

FLOOD RISK ASSESSMENT
Hillingdon Hospital, Proposed Decant and
Winter Overspill Ward, Uxbridge, UB8 3NN

Engineering, Design and
Surveying Consultants

from inception to completion

Prepared for: Nexus Planning Ltd
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Document History

Issue	Date	Description	Prepared By	Checked By
1	27 Sep 19	Issue 1	A Quigley	K Rayner

Glanville

Glanville Consultants is a multi-disciplinary engineering, design and surveying consultancy with the following expertise:



Structural Engineering



Civil Engineering



Transport and Highways



Geomatics (Land Surveying)



Building Surveying



BIM

Cornerstone House
62 Foxhall Road
Didcot
Oxfordshire OX11 7AD

Offices also at:

3 Grovelands Business Centre
Boundary Way
Hemel Hempstead
Hertfordshire HP2 7TE

Telephone: 01235 515550

Telephone: 01442 835999

postbox@glanvillegroup.com
www.glanvillegroup.com

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1.0 Introduction

- 1.1 This Flood Risk Assessment has been prepared by Glanville Consultants on behalf of Nexus Planning Ltd, in support of a planning application for the proposed decant and winter overspill ward, along with associated site infrastructure at Hillingdon Hospital, Uxbridge, UB8 3NN.
- 1.2 The purpose of this document is to assess the existing level of flood risk to the site and its surroundings within the context of the development proposals and to demonstrate a suitable drainage strategy for the disposal of surface water from the site.
- 1.3 This assessment has been prepared in accordance with the National Planning Policy Framework (NPPF) and the Planning Practice Guidance (PPG) to the NPPF. It has also been prepared with reference to West London Strategic Flood Risk Assessment (West London SFRA).
- 1.4 This report concludes that the development is not at an unacceptable risk of flooding and the site can be developed safely without increasing flood risk elsewhere, and therefore the development proposals comply with relevant planning policy concerning flood risk.
- 1.5 A suitable drainage strategy will be designed once the pertinent utility survey has been undertaken for the proposed development site.

2.0 Site Description

Site Location

- 2.1 The site is located in Hillingdon, approximately 2km to the south-east of Uxbridge, and comprises part of the Hillingdon Hospital campus. The location of the site is shown on the plan included in Appendix A. The approximate centre of the site is located at Ordnance Survey National Grid reference 506811E 181791N.

Development proposals

- 2.2 The proposed development involves 3 different areas within the Hillingdon Hospital campus. One of the existing car parking areas, to the south of the main Hillingdon Hospital building, will become the site for the proposed decant and winter overspill ward (Area 1). Area 2, to the north-west, and Area 3, to the east of the proposed building, will provide replacement car parking. Access to the site will be achieved via two existing access roads to the east, which provides access to Colham Green Road, and west, which provides access to Royal Lane. Plans showing the proposed development are included in Appendix B.

Site Context

Topography

- 2.3 A topographical survey was carried out by Siteline Geomatic Surveyors (Ref: 712HH01/02, date: September 2019) indicating that Area 1 generally falls from a high point of approximately 37.73m AOD to the north, to a low point of approximately 36.93m AOD to the south of the area. While ground elevation from Area 2 varies between approximately 39.41m AOD to the north and 38.05m AOD to the south. Topographical data for Area 3 was not yet available.
- 2.4 A copy of the topographical survey for Area 1 and 2 is included in Appendix C.

Geological Mapping

- 2.5 Geological records published by the British Geological Survey (BGS) indicate the entire site is likely to be underlain by bedrock geology comprising clay, silt and sand from the London Clay Formation, as well as superficial deposits comprising sand and gravel from the Boyn Hill Gravel Member. Extracts from BGS mapping are included in Appendix D.
- 2.6 Soilscape mapping provided by Cranfield University on behalf of DEFRA shows that the site of the proposed development falls partly on HOST soil class 17 to the north, which is described as “Slowly permeable seasonally wet acid loamy and clayey soils” and soil class 22 to the south, which is described as “Loamy soils with naturally high groundwater”. An extract from Cranfield University “Soilscales” website is included in Appendix D.

Groundwater Vulnerability

- 2.7 The EA defines Source Protection Zones (SPZs) for groundwater sources such as wells, boreholes and springs used for public drinking water supply. These zones show the risk of contamination from any activities that might cause pollution in the area. The SPZs mapping indicates that the site is not located within an SPZ. However, Inner Zone (Zone 1) and Outer Zone (Zone 2) are located adjacent to the north of the site.

-
- 2.8 A Nitrate Vulnerable Zone (NVZ) is a conservative designation for areas of land that drain to nitrate polluted waters or waters which could become polluted by nitrates. The NVZs mapping indicates that the site is not located within a Surface Water NVZ.
- 2.9 The EA defines Drinking Water Safeguard Zones (SgZs) for water sources used for public drinking water supply. SgZs are catchment areas that influence the water quality for their respective Drinking Water Protected Area (Surface Water), which are at risk of failing the drinking water protection objectives. The site is located within a SgZ (Surface Water).
- 2.10 The bedrock Aquifer Designation Map published by the EA indicates that the bedrock underlying the site is classed as an Unproductive Strata. Unproductive Aquifers are geological strata with low permeability that have negligible significance for water supply or river base flow.
- 2.11 The superficial Aquifer Designation Map published by the EA indicates that the superficial drift of the site is classed as a Secondary A Aquifer. Secondary A Aquifers are permeable strata capable of supporting water supplies at a local rather than strategic scale and in some cases forming an important source of base flow to rivers.

3.0 Planning Policy and Guidance

- 3.1 Set out below is a summary of the national and local planning policy and guidance relating to flood risk and surface water management that are relevant to the development proposals.

National

- 3.2 At a national level, the National Planning Policy Framework (NPPF) and the Planning Practice Guidance (PPG) to the NPPF ensure flood risk is taken into account at all stages of the planning process, to avoid inappropriate development in areas at risk of flooding and to direct development towards areas at lowest flood risk. The NPPF retains a risk based approach to the planning process and defines four Flood Zones to be used as the basis for applying the sequential test to consider a development in terms of Flood Risk Vulnerability Classifications, which define the type of development that is considered appropriate within each zone.
- 3.3 The NPPF establishes the Flood Zones as the starting point for assessment with the overarching aim to steer new development to areas with the lowest probability of flooding. The Flood Zones are defined as follows:
- Flood Zone 1 (Low Probability) comprises land assessed as having a less than 1 in 1,000 annual probability of river or sea flooding (<0.1%).
 - Flood Zone 2 (Medium Probability) comprises land assessed as having between a 1 in 100 and 1 in 1,000 annual probability of river flooding (1% – 0.1%), or between a 1 in 200 and 1 in 1,000 annual probability of sea flooding (0.5% – 0.1%) in any year.
 - Flood Zone 3a (High Probability) comprises land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year.
 - Flood Zone 3b (The Functional Floodplain) comprises land where water has to flow or be stored in times of flood.

Local Policy and Guidance

West London Strategic Flood Risk Assessment (SFRA) Level 1¹

- 3.4 The West London Boroughs of Barnet, Brent, Ealing, Harrow, Hillingdon and Hounslow have commissioned the production of a joint Level 1 SFRA. The overarching aim of this SFRA is to provide the evidence base for ensuring development is steered away from areas identified most at risk from various flood sources, reducing the risk of flooding to its residents and buildings.
- 3.5 The purpose of this Level 1 SFRA is to provide a strategic overview of all forms of flood risk throughout the study area, now and in the future. This document and associated mapping delivered as part of the SFRA, will be used as a evidence base by the Boroughs to inform the preparation of Local Plans, including the application of the sequential test to future site allocations.

¹ <http://westlondonsfra.london/>

4.0 Sources of Potential Flooding

- 4.1 Flood risk to the site has been considered from all likely sources of flooding, as defined in the NPPF and the Planning Practice Guidance to the NPPF. These include tidal, artificial sources (reservoir), fluvial, surface water, sewer and groundwater. The following paragraphs consider flood risk to the site from all of these sources.

Tidal

- 4.2 Given that there is no tidally influenced watercourse on or within the vicinity of the site, tidal flooding is not an issue that would prevent the development of the site.

Fluvial

- 4.3 The EA publishes its Flood Map for Planning on the GOV.UK website which shows the maximum extent of fluvial flooding. The mapping indicates that the site is located entirely within Flood Zone 1, beyond the limits of the 1 in 1,000 year fluvial flood event (<0.1%). It is therefore considered that the risk of fluvial flooding to the development is very low. An extract from the GOV.UK mapping is included within Appendix E.

Surface Water

- 4.4 The EA publishes a Flood Risk from Surface Water map on the GOV.UK website which indicates the predicted risk of surface water flooding in the event that rainwater does not drain away through normal drainage systems or soak into the ground. The mapping indicates that the majority of the site is at 'very low' risk of surface water flooding, with an annual probability of flooding of less than 1:1,000.
- 4.5 However, it is shown that reduced portions of Areas 2 and 3 are to be at 'low' (between 1:100 and 1:1,000 annual probability) risk of surface water flooding, including the access road to the west of the site, which provides access to Royal Lane. While, the proposed decant and winter overspill ward location at Area 1 is shown to be at 'medium' (between 1:30 and 1:100 annual probability) and 'low' (between 1:100 and 1:1,000 annual probability) risk of surface water flooding. The access road to the east of the site, which provides access to Colham Green Road is shown to be between 'low' to 'high' (greater than 1:30 annual probability) risk of surface water flooding.
- 4.6 An extract from the GOV.UK surface water flood map is included within Appendix F.

Reservoir

- 4.7 The Environment Agency (EA) publishes indicative mapping on the GOV.UK website which shows the maximum extent of reservoir flooding in the unlikely event that a reservoir should fail. The mapping indicates that the entire the site is located outside of a reservoir flood risk area. Therefore, reservoir flooding is not considered to be an issue that would prevent the development of the site for its intended end use.

Sewer

- 4.8 The West London SFRA includes data provided by Thames Water historical sewer flooding dataset. The West London SFRA indicates that no sewer flood incidents have been recorded within the Hillingdon Hospital campus. Therefore, sewer flooding is not considered to be an issue that would prevent the development of the site for its intended end use.

Groundwater

- 4.9 The West London SFRA states that the majority of the sub-region is underlain by Thames Group (also referred to as London Clay) bedrock, a composition of silty clay/mudstone, sandy silts and sandy clayey silts of marine origin, which corresponds with a geological unit with a low hydraulic conductivity, where water does not easily move through it.
- 4.10 The West London SFRA provides an Areas Susceptible to Groundwater Flooding map (AStGWf), from the EA, which is based on some information from the BGS maps and information on superficial deposits. The data was produced to annotate indicative Flood Risk Areas for PFRA studies and allows the LLFAs to determine whether they may be at risk of flooding from groundwater. The AStGWf map indicates that the risk of groundwater flooding at the site is more than 25% but less than 50% (i.e. $\geq 25\% < 50\%$).
- 4.11 The data shows the proportion of each 1km grid-square for which geological and hydrogeological conditions indicate that groundwater might emerge, it does not show the likelihood of groundwater flooding occurring, nor does it take account of the chance of flooding from groundwater rebound. This dataset covers a large area of land and only isolated locations within the overall susceptible area are actually likely to suffer the consequences of groundwater flooding.
- 4.12 Furthermore, there is no anecdotal evidence to suggest that groundwater flooding has occurred on the site. It is therefore concluded that the risk of groundwater flooding is very low and is not considered to be an issue that would prevent the development of the site for its intended end use.

Historic Flooding

- 4.13 The West London SFRA includes historical flood records and indicates that no historical flood incidents have been recorded within Hillingdon Hospital campus.

Summary

- 4.14 With the exception of surface water flooding, the site is considered to be at very low risk from all sources of flooding examined.

