APPENDIX 7.3: GROUND INVESTIGATION, SCREENING AND SUDS ASSESSMENT REPORT

Ham Close Regeneration

Planning Application:

Ground Investigation, Screening, and SUDS Assessment Report

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Project:	Ham Close, Ham, Richmond Upon Thames, TW10 7PG,
For:	Hill Residential
Ref	CRM.1027.GE.BIA.R002
Status:	Final
Date:	April 2022
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1.0 Introduction

1.1. Background

1.1.1. Enzygo Environmental Limited have been commissioned to undertake an existing ground investigation and a preliminary SUDs assessment in relation to the proposed basement.

1.1.2. The Richmond Basements Assessment User Guide (2021) published by METIS consultants and on behalf of London Borough of Richmond Upon Thames has been utilised.

1.1.3. The first phase (Scoping exercise) has been reported previously and is reported in CRM.1027.087.GE.BIA.R001. prepared by Enzygo Geoenvironmental Ltd. Ref. (Scoping exercise). The second stage undertaken is a Ground investigation and final Assessment in order to confirm the requirements and to support the planning application for the proposed development.

1.2. Objectives

1.2.1. The objectives of this document are:

- Undertake the requirements given in the Scoping assessment provided in The Scoping, Screening and Assessment Report Ref. CRM.1027.087.GE.BIA.R001. prepared by Enzygo Geoenvironmental Ltd.

1.3. Sources of Information

1.3.1. Background information was sought from the following sources.

- The Scoping report (CRM.1027.087.GE.BIA.R001).

2.0 Site Setting

2.1 Site Description

1.1.1. The site comprises an existing residential development with no basements which will be demolished to allow a new residential development including a basement covering the centre of the site. The proposed basement level will extend across the centre of the site and will be used as car parking with access ramps to the north and south and overlain with residential blocks and landscaping areas.

1.1.2. The basement site is bordered on all sides by landscaping with single storey apartments beyond. Details of the existing and proposed layout are given in Appendix A.

1.1.3. The site is currently in residential use and is bordered to the north by Woodville Road, the south eastern corner by Ham Street and Ashburnham Road with the eastern boundary being Wiggins Lane and Ham Street. The western-most extent of the site includes the existing boundary wall with school playing fields and St Richard's CE Primary School beyond.

1.1.4. The eastern extent of the site comprises communal open space with a small car park to the south east corner.

1.1.5. The remainder of the site comprises residential development comprising of three to five storey residential apartments, garages, storage area, car parks and a youth centre. With the exception for the car parking and estate road the remainder of the space comprised grass and some trees and bushes.

1.1.6. There is an electricity substation on site and located close to the western boundary of the site.

1.1.7. A school and playing fields are shown to the west of the site. Part of the land associated with the Woodville Centre is shown within the western part of the site.

1.1.8. A selection of terrace shops with associated car parking and a substation are shown to the southeast of the site.

1.1.9. There are no embankments or areas of cut near to the site.

3.0 Summary of the Scoping Assessment

3.1 General

3.1.1 A summary of the scoping risk assessment is given below.

Risk	Assessment	Screening	Comments
Structural Stability			
Foundation bearing capacity	Low	Scoping required	See Section 4
Differential settlement	Negligible	Scoping required	See Section 4
Desiccation/heave	Dismissed	Screened out	Kempton Park Gravels underlie the site.
Heave on the basement floor slab	Dismissed	Screened out	No excavation in clay and thick slab.
Lateral load on the basement wall.	Low	Scoping required	See Section 4
Temporary stability of excavations	Low	Scoping required	See Section 4
Temporary stability of the existing foundations.	Low	Scoping required	See Section 4
Land Stability			
Land slide	Dismissed	Screened out	No risk
Groundwater			
Shallow inflow	Low to Medium	Scoping Required	Permeable soils present.
Up lift	Dismissed	Screened out	Basement separated by an aquiclude and uplift pressure is not considered a risk due to the thickness of the London clay.
Surface Water			
Fluvial flooding	Low	Screened Out	Flood Zone 1; outside the 1 in 1000 annual probability of fluvial/tidal flooding (<0.1% AEP).
Pluvial flooding/Surface Water Flooding	Low	Screened Out	Property indicated to be unaffected by surface water flooding.
Flooding from Sewers	Low	Scoping Required	No recorded incidences of sewer flooding within the vicinity of the Site. There are areas to the north and the west of the Site that between 0 and 10 records of sewer flooding.
Increased Drainage	Low	Screened Out	Minor increase in impermeable area based on the proposed layout of the basement. Betterment required.

