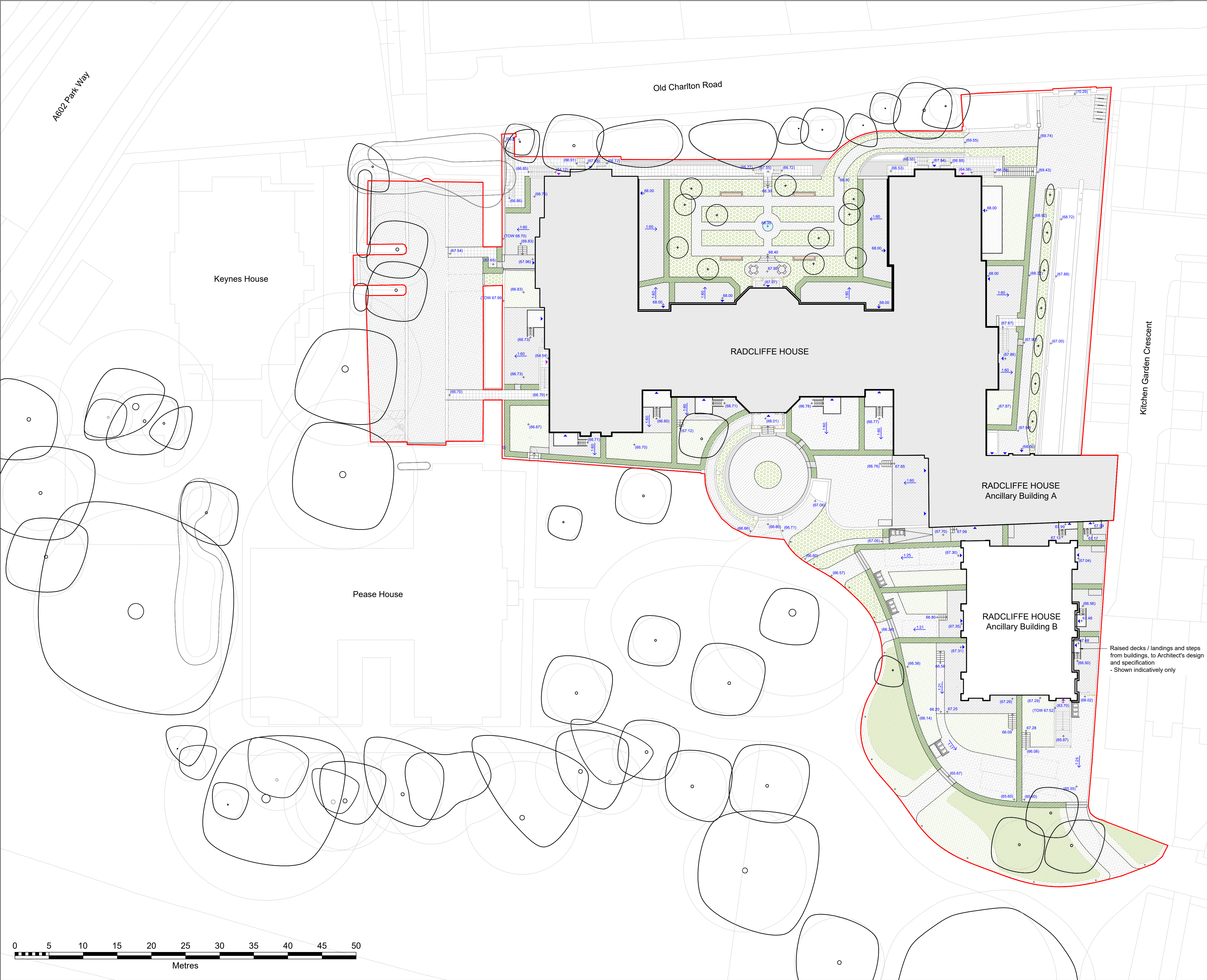
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LEGEND

Site boundary

Existing trees retained and Root Protection Area (RPA)

Access to Ground Floor

Access to Basement

PROPOSED HARD LANDSCAPE

Existing indicative spot level

Proposed indicative spot level

Proposed indicative gradient

Proposed gravel surface dressing

Existing paving treatment to Back of House (BOH) areas retained and extended as needed

Proposed paving treatment to private terraces and garden patios

Proposed paving treatment to thresholds and private amenity areas

Existing paving treatment to key building entrances retained and upgraded as needed

Raised decks / landings to Architect's design and specification

Proposed edging / boundary treatment

Steps and direction of travel (all direct access to buildings - refer to Architect's design and specification)

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Proposed cycle storage (private)

Proposed refuse storage (private)

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Proposed central garden feature

Drawing notes:

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- M&E, lighting and drainage consultants' input is to be incorporated at detailed design stage.