5.0 Flood Risk Assessment

Fluvial

- 5.1 The NPPF encourages a sequential, risk-based approach to determine the suitability of land for development. This document advises that the development of sites within Flood Zone 1 should be given preference where available.
- 5.2 Table 2 of the Planning Practice Guidance to the NPPF categorises different types of development into five flood risk vulnerability classifications:
- Essential Infrastructure;
 - Highly Vulnerable;
 - More Vulnerable;
 - Less Vulnerable; and
 - Water Compatible Development.
- 5.3 The NPPF classifies hospitals as being 'More Vulnerable'. Table 3 of the PPG states that 'More Vulnerable' development is compatible with Flood Zones 1 and 2.
- 5.4 As discussed in Section 4 of this report, the entire site is located within Flood Zone 1. Table 3 of the PPG states that all uses are appropriate for Flood Zone 1. Therefore, the proposed development use is compatible with the flood zone of the site and developing the site for its intended purposes is considered appropriate in terms of flood risk. As such, no mitigation measures are required for fluvial flooding, and the Sequential Test and Exception Test are not required to be applied to this development.

Surface Water

- 5.5 The risk of surface water flooding to the majority of the site is 'very low', with an estimated annual probability of flooding occurring of less than 1 in 1,000. However, a reduced portion of Area 3 is shown to be at 'low' (between 1:100 and 1:1,000 annual probability) risk of surface water flooding. While, the proposed decant and winter overspill ward location at Area 1 is shown to be at 'medium' (between 1:30 and 1:100 annual probability) and 'low' (between 1:100 and 1:1,000 annual probability) risk of surface water flooding.
- 5.6 A surface water drainage strategy will offer protection against surface water flooding by providing a positive drainage system, which will intercept overland flows generated within the site. A suitable drainage strategy will be designed once the pertinent utility survey have been undertaken for the proposed development site in order to ensure that no flooding takes place up to and including the design rainfall event (1 in 100 year return period), with additional capacity within the system to allow for the potential future effects of climate change.
- 5.7 The proposed development will not involve an increase in the current impermeable area and, therefore, there will be no increase in surface water run-off and no increase in flood risk downstream.

-
- 5.8 Furthermore, the type of building construction proposed will naturally raise floor levels of the buildings above existing levels. According to the proposed elevation plans from Oxford Architects, included in Appendix B, the finished floor level (FFL) for the proposed decant and winter overspill ward will be established at 38.18m AOD, approximately between 0.65m and 1.2m above existing ground levels. This proposed FFL will coincide with the existing floor level of the Nightingale AMU building, adjacent to the north. This permanent flood resistance measure will reduce the likelihood of ingress of flood water into the building and the consequent fabric damages.
- 5.9 Therefore, after introducing an effective drainage strategy within the site, surface water flooding will not be an issue that would prevent or constrain the development of the site to any significant extent.

Other Sources

- 5.10 A review of sources of potential flooding in Section 4 of this assessment has concluded that there is a very low risk to the proposed development from all other sources of flooding examined. As such, no mitigation measures are necessary.

6.0 Surface Water Drainage

- 6.1 The Guidance to the NPPF and Part H of the Building Regulations outline a hierarchy for the disposal of surface water drainage from new developments. Firstly, the guidance recommends that surface water run-off should discharge to a soakaway or other infiltration system where practical. Where infiltration is not feasible, the regulations state that disposal to a local watercourse should be investigated. It is only when these other means of discharge are not practicable, that discharge should be made to the local sewer.
- 6.2 As discussed in Section 2, the site is underlain by a bedrock geology of clay, silt and sand from the London Clay Formation, which is considered to have negligible permeability. Furthermore, the Soilscape mapping indicates that the site is underlain by soil with low infiltration rate. As such there is limited potential for the use of infiltration drainage techniques. Infiltration testing to the BRE 365 standard should be conducted to confirm this.
- 6.3 Surface water run-off from the Hillingdon Hospital campus is managed by an existing positive drainage system. On this basis, due to the considerable distance to the closest watercourse, run-off from the proposed development will be disposed through the existing drainage system that currently serves the Hillingdon Hospital campus.
- 6.4 However, it should be noted that the proposed building will be established over a car park, with no increase in the current impermeable area and, therefore, there will be no increase in surface water run-off and no increase in flood risk downstream.

Sustainable Drainage

- 6.5 The PPG recommends that priority should be given to the use of Sustainable Drainage Systems (SuDS) as they are designed to control surface water run-off where it falls and mimic natural drainage as closely as possible. SuDS also provide opportunities to reduce the causes and impacts of flooding, remove pollutants from urban run-off at source, and combine water management and green space with benefits for amenity, recreation and wildlife.
- 6.6 The choice of SuDS features needs to be assessed against site / development constraints. Table 1 details each of the SuDS features as set out in The SuDS Manual, outlines which features are most suitable for the development site and how these would be incorporated.

Table 1: SuDS Features

SuDS Feature	Description	Water Quality	Amenity	Biodiversity	Site-Specific Suitability
Rain water harvesting	Systems that collect runoff from roofs / surfaces for re-use		Y		<i>Use of these features will be considered on a plot-by-plot basis at detailed design stage.</i>
Green roofs	Planted soil layers on roofs that slow and store runoff	Y	Y	Y	
Filter strips	Grass strips that promote sedimentation and filtration as water flows over the surface	Y	Y	Y	<i>Filter strips and drains, as well as swales could replace conventional piped systems within the development wherever appropriate, conveying water to downstream SuDS features.</i>
Filter drains	Shallow stone-filled trenches that provide attenuation, conveyance and treatment	Y	Y	Y	
Swales	Vegetated channels used to convey and treat runoff	Y	Y	Y	

SuDS Feature	Description	Water Quality	Amenity	Biodiversity	Site-Specific Suitability
Bioretention systems	Shallow landscaped depressions allowing runoff to pond on the surface, before filtering through vegetation and underlying soils	Y	Y	Y	<i>Bioretention and tree pit systems work best when used on small drainage areas. They could be used to enhance other features, such as swales and filter strips. The use of these features will therefore be considered on a plot-by-plot basis at detailed design stage.</i>
Trees	Trees within soil-filled tree pits, tree planters or structural soils used to collect, store and treat runoff	Y	Y	Y	
Infiltration systems	Systems that collect and store runoff, allowing it to infiltrate into the ground	Y	Y	Y	<i>Infiltration techniques are not considered feasible (refer para 6.2), however the use of pervious pavements for water treatment and attenuation will be considered on a plot-by-plot basis at detailed design stage.</i>
Pervious pavements	Paving through which runoff soaks and is stored in the sub-base beneath, and/ or allowed to infiltrate into the ground	Y	Y	Y	
Attenuation Storage	Below-ground voided spaces used to temporarily store runoff before infiltration, controlled release or use				<i>Below-ground features do not provide quality, amenity or biodiversity benefits and so are low down in the hierarchy of SuDS choices. However they may need to be considered in due course in order to provide attenuation in areas with restricted space.</i>

- 6.7 When detailed proposals for the development site are available, detailed surface water drainage strategies will be developed based on the SuDS framework established in this report.
- 6.8 However, it is envisaged that a combination of pervious pavements and attenuation storages will provide the most suitable drainage solution for the disposal of surface water run-off of the proposed development within the Hillingdon Hospital campus.

7.0 Summary and Conclusions

Summary

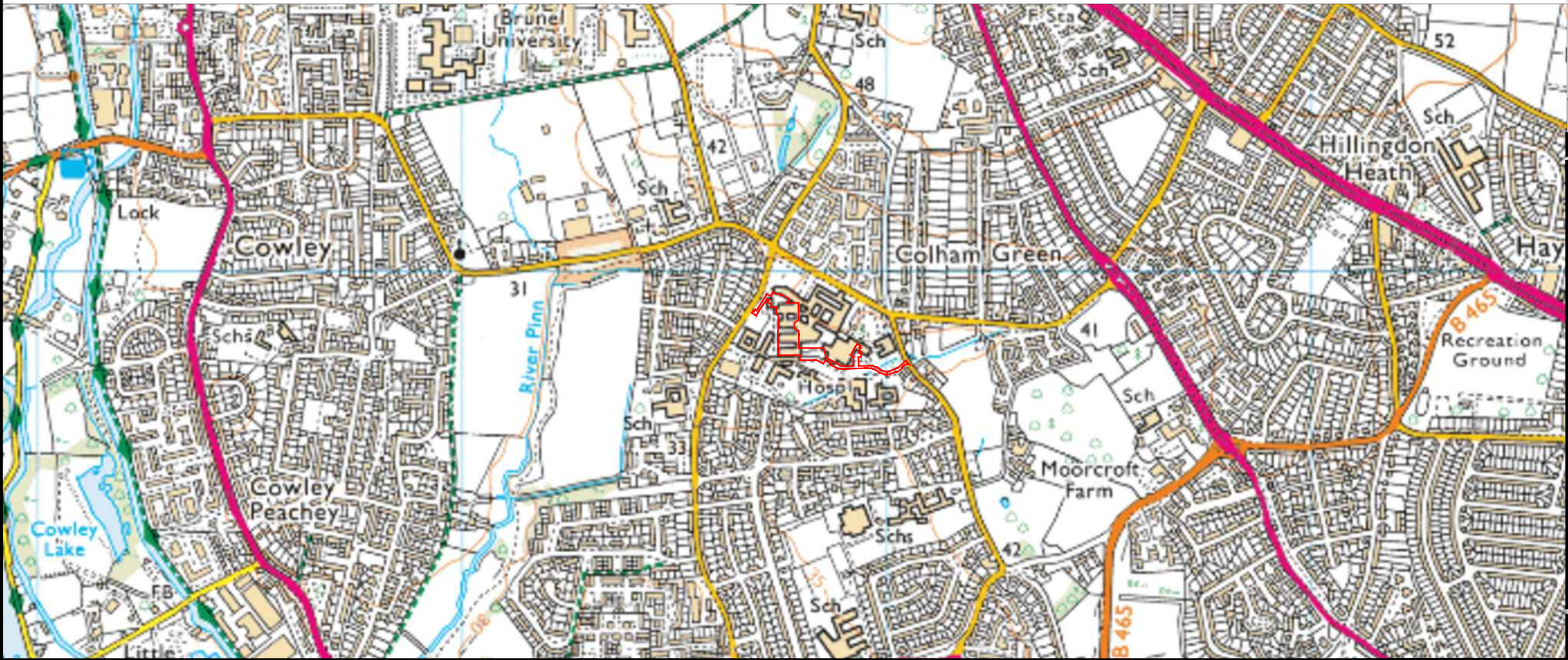
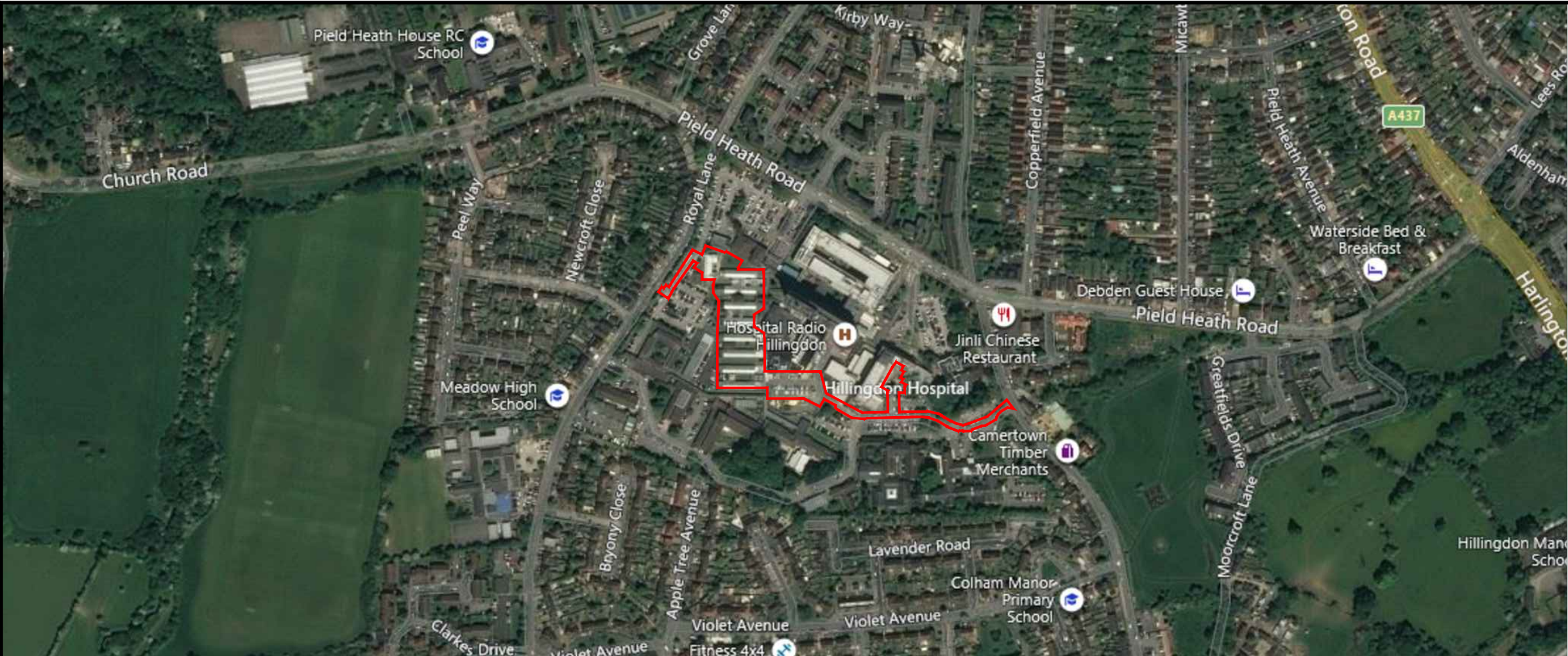
- 7.1 This Flood Risk Assessment has been prepared by Glanville Consultants on behalf of Nexus Planning Ltd, in support of a planning application for the proposed decant and winter overspill ward, along with associated site infrastructure at Hillingdon Hospital, Uxbridge, UB8 3NN.
- 7.2 This assessment has been prepared in accordance with the requirement of National Planning Policy Framework (NPPF), Planning Practice Guidance (PPG), flood risk and drainage guidance and with reference to the relevant Strategic Flood Risk Assessment.
- 7.3 The site is located entirely within Flood Zone 1, beyond the limits of the 1 in 1,000 year fluvial flood event (<0.1%), which is land at the lowest risk of fluvial flooding. With the exception of surface water flooding, the proposed development site is considered to be at very low risk from all sources.
- 7.4 A surface water drainage strategy will offer protection against surface water flooding by providing a positive drainage system, which will intercept overland flows generated within the site.
- 7.5 A suitable drainage strategy will be designed once the utility survey have been undertaken for the proposed development site in order to ensure that no flooding takes place up to and including the design rainfall event (1 in 100 year return period), with additional capacity within the system to allow for the potential future effects of climate change.
- 7.6 The proposed development will not involve an increase in the current impermeable area and, therefore, there will be no increase in surface water run-off and no increase in flood risk downstream.
- 7.7 The type of building construction proposed will naturally raise floor levels of the buildings above existing levels. It is proposed to establish the finished floor level for the proposed decant and winter overspill ward at 38.18m AOD, approximately between 0.65m and 1.2m above existing ground levels. This permanent flood resistance measure will reduce the likelihood of ingress of flood water into the building and the consequent fabric damages.
- 7.8 Therefore, after introducing an effective drainage strategy within the site, surface water flooding will not be an issue that would prevent or constrain the development of the site to any significant extent.