4.0 Ground Investigation

4.1 General

4.1.1 An initial screening assessment has been provided within the scoping assessment discussed in this report (CRM.1027.087.GE.BIA.R001.). A ground investigation and assessment will use the information obtained from the ground investigation, desk study and groundwater monitoring to review risks posed to:

- Geotechnical risks;
- Land stability; and
- Groundwater impacts and groundwater flooding.

4.1.2 These are discussed in the following sections. The structural risks are assessed separately.

4.2 Desk Study Information and Ground Investigation

4.2.1 Desk study information has been assessed and is given in the Scoping Report (CRM.1027.087.GE.BIA.R.001.A) which supports the findings of the ground investigation.

4.2.2 A ground investigation has been carried out which comprised the excavation of eighteen window sampler boreholes (WS1 to WS18) and 6 deep boreholes ((BH1 to BH6) and a further 6 window sampler boreholes (WS101 to WS106) and soakaway pits (SA1 To SA6) together with the installation of seven installations for groundwater monitoring. A copy of the Ground investigation report is given in Appendix B.

4.2.3 The ground investigations carried out shows the site to be underlain by Made Ground over Kempton Park Gravel to a depth of 5.30 bgl.

4.2.4 The London Clay was proved to over 20m thick.

4.2.5 No significant geotechnical risks are identified from the investigation and the strengths of the underlying materials are given below:

4.2.6 Undrained shear strength of cohesive Kempton Park Gravels were calculated using the correlations of Stroud and Butler. These show the undrained shear strength values to vary from 45kN/m^2 to 100kN/m^2 at 1m bgl. Granular soils are noted to be loose medium dense and dense with depth. SPT values increasing from 7 at 1m bgl to over 50 at 4m bgl.

4.2.7 London Clay was noted to have undrained shear strength values increasing from 60kN/m^2 at 6m to 170kN/m^2 at 25m bgl.

4.2.8 Groundwater monitoring has been undertaken from the installations. Results of the monitoring are summarised on the table below:

Exploratory Hole	Depth m(bgl)					
	12.5.21	19.5.21	2.6.21	16.6.21	30.6.21	14.7.21
WS5	Dry	Dry	Dry	Dry	Dry	Dry
WS6	Dry	Dry	Dry	Dry	Dry	Dry
WS7	Dry	Dry	Dry	Dry	Dry	Dry
WS9	Dry	Dry	Dry	Dry	Dry	Dry
WS14	Dry	Dry	Dry	Dry	Dry	Dry

WS16	Dry	Dry	Dry	Dry	Dry	Dry
WS18	Dry	Dry	Dry	Dry	Dry	Dry

4.2.9 Given the shallow installations are all dry and the groundwater was expected, further groundwater monitoring was undertaken from deeper boreholes (SP201 to SP204) where installations were installed to 10.00m bgl. Only the initial set of results has been undertaken to date however groundwater has been recorded and the results are given below.