A 09.04.26 SHS Issued For Planning

Rev Date Drawn Description

FOR PLANNING

Client / project

Metric + Maker

Hitchin Priory

Drawing title

Radcliffe House

Hard Landscape Plan

Drawing number

MAM-HPL-050-RH-HTA-L-DR-0920

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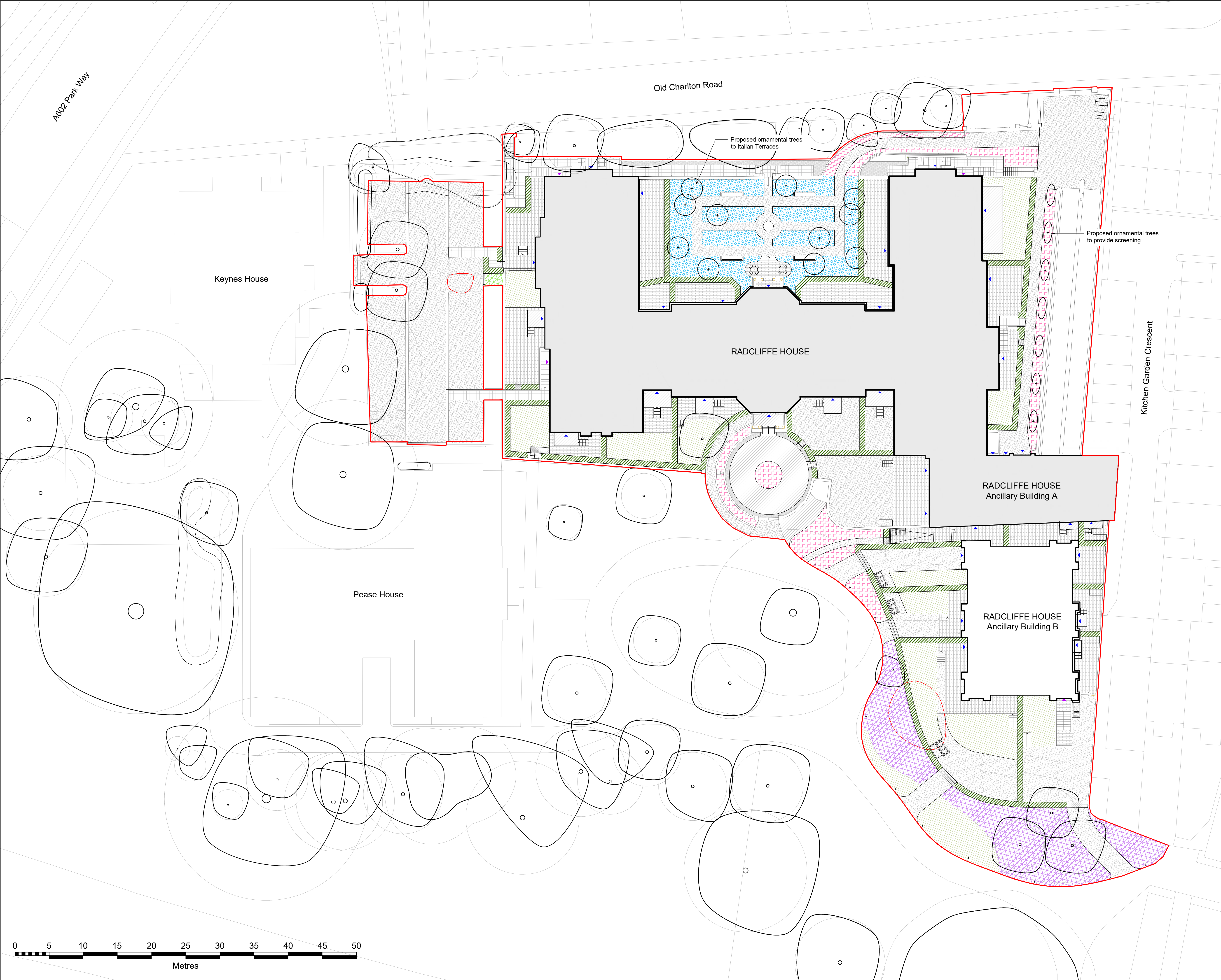
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LEGEND