Conclusion

- 7.9 In conclusion, this report has demonstrated that the proposed development:
- is in accordance with the National Planning Policy Framework;
 - will not be at an unacceptable risk from fluvial flooding or other sources; and
 - will not increase flood risk elsewhere.
- 7.10 Therefore, the proposals are considered to fully comply with National, Regional and Local planning policy.

Appendices

Appendix A
Location Plan



NOTES

1. This drawing is to be read in conjunction with all other documents and specifications
2. Dimensions not to be scaled from drawing

LOCATION

Nearby postcode: UB8 3NN
Grid reference: Easting: 506811
Northings: 181791

KEY

Approximate site boundary ———



P1	First Preliminary Issue	24.09.2019 AQ	KR
Rev.	Description	Date	Chkd



Glanville

Cornerstone House
62 Foxhall Road, Didcot
Oxon, OX11 7AD

Tel: (01235) 515550 Fax: (01235) 817799
postbox@glanvillegroup.com www.glanvillegroup.com

Client :
Nexus Planning Ltd

Project :
Hillingdon Hospital
Uxbridge
UB8 3NN

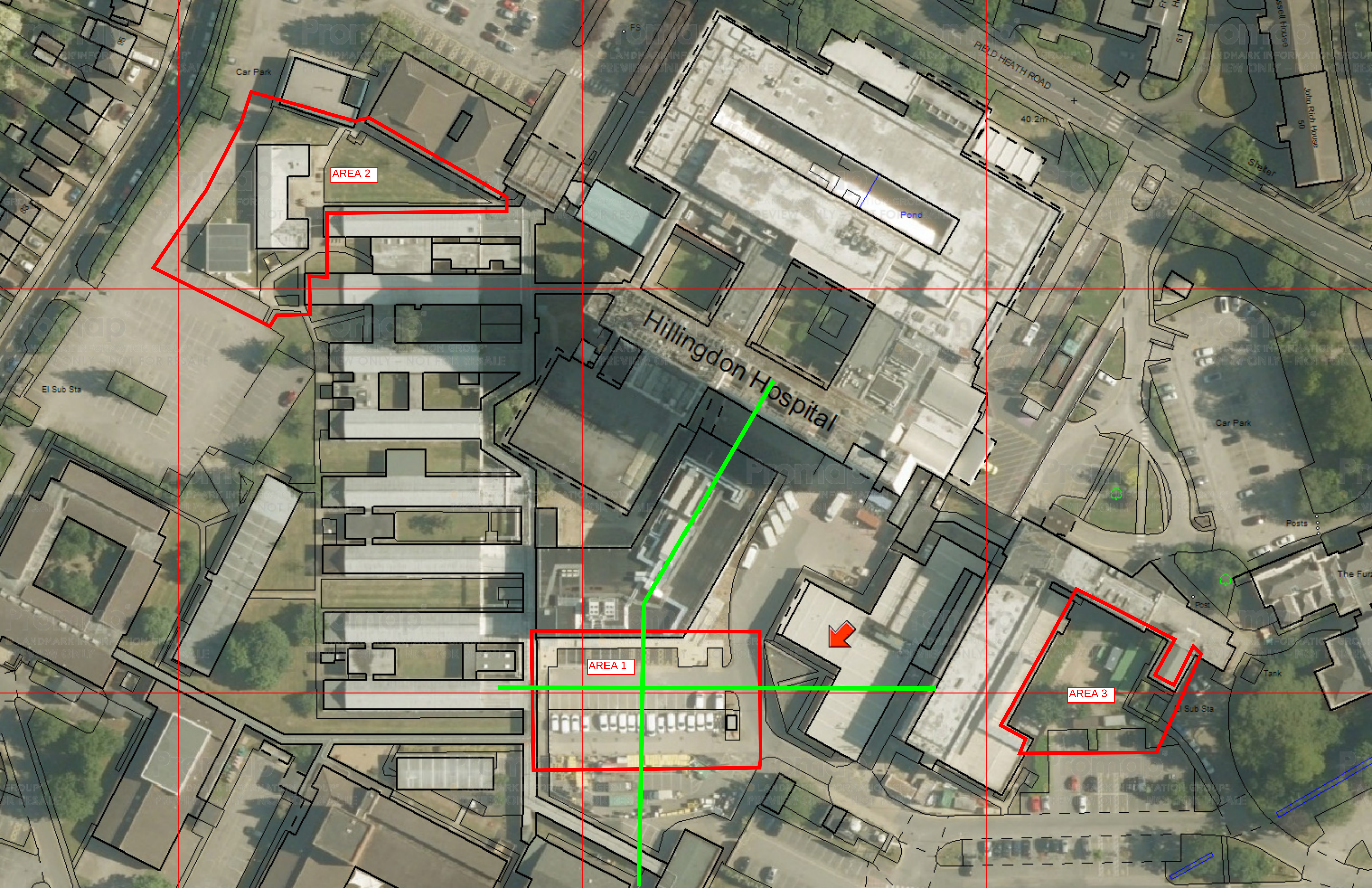
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Site Location Plan

Project Engineer : A.Quigley Scale : NTS
Project Director : K. Rayner Date : Sept 2019
Status : Preliminary

Drawing No. CV8190857 - SK01 Rev P1

Appendix B

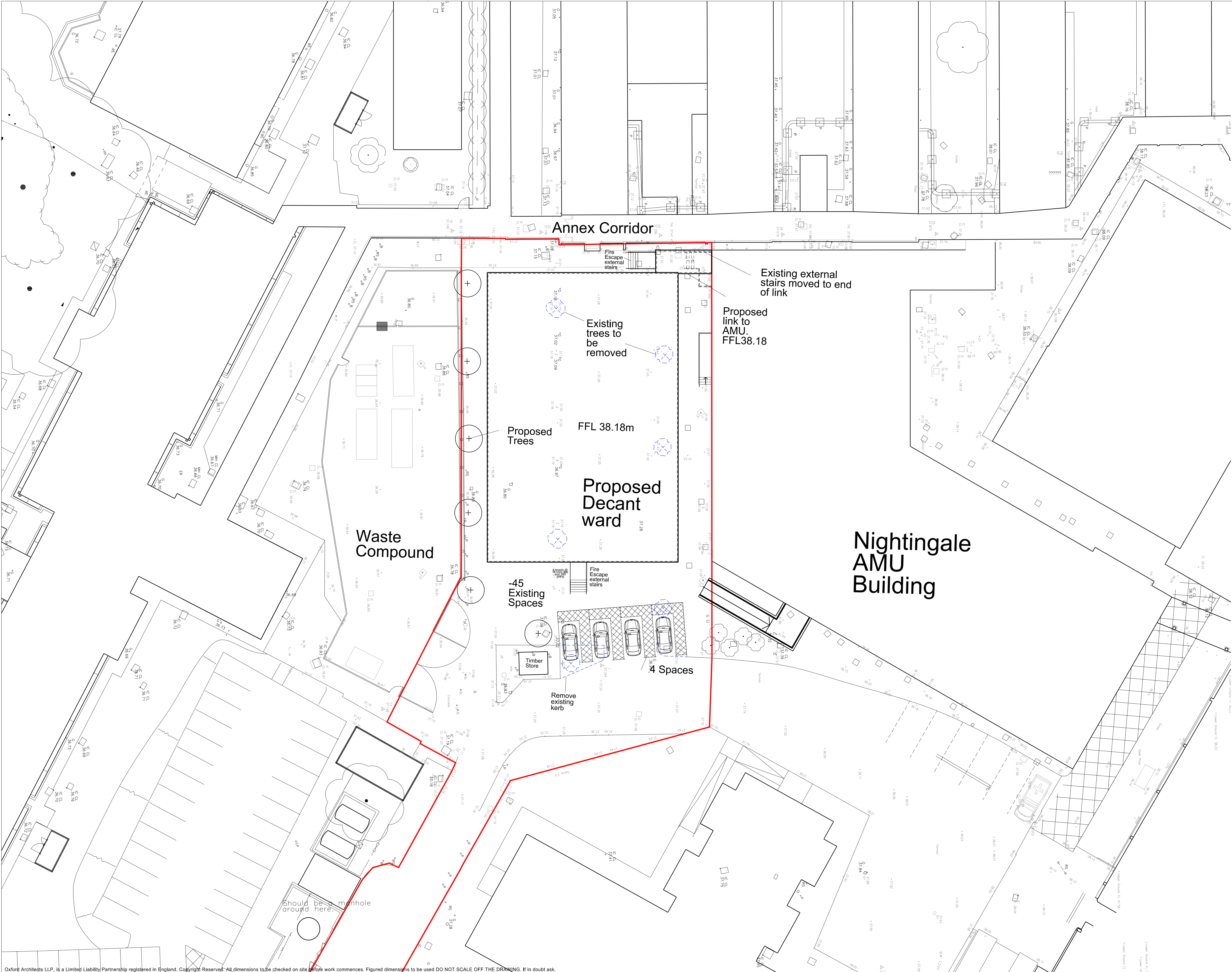
Development Proposal Drawings



AREA 2

AREA 1

AREA 3



P3	Stairs	25/09/2019
P2	Following meeting	25/09/2019
P1	Issue for meeting	17/09/2019