Exploratory Hole	Depth m(bgl)					
	31.1.22	23.02.22	31.03.22			
SP201	3.61	3.63	3.56			
SP202	3.53	3.75	3.66			
SP203	3.51	3.48	3.54			
SP204	3.54	3.59	3.42			

4.2.10 Further monitoring is underway and this will be reported at a later date, however, the values recorded from the installation (SP201 to SP204) link up to the groundwater depths recorded whilst drilling in the boreholes for SP201 to SP204 –

4.2.11 These results confirm groundwater was encountered above the proposed basement floor level (of 5.00mbgl) at depths ranging from 2.20mbgl to 3.61mbgl). As the basement is approximately 5.00 metres below the surface level groundwater levels are considered to be a risk to the site and sumping and pumping or de-watering will be required. Given secant piles are intended to be used to enable excavation of the basement the piles will be driven to depth to prevent any seepages into the excavation and the risk can therefore be managed out with the appropriate construction techniques adopted.

4.2.12 The risk of deep groundwater level increase is not considered likely. This risk is therefore screened out.

4.2.13 Gas monitoring has also been carried out given the presence of Made Ground. The results are given below.

Exploratory Hole	Atmos pressure (Mb)	Flow (l/hr)	CH4		CO2		O2
			Concentration (%)	GSV (l/hr)	Concentration (%)	GSV (l/hr)	Concentration (%)
12.5.21							
WS5	997	<0.1	<0.1	<0.0001	1.8	<0.0018	19.5
WS6	997	<0.1	<0.1	<0.0001	1.8	<0.0018	19.4
WS7	997	<0.1	<0.1	<0.0001	1.5	<0.0015	19.1
WS9	997	<0.1	<0.1	<0.0001	1.2	<0.0012	19.3
WS14	997	<0.1	<0.1	<0.0001	1.6	<0.0016	18.9
WS16	997	<0.1	<0.1	<0.0001	0.8	<0.0008	18.8
19.5.21							
WS5	1017	<0.1	<0.1	<0.0001	1.9	<0.0019	18.1
WS6	1017	<0.1	<0.1	<0.0001	1.1	<0.0011	18.8
WS7	1017	<0.1	<0.1	<0.0001	2.0	<0.0020	18.0
WS9	1017	<0.1	<0.1	<0.0001	1.3	<0.0013	19.6
WS14	1017	<0.1	<0.1	<0.0001	1.7	<0.0017	18.2
WS16	1017	<0.1	<0.1	<0.0001	1.4	<0.0014	18.9
WS18	1017	<0.1	<0.1	<0.0001	1.1	<0.0011	19.6
2.6.21							

WS5	1014	<0.1	<0.1	<0.0001	2.1	<0.0021	18.2
WS6	1014	<0.1	<0.1	<0.0001	1.2	<0.0012	18.6
WS7	1014	<0.1	<0.1	<0.0001	1.7	<0.0017	18.5
WS9	1014	<0.1	<0.1	<0.0001	1.2	<0.0012	19.1
WS14	1014	<0.1	<0.1	<0.0001	1.6	<0.0016	18.8
WS16	1014	<0.1	<0.1	<0.0001	1.5	<0.0015	18.7
WS18	1014	<0.1	<0.1	<0.0001	1.0	<0.0010	19.7
16.6.21							
WS5	1009	<0.1	<0.1	<0.0001	2.1	<0.0023	18.3
WS6	1009	<0.1	<0.1	<0.0001	1.4	<0.0014	18.7
WS7	1009	<0.1	<0.1	<0.0001	1.5	<0.0015	18.8
WS9	1009	<0.1	<0.1	<0.0001	1.3	<0.0013	19.2
WS14	1009	<0.1	<0.1	<0.0001	1.6	<0.0016	18.9
WS16	1009	<0.1	<0.1	<0.0001	1.7	<0.0017	18.5
WS18	1009	<0.1	<0.1	<0.0001	0.7	<0.0007	19.9
30.6.21							
WS5	1015	<0.1	<0.1	<0.0001	1.8	<0.0018	18.2
WS6	1015	<0.1	<0.1	<0.0001	1.3	<0.0013	18.9
WS7	1015	<0.1	<0.1	<0.0001	1.6	<0.0016	18.7
WS9	1015	<0.1	<0.1	<0.0001	1.4	<0.0014	18.9
WS14	1015	<0.1	<0.1	<0.0001	1.5	<0.0015	19.0
WS16	1015	<0.1	<0.1	<0.0001	1.6	<0.0016	18.8
WS18	1015	<0.1	<0.1	<0.0001	1.0	<0.0010	19.2
14.7.21							
WS5	1017	<0.1	<0.1	<0.0001	1.9	<0.0019	18.3
WS6	1017	<0.1	<0.1	<0.0001	1.5	<0.0015	18.9
WS7	1017	<0.1	<0.1	<0.0001	1.6	<0.0016	18.7
WS9	1017	<0.1	<0.1	<0.0001	1.2	<0.0012	18.7
WS14	1017	<0.1	<0.1	<0.0001	1.7	<0.0017	18.8
WS16	1017	<0.1	<0.1	<0.0001	0.9	<0.0009	19.3
WS18	1017	<0.1	<0.1	<0.0001	0.8	<0.008	19.5