- Site boundary
- Existing trees retained and Root Protection Area (RPA)
- Access to Ground Floor
- Access to Basement

PROPOSED SOFT LANDSCAPE

- Biodiverse lawns
- Wildflower meadows
- Ornamental planting to building entrances and surrounds
- Ornamental planting to Italian Terraces
- Planting to match into existing
- Hedges
- Proposed trees
- Existing trees / shrubs removed

Drawing notes:

- Drawing to be read in conjunction with HTA's Hard and Soft Landscape information, Design Statement and all other information provided by consultants.
- All work within root protection areas (RPA) of existing retained trees to be undertaken under arboricultural supervision and done by hand such as digging and removal of existing hard landscape.
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A	09.04.26	SHS	Issued For Planning
-	30.03.26	SHS	Issued For Planning
Rev	Date	Drawn	Description
status			

FOR PLANNING

Client / project
Metric + Maker
Hitchin Priory

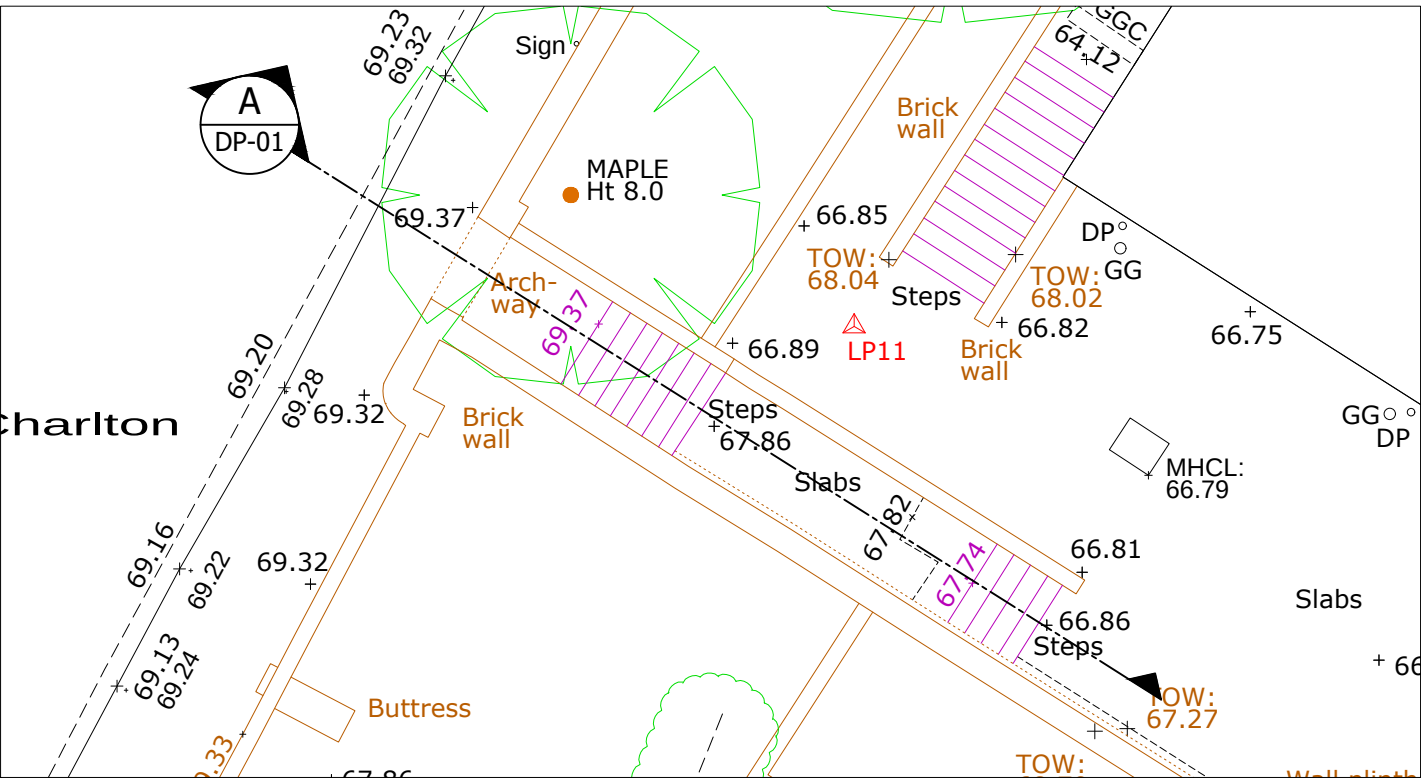
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Radcliffe House
Soft Landscape Plan