Revision	Description	Date
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Partner	Drawn	Date Created
MB	GJHF	17/09/2019

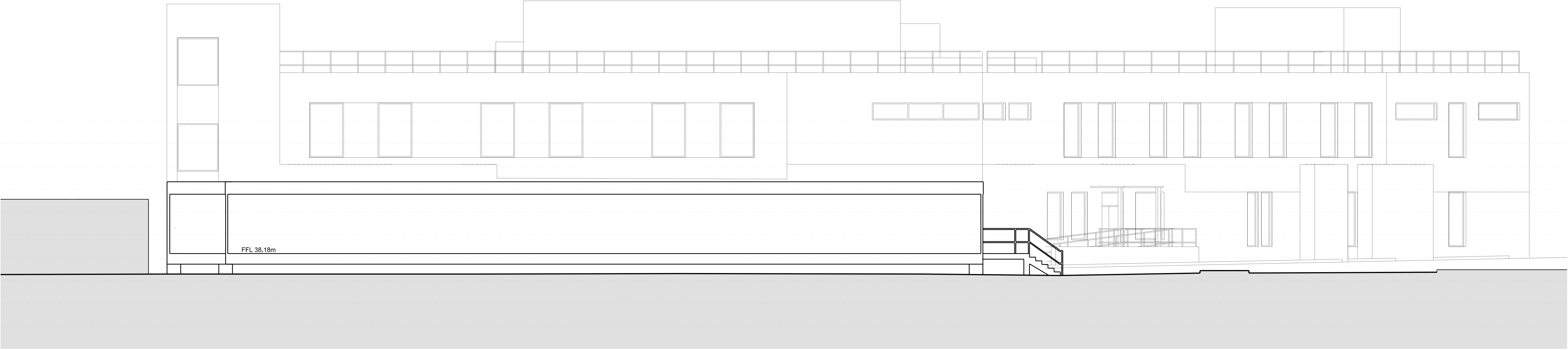
Project
**HILLINGDON
HOSPITAL
DECANT WARD**

Title
**PROPOSED
SITE PLAN**

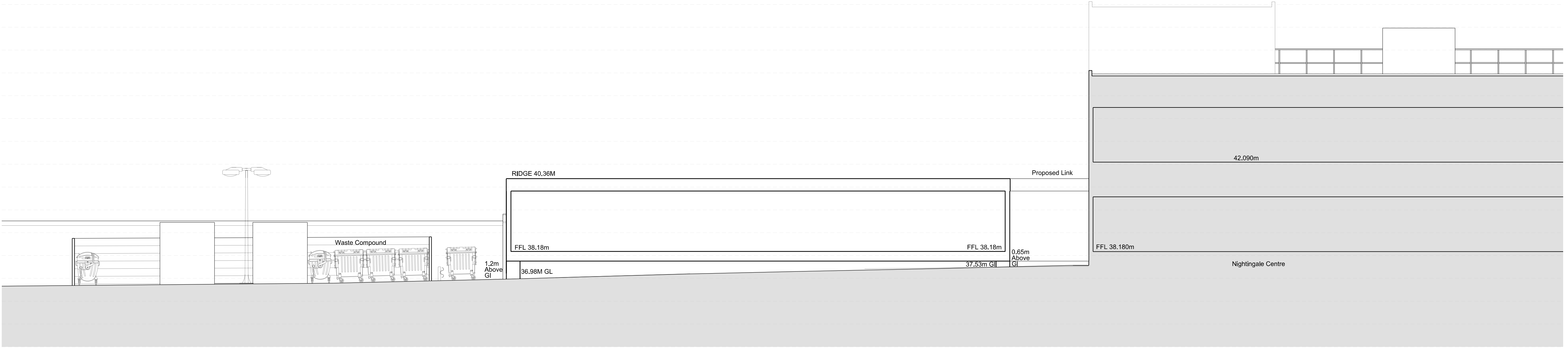
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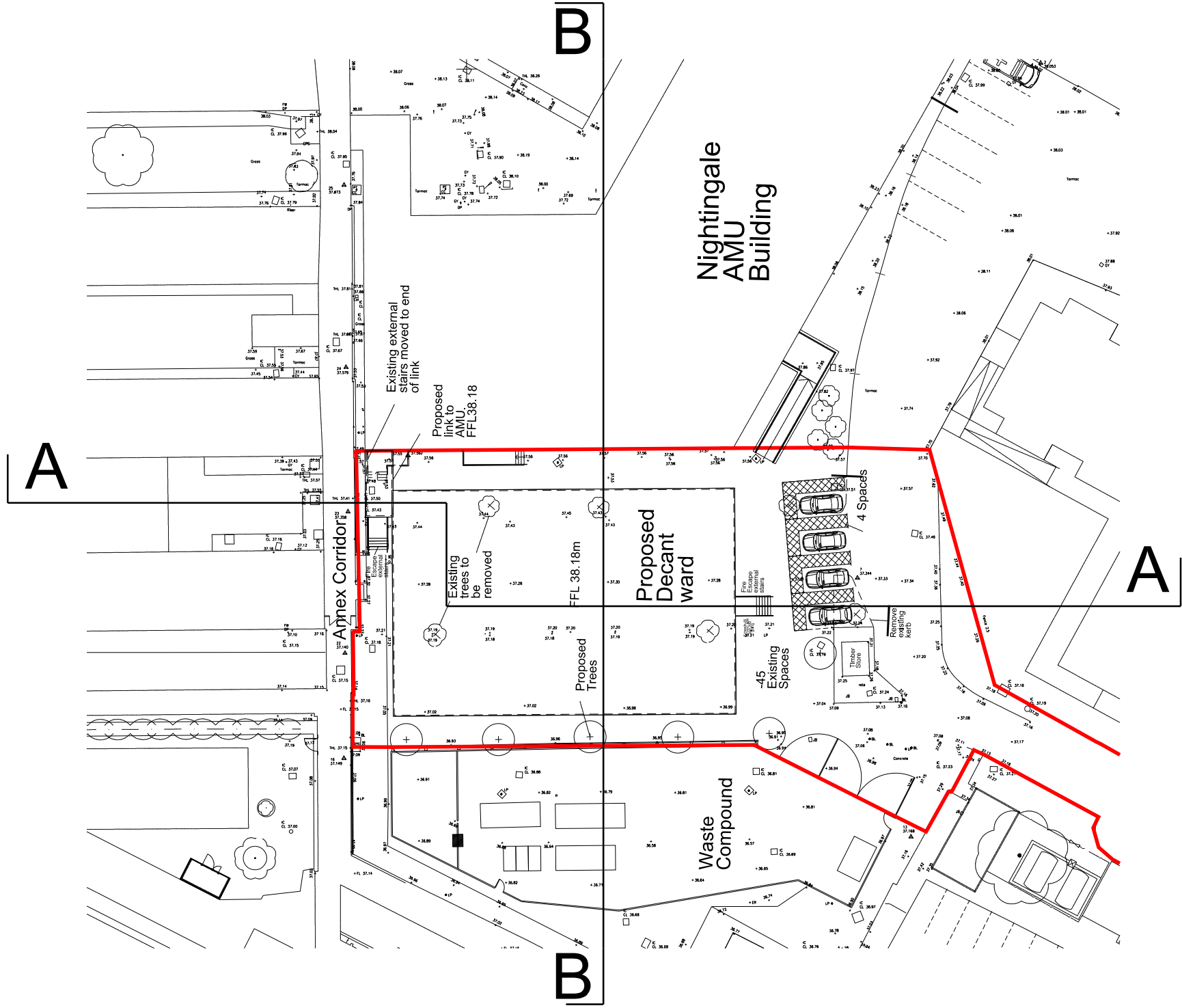
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SECTION AA



SECTION BB



P2	Revised FFL	25/09/2019
P1	Issue for meeting	17/09/2019
Revision	Description	Date
Partner	Drawn	Date Created
MB	GJHF	17/09/2019

Project
**HILLINGDON
HOSPITAL
DECANT WARD**

Title
**PROPOSED
SITE SECTIONS AA & BB**

Drawing Reference				
19103-OA-A-B1-DR-4002-00				
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Drawing No	Revision	Status		
4002	P2	S0		