4.2.14 Gas monitoring has not recorded significantly elevated concentrations of Methane or Carbon Dioxide and there are no detectable gas flow rates. No significant source of highly putrescible organic material has been identified during the ground investigation and as such it is considered that there is a low gas risk consistent with the monitoring results.

4.2.15 As the GSV value is below 0.07 l/hr Characteristic Situation 1 applies requiring no special measures to protect against ground gas. The gas monitoring requirement scan be screened out.

4.2.16 Geotechnical analysis (Appendix D) has been carried out which confirms that the London Clay has low to medium plasticity and has a medium shrinkage potential, although within the upper bands the London Clay comprised sand. Given groundwater has been encountered in the installations which is likely to be a perched groundwater the risk of groundwater ingress cannot be screened out and will require further investigation. Given the cohesive nature and low to medium shrinkage potential the risk of heave cannot be screened out.

4.2.17 Geotechnical analysis confirms soluble sulphate concentrations of less than 0.5 g/l consistent with DS1 conditions and as such buried concrete can be designed to class AC1-s.

4.2.18 Chemical analysis (Appendix C) carried out indicates that the soil quality does exceed the recommended GAC values for residential with plant uptake. A copy of the chemical test results and the summery table of the reference values is given in Appendix D (Supporting

information). Given the elevated levels of Lead, Arsenic and PAH remediation is recommended for the Made Ground materials.

4.2.19 The remediation comprises the use of hardstanding within areas of buildings and pavement which will break the potential pollutant linkage. Within proposed soft landscape areas it is recommended that clean cover soils are provided comprising 600mm in domestic garden areas and 400mm in communal areas over a geotextile no dig layer. Validation of the cover soils should be undertaken using hand pits with testing of cover soils.

4.2.20 Asbestos contaminated material has been identified during the ground investigation and it is possible that further material could be encountered during construction works. The use of clean cover soils discussed above will provide remediation to protect future site users. Measures should be incorporated in to the Contractors Construction Stage Health and Safety Plan and asbestos management plan as required under the Construction Design and Management (CDM) Regulations to mitigate risk to construction works. Measures may include:

- Designing temporary works to minimise disturbance of the Back fill material;
- Separating material and disposal of soils containing asbestos;
- Wetting down during excavation;
- Sheeting of stockpiles where asbestos is suspected;
- Testing of soils and off-site disposal of any soils found or suspected of containing asbestos;
- Preventing access to the construction site by members of the public;
- Use of good hygiene measures, including washing down of plant; and
- Use of appropriate PPE, including face masks.

4.2.21 Based on the results received it is considered that Made Ground is likely to be classified as Stable Non-Reactive Waste.

4.2.22 This will only affect the Made Ground and does not affect the underlying Kempton Park gravels or London Clay.

4.2.23 Given the appropriate remediation measures outlined and the management of the chemical risk the chemical analysis requirements and the sulphate levels can therefore be screened out.