drawing number	revision
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scale @ A1	project code
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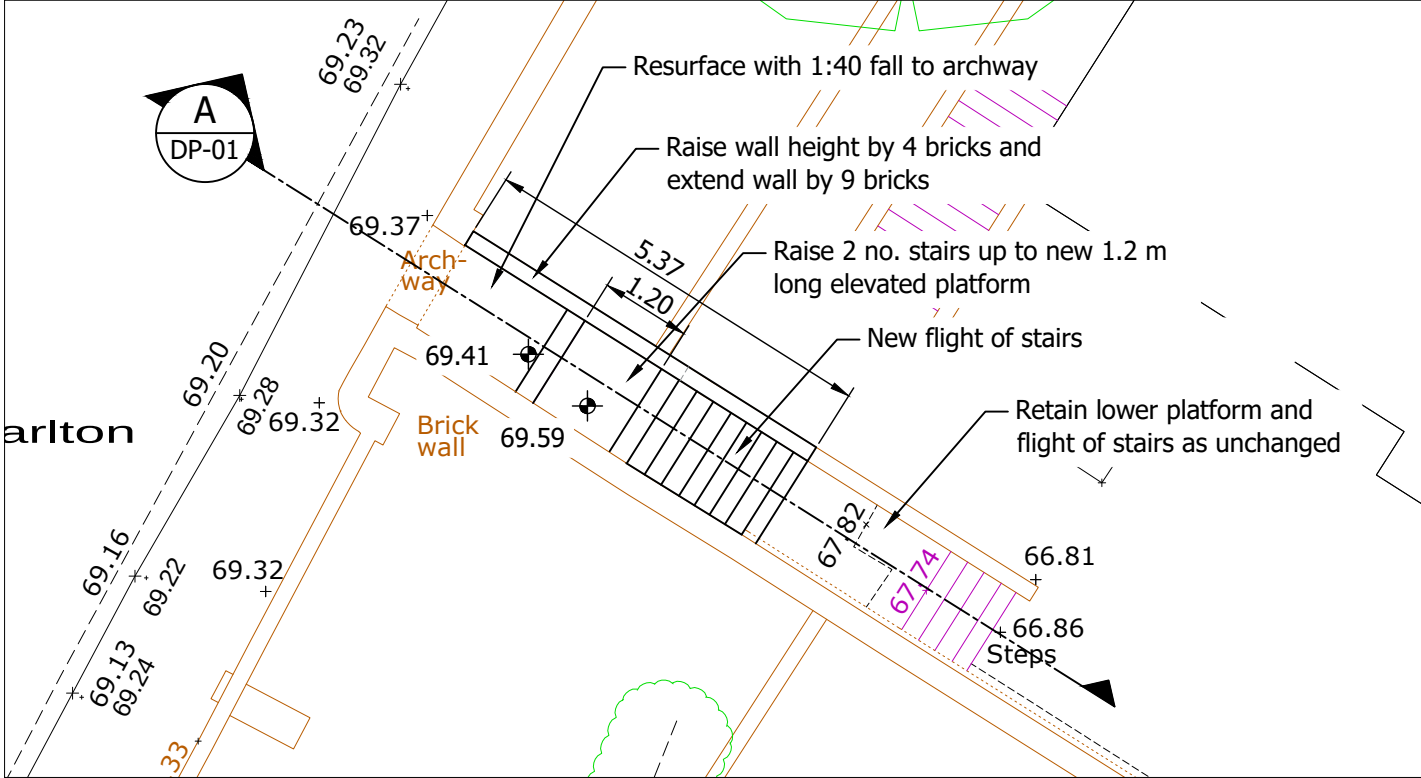
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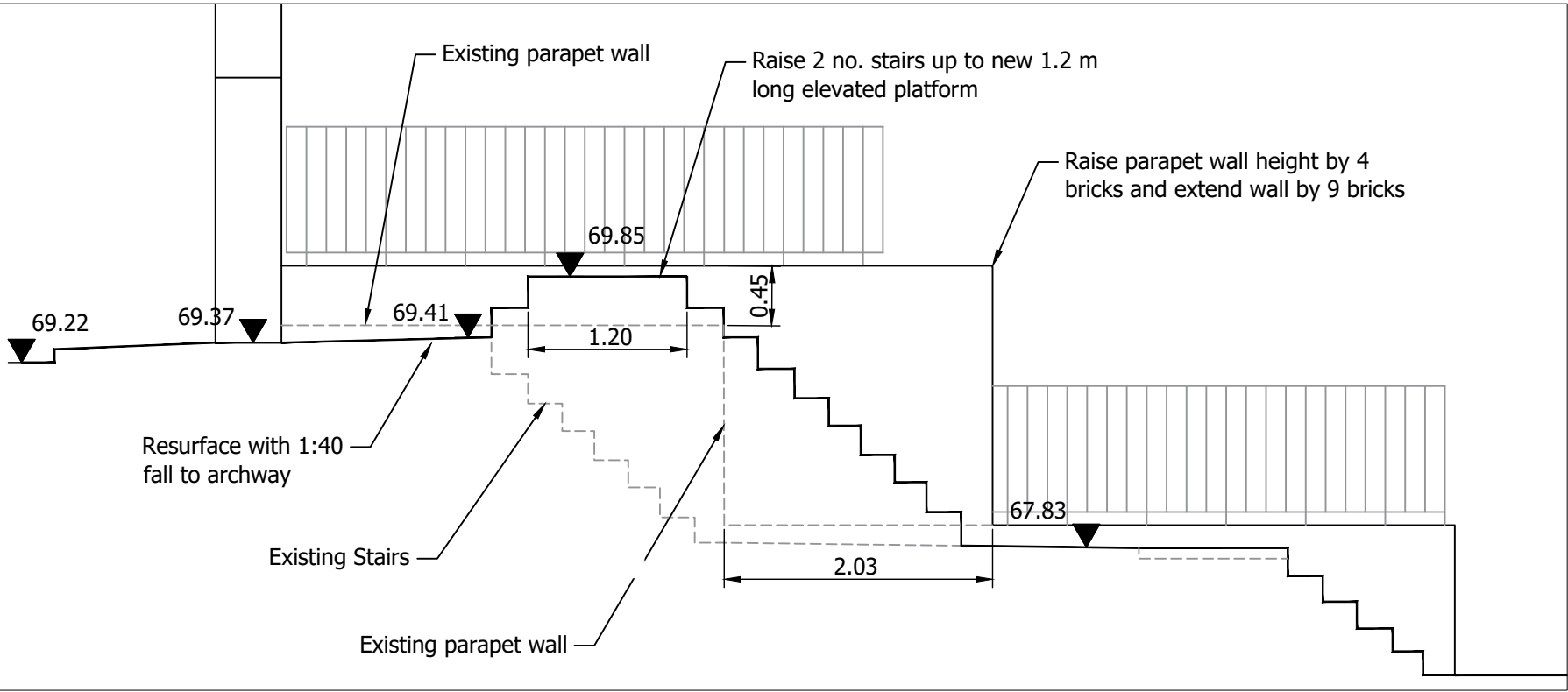
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Proposed [Scale 1:100]