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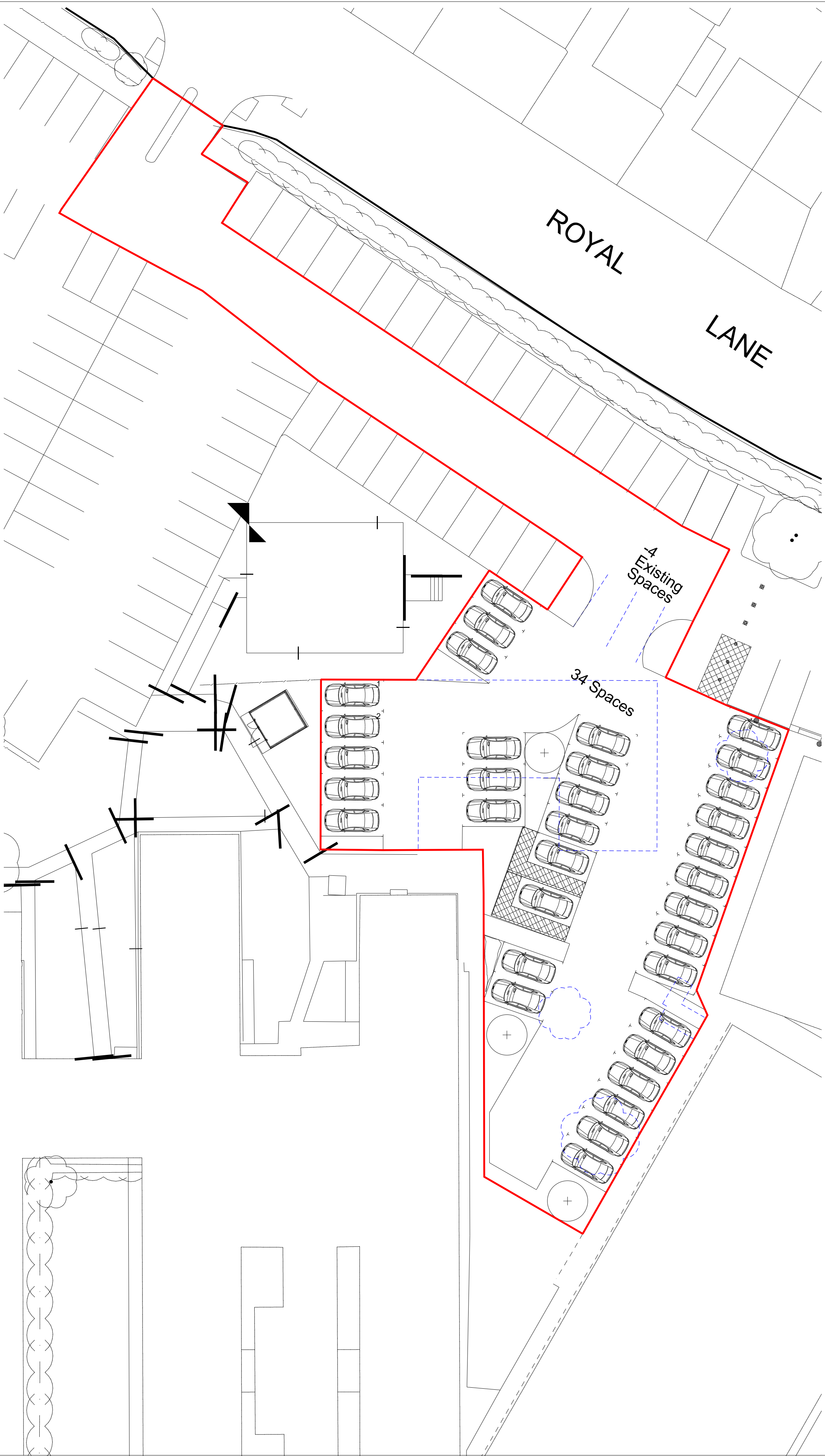
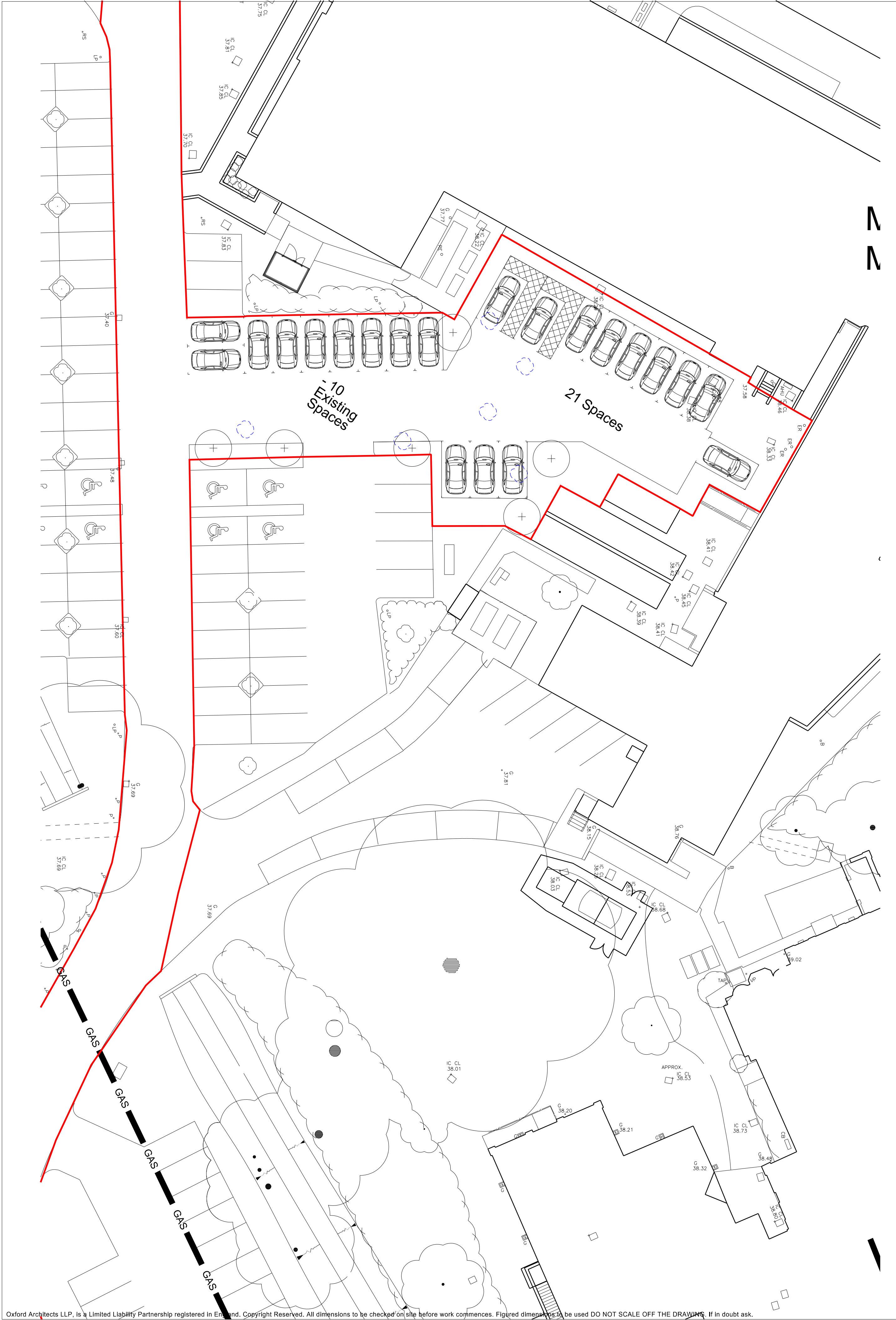
P2	Following meeting	25/09/2019
P1	Issue for meeting	17/09/2019
Revision	Description	Date
MB	GJHF	17/09/2019

Project
**HILLINGDON
HOSPITAL
DECANT WARD**

Title
**PROPOSED
SITE PLAN
OPTION 1 (RAMP)**

Drawing Reference 19103-OA-A-B1-DR-2002-00			
Proj Ref	- Origin - Role - Zone - Type -	Drawing No - Level	
2002		P2	S0

Scale
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P3	Following meeting	25/09/2019
P2	Issue for meeting	24/09/2019
P1	Issue for meeting	17/09/2019
Revision	Description	Date
Partner	Drawn	Date Created
MB	GJHF	17/09/2019

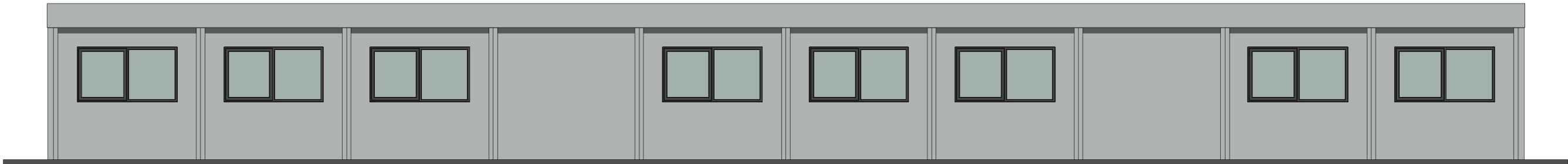
Project
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Title
**PROPOSED
SITE PLAN
CAR PARK**

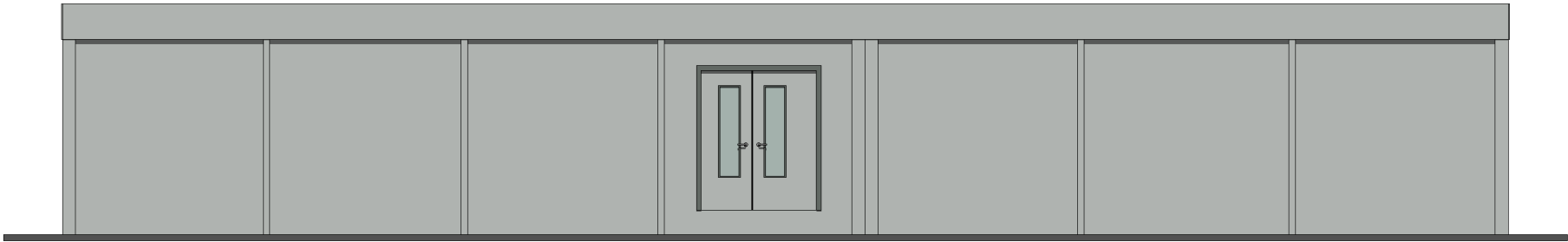
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Drawing No	2003	Revision	Status
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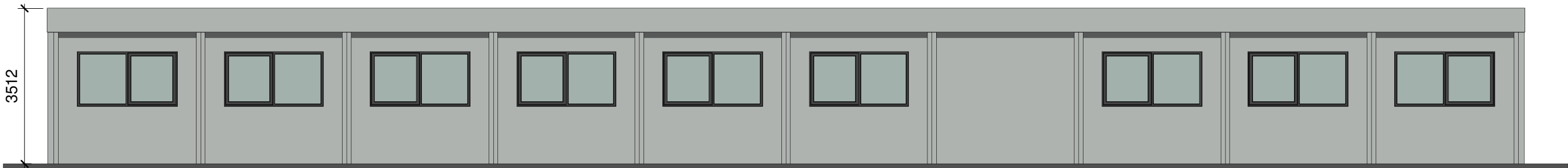
Revision	Revision Description	Revision Date	Issued by
See GA Sheet for revision details			



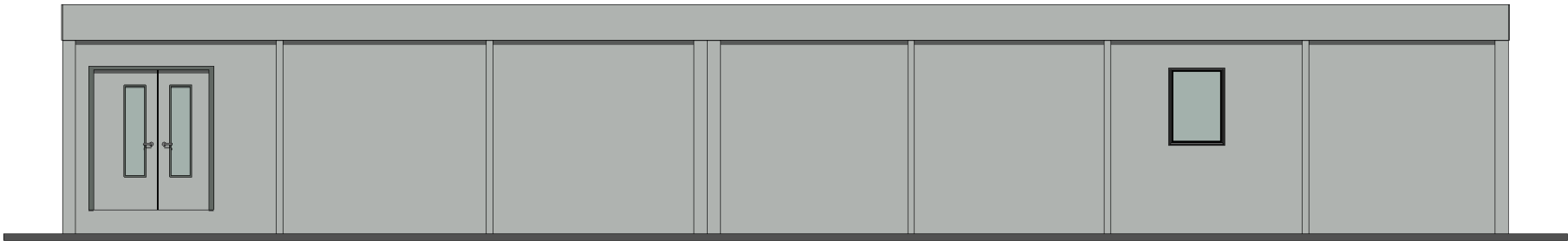
2 Elevation A
1 : 100



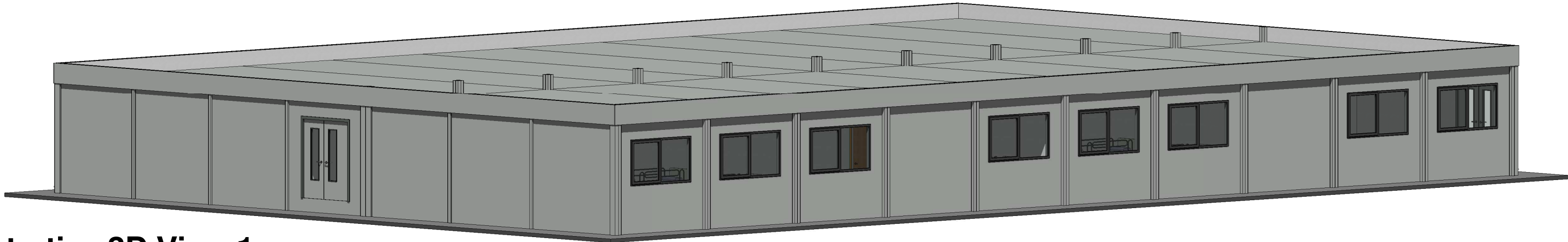
1 Elevation B
1 : 100



3 Elevation C
1 : 100



4 Elevation D
1 : 100



5 Illustrative 3D View 1

Standard floor loading is 3kN/m².
Any loading imposed on a floor that is greater than 3kN/m² may require strengthening. Please contact your hire centre if you expect to exceed 3kN/m².

Please note that this and any accompanying drawing(s) are for illustrative purposes only and as such, the building shown may vary from the actual finished building on site.

The position of windows, external doors and electrical fixtures (if shown) are dependent on stock availability at time of order.

EXTERNAL COLOUR SCHEME | Ultima

Walls - Goosewing Grey - nearest BS ref 10 A 05
Vertical wall trim - Goosewing Grey - nearest BS ref 10 A 05
Bottom wall trims - White - nearest BS ref 00 E 55
Long wall fascias (covering wall) - Goosewing Grey - nearest BS ref 10 A 05
Long wall fascia (covering beam) - White - nearest BS ref 00 E 55
Short wall composite fascia - Goosewing Grey - nearest BS ref 10 A 05
Roof - White - nearest BS ref 00 E 55
External Skirt - Goosewing Grey - nearest BS ref 10 A 05
Columns, external corners - Grey - BS 4800 00 A 05
Columns, intermediate - Grey - BS 4800 00 A 05
Windows - Blue Grey - nearest BS 4800 18 B 29
Doors (insulated door) - Slate grey - nearest BS 18 B 25

Internal Portakabin Note
For connection details please see drawing DQ0539

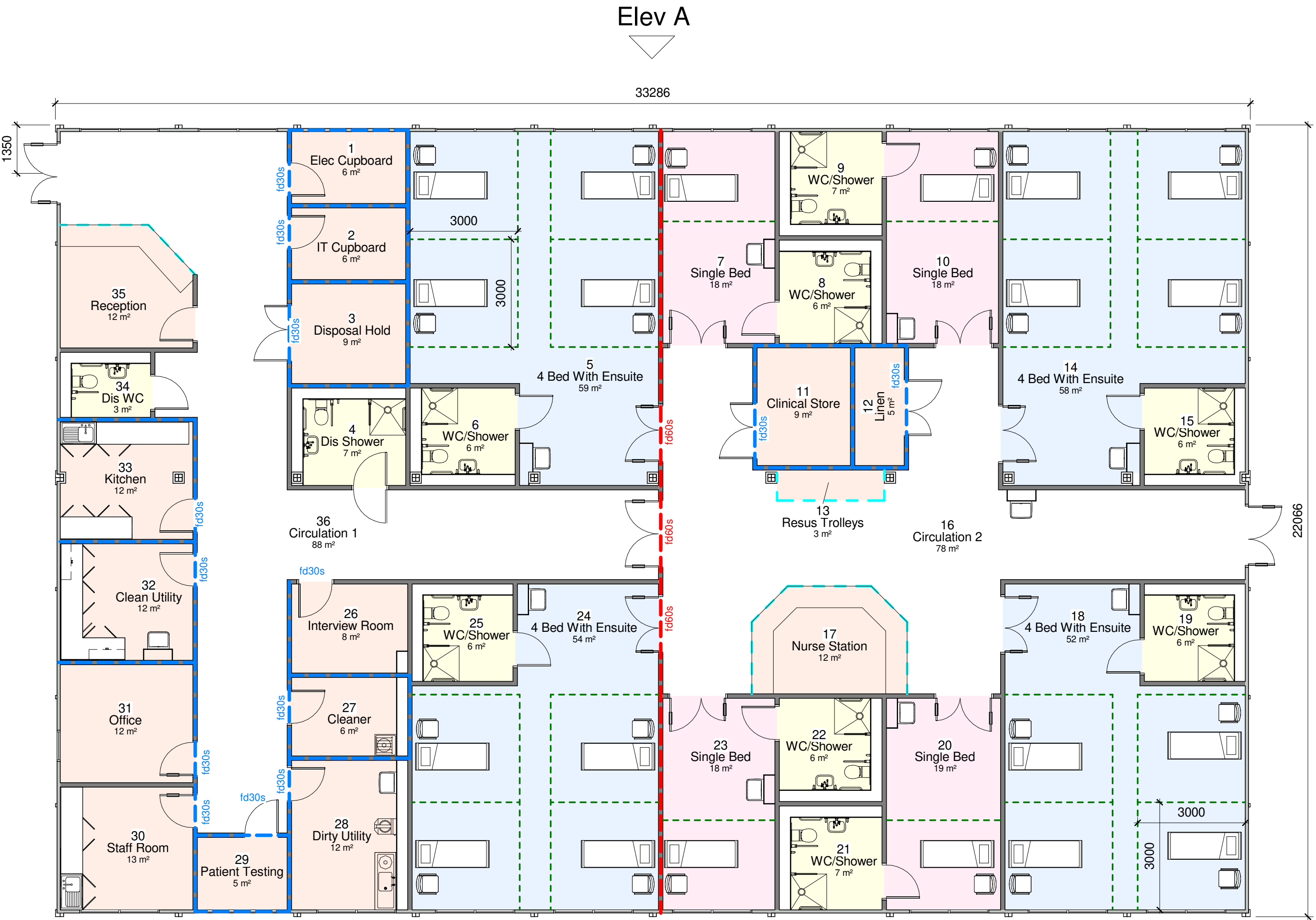


Portakabin®

Portakabin Limited New Lane Huntingdon
York YO32 9PT United Kingdom
+44 (0)1904 611655
portakabin.co.uk

Client: Hillingdon Hospital NHS Trust	
Project: Temporary Ward Facility	
Title: Proposed Elevations - 10 x UK123 & 10 x UK093 Ultima Modules.	
Scale @ A2: 1 : 100	Date: 11/07/19
Drawn By: AND	
Project Number: HD/11471/02	Rev:

Revision	Revision Description	Revision Date	Issued by
A	Internal layout amended	09.08.19	MTK
B	Minor amendments to layout	12.08.19	LDT
C	Amendments made to 4 bed wards - flipping WC position to maximise natural light and ventilation. Room colours added	16.09.19	LDT



Room Schedule		
Number	Name	Area
1	Elec Cupboard	6 m²
2	IT Cupboard	6 m²
3	Disposal Hold	9 m²
4	Dis Shower	7 m²
5	4 Bed With Ensuite	59 m²
6	WC/Shower	6 m²
7	Single Bed	18 m²
8	WC/Shower	6 m²
9	WC/Shower	7 m²
10	Single Bed	18 m²
11	Clinical Store	9 m²
12	Linen	5 m²
13	Resus Trolleys	3 m²
14	4 Bed With Ensuite	58 m²
15	WC/Shower	6 m²
16	Circulation 2	78 m²
17	Nurse Station	12 m²
18	4 Bed With Ensuite	52 m²
19	WC/Shower	6 m²
20	Single Bed	19 m²
21	WC/Shower	7 m²
22	WC/Shower	6 m²
23	Single Bed	18 m²
24	4 Bed With Ensuite	54 m²
25	WC/Shower	6 m²
26	Interview Room	8 m²
27	Cleaner	6 m²
28	Dirty Utility	12 m²
29	Patient Testing	5 m²
30	Staff Room	13 m²
31	Office	12 m²
32	Clean Utility	12 m²
33	Kitchen	12 m²
34	Dis WC	3 m²
35	Reception	12 m²
36	Circulation 1	88 m²
		665 m²

Standard floor loading is 3kN/m².
Any loading imposed on a floor that is greater than 3kN/m² may require strengthening. Please contact your hire centre if you expect to exceed 3kN/m².

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The position of windows, external doors and electrical fixtures (if shown) are dependent on stock availability at time of order.

EXTERNAL COLOUR SCHEME | Ultima

Walls - Goosewing Grey - nearest BS ref 10 A 05
Vertical wall trim - Goosewing Grey - nearest BS ref 10 A 05
Bottom wall trims - White - nearest BS ref 00 E 55
Long wall fascias (covering wall) - Goosewing Grey - nearest BS ref 10 A 05
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Short wall composite fascia - Goosewing Grey - nearest BS ref 10 A 05
Roof - White - nearest BS ref 00 E 55
External Skirt - Goosewing Grey - nearest BS ref 10 A 05
Columns, external corners - Grey - BS 4800 00 A 05
Columns, intermediate - Grey - BS 4800 00 A 05
Windows - Blue Grey - nearest BS 4800 18 B 25
Doors (insulated door) - Slate grey - nearest BS 18 B 25

Internal Portakabin Note
For connection details please see drawing DQ0539



Portakabin

Portakabin Limited New Lane Huntingdon
York YO32 9PT United Kingdom
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portakabin.co.uk

Client: Hillingdon Hospital NHS Trust	
Project: Temporary Ward Facility	
Title: Proposed Layout - 10 x UK123 & 10 x UK093 Ultima Modules.	
Scale @ A2: 1 : 100	Date: 20.09.19
Project Number: HD/11471/02	Drawn By: AND
Rev: C	

Total Overall Internal Area 716m²

- 30 minute fire rating of partition
- 60 minute fire rating of partition

1 Proposed Layout
1 : 100

Standard PTK upgraded acoustic partition throughout, unless shown as whereby partition to 60 min fire rated

N.B. All furniture is for illustrative purposes only and does not necessarily reflect room specification

Appendix C

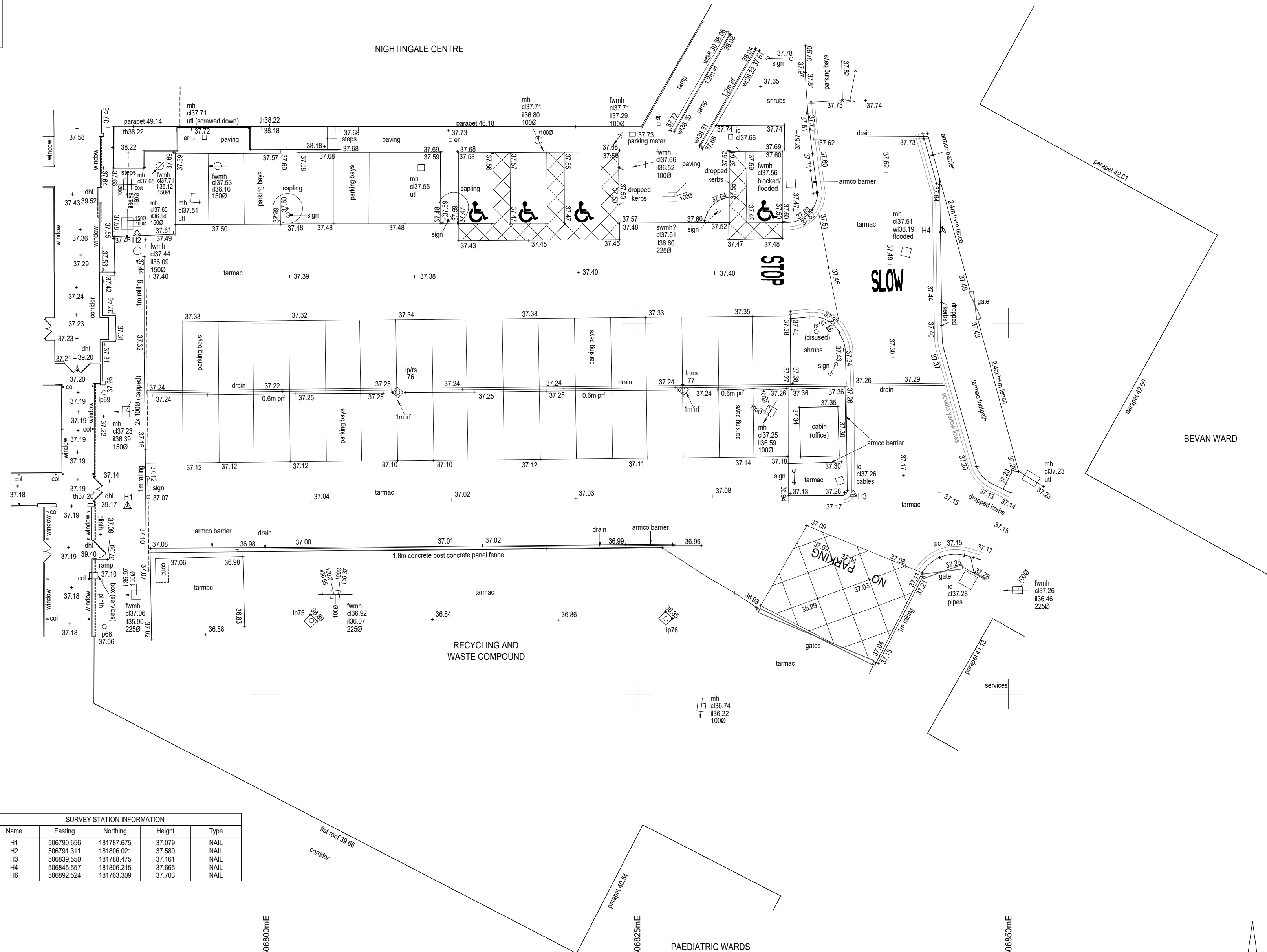
Topographical Survey

A	Ash
AL	Alder
AP	Apple
B	Beech
CB	Cedar
CH	Copper Beech
C	Cherry
CO	Cypress
E	Elder
EU	Eucalyptus
F	Fir
FM	Field Maple
FZ	Fruit
H	Hazel
HC	Horse Chestnut
HO	Holm Oak
HW	Hawthorn
H	Holly
J	Japanese Maple
LB	Laburnum
L	Lime
LO	Locust Tree
L	Laurel
M	Maple
MA	Magnolia
OK	Oak
P	Pine
PA	Palmetto
PL	Plane
PM	Plum
PO	Poplar
PR	Pissardi Plum
P	Pear
R	Redwood
RD	Red Oak
RH	Rhododendron
R	Rose
SB	Silver Birch
S	Sweet Chestnut
SC	Scots Pine
S	Spruce
U	Sycamore
U	Unidentified
W	Willow
WN	Walnut
Y	Yew