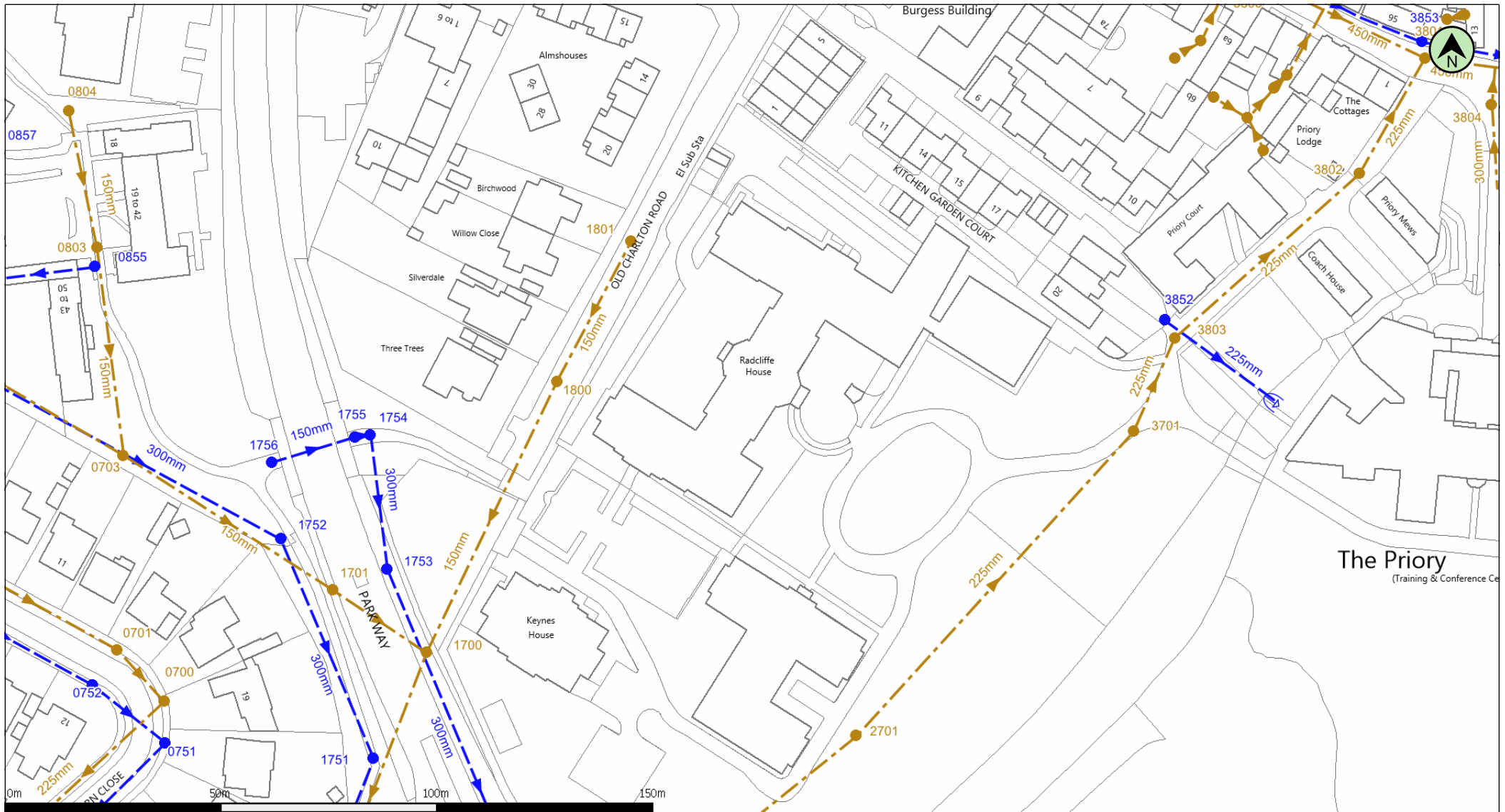
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NOTES