Species / Dia / Spread (max) / Ht
e.g. OK / 0.6 / 8 / 15

BT	British Telecom
BL	Bollard
CC	Control Box
CL	Cover Level
CTV	Cable Television
DHL	Door Height Level
EL	Electricity Pole
FD	Fire Door
GPV	Gas Stop Valve
HVC	High Voltage Cable
IC	Inspection Cover
IL	Invert Level
LP	Lamp Post
MA	Man-Hole
MKR	Marker
MM	Monitoring Well
OW	Overhead
OB	Obtuse
PG	Post Box
PR	Prism
RNP	Road Name Plate
SG	Road Sign
SA	Sewer
SL	Slay (Strut)
ST	Substation (Unidentified)
TB	Telephone Box
TE	Telecom
TR	Trial Hole
TL	Traffic Light
TP	Telegraph Pole
UTL	Unable to Lift
VP	Vent pipe
WM	Water Meter
WSV	Water Stop Valve

BWF	Barbed Wire Fence
CBF	Closed Board Fence
CP	Concrete Post
CPF	Chestnut Paling Fence
CWF	Chicken Wire Fence
IRF	Iron Railing Fence
PKF	Picket Fence
PRF	Post & Rail Fence
PWF	Post & Wire Fence
SCF	Security Fence
SP	Steel Post
WMF	Wire Mesh Fence
WPF	Wood Panel Fence



The survey grid has been related to OS National Grid using a flat earth projection and metric scale factor of 1, centred on Station H3. Levels are related to OS datum determined from the National GPS Network using OSGM15.

No assumptions should be made regarding the interconnection of manholes. Drainage details have been obtained from surface inspection and should be verified if of critical importance.

The position and height of adjacent buildings have been obtained using higher level reflectorless measurement and may not take account of single storey extensions or conservatories below the line of sight.

SURVEY STATION INFORMATION				
Name	Easting	Northing	Height	Type
H1	506790.656	181787.675	37.079	NAIL
H2	506791.311	181806.021	37.580	NAIL
H3	506839.550	181788.475	37.161	NAIL
H4	506845.557	181806.215	37.665	NAIL
H6	506892.524	181763.309	37.703	NAIL

Geomatic Surveyors

siteline

Unit E, Woodside
34 Parham Drive
Eastleigh
SO50 4NU

t: 023 8081 1081
w: siteline.co.uk

NEXUS PLANNING

Client

HILLINGDON HOSPITAL
FIELD HEATH ROAD
UXBRIDGE

SITE SURVEY AREA 1

Title

712HH01

Drawing Number

SEPTEMBER 2019

Date _____

1:200 (at A2)

Scale

MU/HB

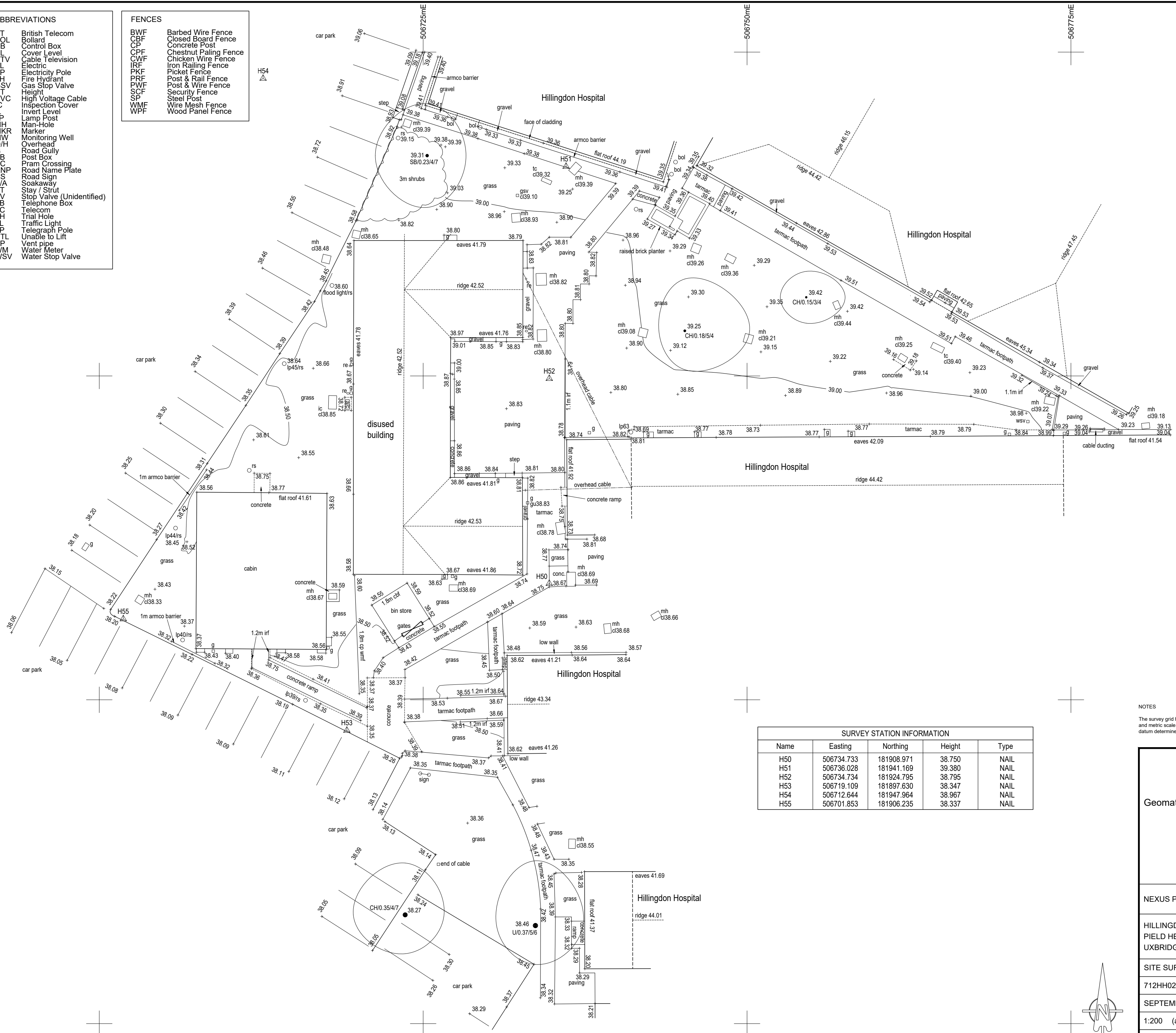
Surveyor(s)



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BT	British Telecom
BOL	Bollard
CB	Control Box
CL	Cover Level
CTV	Cable Television
EL	Electric
FH	Fire Hydrant
GSV	Gas Stop Valve
H	Height
HVC	High Voltage Cable
IC	Inspection Cover
I	Invert Level
LP	Lamp Post
MH	Man-Hole
MKR	Marker
MW	Monitoring Well
O/H	Overhead
GB	Ground Gully
PB	Post Box
PC	Pram Crossing
RNP	Road Name Plate
RS	Road Sign
S/A	Soakaway
ST	Stay / Strut
SV	Stop Valve (Unidentified)
TB	Telephone Box
TC	telecom
TH	Trial Hole
TP	Traffic Light
UTL	Unable to Lift
V	Vent pipe
WM	Water Meter
WSV	Water Stop Valve

BWF	Barbed Wire Fence
CBF	Closed Board Fence
CP	Concrete Post
CPF	Chestnut Paling Fence
CWF	Chicken Wire Fence
IRF	Iron Railing Fence
PKF	Picket Fence
PRF	Post & Rail Fence
PWF	Post & Wire Fence
SCF	Security Fence
SP	Steel Post
WMF	Wire Mesh Fence
WPF	Wood Panel Fence



NOTES

The survey grid has been related to OS National Grid using a flat earth projection and metric scale factor of 1, centred on Station H52. Levels are related to OS datum determined from the National GPS Network using OSGM15.

SURVEY STATION INFORMATION				
Name	Easting	Northing	Height	Type
H50	506734.733	181908.971	38.750	NAIL
H51	506736.028	181941.169	39.380	NAIL
H52	506734.734	181924.795	38.795	NAIL
H53	506719.109	181897.630	38.347	NAIL
H54	506712.644	181947.964	38.967	NAIL
H55	506701.853	181906.235	38.337	NAIL

siteline

Unit E, Woodside
34 Parham Drive
Eastleigh
SO50 4NU

t: 023 8081 1081
w: siteline.co.uk

NEXUS PLANNING Client

HILLINGDON HOSPITAL
FIELD HEATH ROAD
UXBRIDGE

SITE SURVEY AREA 2	Title
--------------------	-------

712HH02	Drawing Number
---------	----------------

SEPTEMBER 2019 Date

1:200 (at A2) Scale

JB Surveyor(s)

Appendix D

Geological Mapping and Soilscape Mapping

KEY

Approximate site location

Bedrock Geology

London Clay Formation - Clay, Silt and Sand

Superficial Geology

Boyn Hill Gravel Member - Sand and Gravel



NOTES

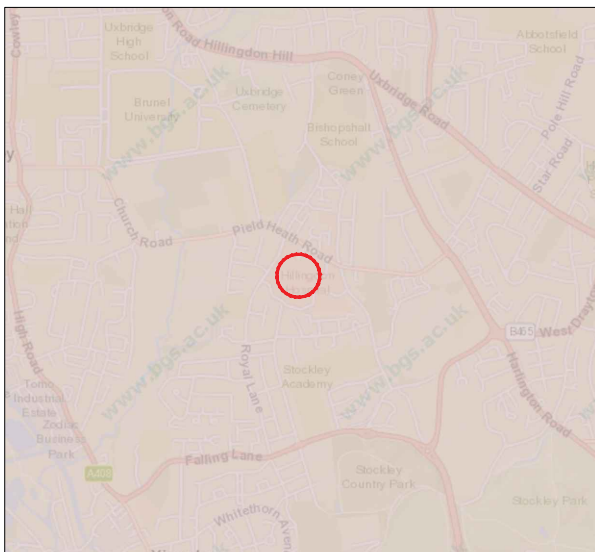
1. This drawing is to be read in conjunction with all other documents and specifications
2. Dimensions not to be scaled from drawing