1. Dimensions in metres and levels in m AOD unless otherwise stated.
2. Parapet wall to be designed to withstand water depths to top height of wall, extending between the archway and elevated platform
3. Parapet wall and stairs to be constructed with materials to limit seepage during flooding of the area between the archway and elevated platform

REV	DATE	AMENDMENTS	DR	AP

CLIENT:	Hitchin Priory Development Ltd	SCALE @A3:	As Shown	DATE:	28/01/2026
PROJECT:	Radcliffe House, Hitichin	DRAWN:	DM	CHECKED:	DM
DRAWING:	Proposed Works to Arch Access to Reduce Surface Water Risk	APPROVED:	TC	REVISION:	C01
		DRAWING NO:	24075-FRA-DP-01		



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Foul Sewer	--- (dashed orange)	Outfall*	⊕	Sewage Treatment Works	□ (red outline)
Surface Sewer	--- (dashed blue)		⊞	Public Pumping Station	● (red)
Combined Sewer	--- (dashed red)				
Final Effluent	--- (dashed purple)	Inlet*			
Rising Main*	--- (dashed black with triangles)				
Private Sewer*	--- (dashed black)				
Decommissioned Sewer*	--- (dashed black with crosses)	Manhole*	● (black)	Decommissioned Pumping Station	● (black)

*(Colour denotes effluent type)

eleanor.benson@waterenvironment.co.uk

Pease House

[illegible][illegible]