Soilscapes Map

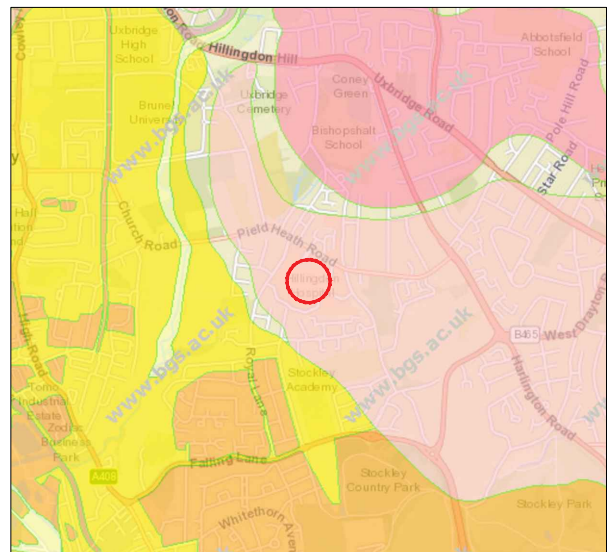
Slowly permeable seasonally wet acid loamy and clayey soils

Loamy soils with naturally high groundwater

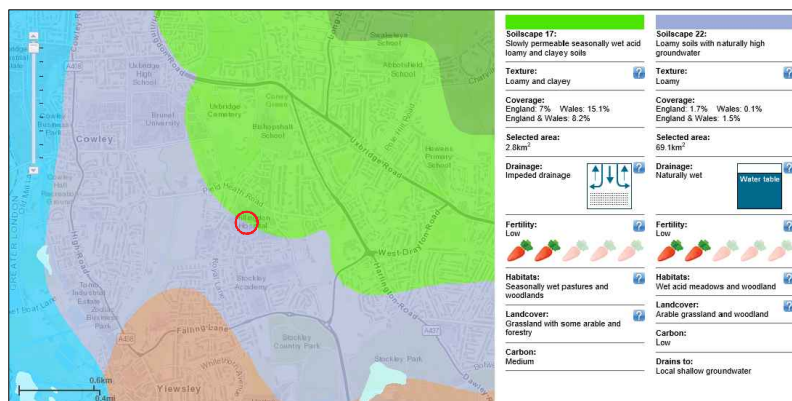
Bedrock Geology



Superficial Geology



Soilscapes Map_Cranfield University



Glanville

Cornerstone House
62 Foxhall Road, Didcot
Oxon, OX11 7AD

Tel: (01235) 515550 Fax: (01235) 817799
postbox@glanvillegroup.com www.glanvillegroup.com

Project :

Hillingdon Hospital, Uxbridge, UB8 3NN

Title :

British Geological Survey & Soilscapes Mapping Extract

Project Engineer : A. Quigley

Scale : NTS

Project Director : K. Rayner

Date : Sept 2019

Drawing No. CV8190857 - SK02

Rev -

Appendix E
Fluvial Flood Risk Mapping

KEY



Flood Zone 2



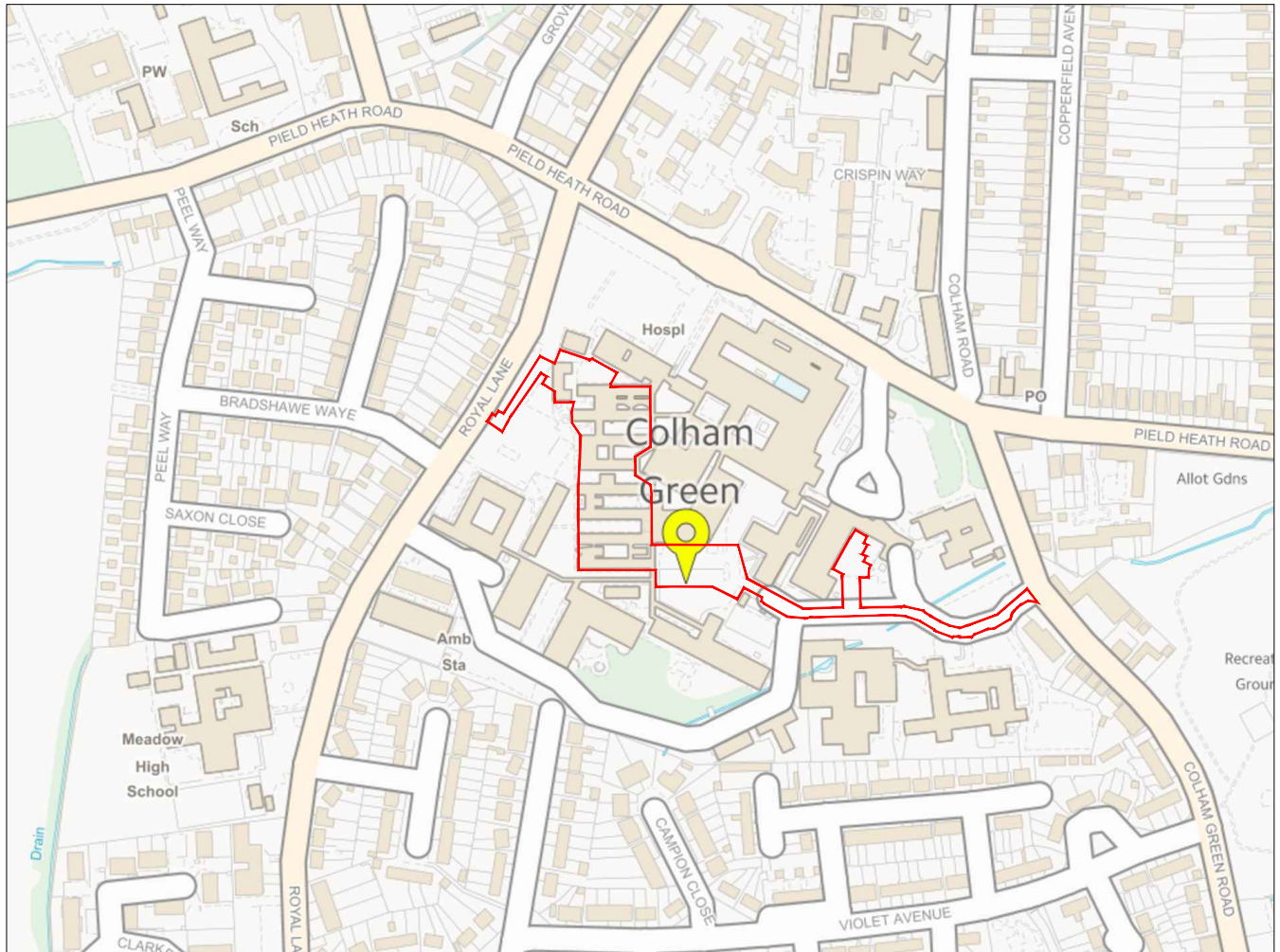
Flood Zone 3

— Approximate site boundary



NOTES

1. This drawing is to be read in conjunction with all other documents and specifications
2. Dimensions not to be scaled from drawing



Glanville

Cornerstone House
62 Foxhall Road, Didcot
Oxon, OX11 7AD

Tel: (01235) 515550 Fax: (01235) 817799
postbox@glanvillegroup.com www.glanvillegroup.com

Project :

Hillingdon Hospital, Uxbridge, UB8 3NN

Title :

Environment Agency Flood Zone Map

Project Engineer : A. Quigley

Scale : NTS

Project Director : K. Rayner

Date : Sept 2019

Drawing No. CV8190857 - SK03

Rev -

Appendix F

Surface Water Flood Risk Mapping

KEY



Low risk of surface water flooding



High risk of surface water flooding



Medium risk of surface water flooding

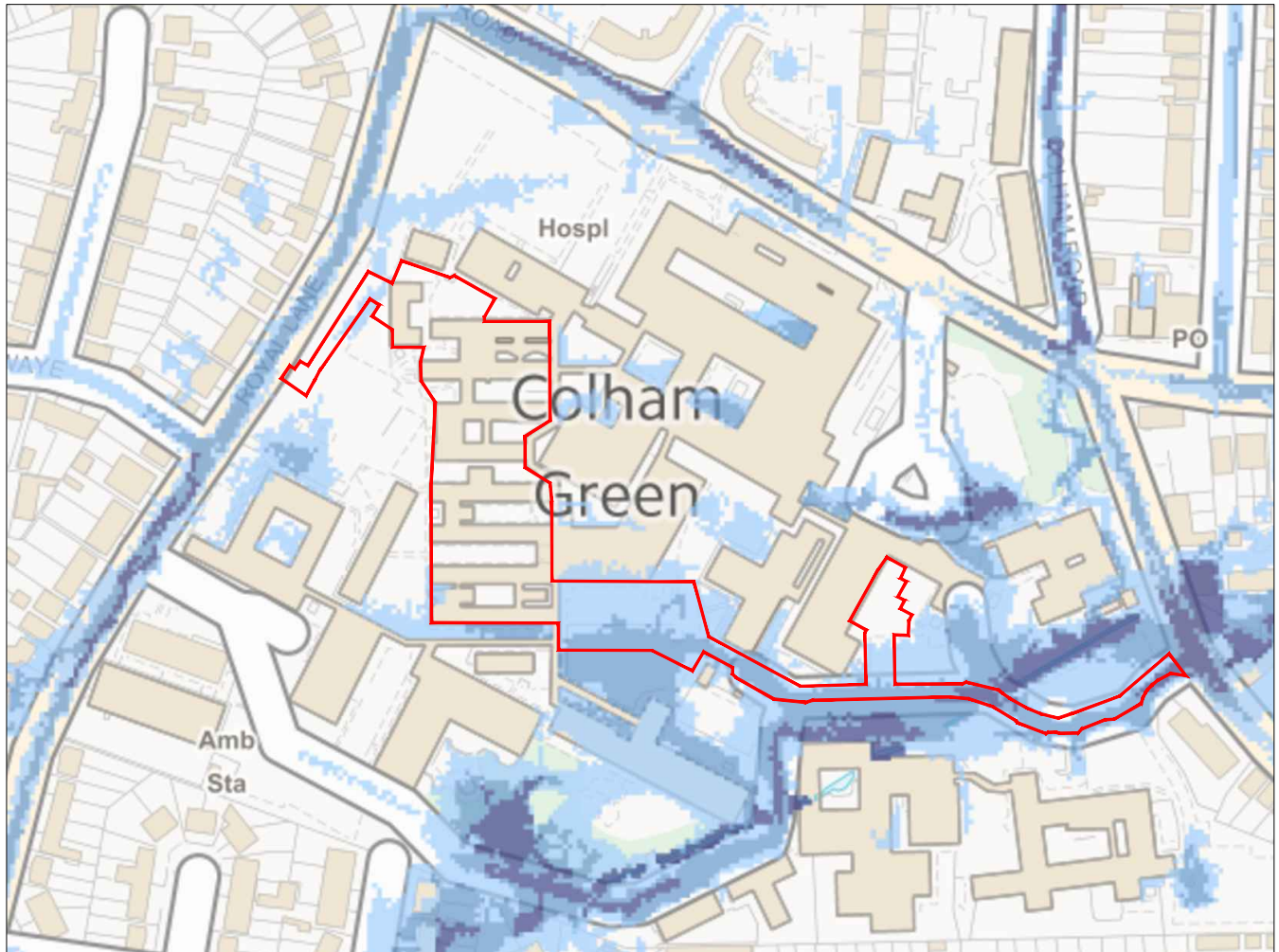


Approximate site boundary



NOTES

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2. Dimensions not to be scaled from drawing



Glanville

Cornerstone House
62 Foxhall Road, Didcot
Oxon, OX11 7AD

Tel: (01235) 515550 Fax: (01235) 817799
postbox@glanvillegroup.com www.glanvillegroup.com

Project :

Hillingdon Hospital, Uxbridge, UB8 3NN

Title :

Environment Agency Surface Water Flood Map

Project Engineer : A. Quigley

Scale : NTS

Project Director : K. Rayner

Date : Sept 2019

Drawing No. CV8190857 - SK04

Rev -



Cornerstone House, 62 Foxhall Road
Didcot, Oxfordshire OX11 7AD

01235 515550
postbox@glanvillegroup.com
www.glanvillegroup.com

- Structural Engineering
- Civil Engineering
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- Geomatics (Land Surveying)
- Building Surveying
- BIM