4.2.24 The Potential slope instability has been screened out in the screening process.

4.3 Wall Design Calculations

4.3.1 Engineering properties of the soils to assist with the structural stability of the proposed foundations cannot be screened out and are considered in more detail within Section 5.

4.3.2 Bearing pressure and potential settlement of the foundations cannot be screened out and are considered in more detail within Section 5.

4.4 Groundwater Impacts

4.4.1 Reviewing the findings of the site investigation with the Desk Study information shows that groundwater was encountered above the basement level or proposed foundation level at 5.00mbgl. As such groundwater cannot be screened out.

4.4.2 Potential ingress of groundwater into the basement has been considered and based on the current monitoring data indicates variable groundwater levels above the basement floor level and therefore it is recommended that tanking is required. In addition to this and to mitigate the risk associated with groundwater ingress into the basement a secant wall will be piled around the basement perimeter. This secant pile wall penetrates into the underlying clay so creates a cut off wall to the ground water, therefore dewatering can be limited to the area within the footprint of the basement.

4.4.3 The potential for increased groundwater flow around the existing basement from the development is assessed. Ingress into the proposed basement will be mitigated with the construction of the secant piling wall around the perimeter and tanking.

5.0 Assessment of Residual Risks

5.1 General

5.1.1 Where risks cannot be screened out these are further assessed within this section. This assessment only considered the geotechnical, hydrogeological and hydrological impacts.

5.2 Wall Design and Calculations

Foundation Assessment

5.2.1 Given the loadings of the buildings and the basement the bearing pressure and capacity of the Kempton Park Gravel will not be suitable and based on the proposed level of the basement the foundations will bear into the underlying London Clay.

5.2.2 Taking account of the underlying groundwater level and the strength of the London Clay from the drilled boreholes shallow foundations or raft foundations are not suitable and a piled foundation is recommended.

5.2.3 These piles will be installed into the underlying London Clay at depths below of 15.00m bgl. No desiccation has been identified however piles will need to designed to accommodate potential heave. A specialist contactor will need to advise on the appropriate pile type and depths together with the likely allowable bearing pressures based on the boreholes logs. The secant piles around the perimeter will also need to extend deep enough to cut off the groundwater. The secant piles will also be designed to provide lateral support to the surrounding ground whilst the basement wall is constructed. The distribution of lateral loads will further be distributed using a capping beam on top of the piles.

5.2.4 Further piles will also be set within the basement excavation and during the basement construction for lifts and stairwells. Pile caps for these piles will be constructed below the basement slab.

5.2.5 To provide structural rigidity and minimise rotation forces the basement slab will be tied to the basement pile caps to resist uplift forces and tied into the perimeter basement liner wall which in turn is connected into the secant pile capping beam.

5.2.6 These piles, pile caps, basement floor slab and liner walls will be designed to allow transfer of vertical loads into the secant pile walls which will in turn transfer the vertical loads into the ground.

5.2.7 The watertight basement slab will be constructed on void former to limit the uplift forces from ground heave and from the hydrostatic uplift loads.

5.2.8 Differential Settlement and Heave

5.2.9 Total settlements will be distributed into the secant piles via the basement floor and liner wall and in turn the pile caps from the basement piles. Therefore, no significant differential settlement will occur.

5.2.10 Heave risk has been screened out as any heave will be migrated with the use of void former beneath the basement slab.

5.3 Groundwater

Construction Impact

5.3.1 There is a potential for groundwater ingress during construction, however this will be minimal as a secant perimeter wall should seal out the surrounding groundwater and therefore make any groundwater infiltration into the basement excavation minimal.

Groundwater Ingress to Basement

5.3.2 As the groundwater has been encountered above the proposed foundations it is proposed that the proposed basement is tanked. This will mitigate any future groundwater ingress.

5.3.3 Where services enter the building at the basement level there is a risk that water could flow along the granular back fill. To manage this risk is it proposed that all service entries passing though the basement wall are sealed to the waterproof membrane using a proprietary 'top hat' detail.

5.3.4 Given the potential for perched groundwater (although just within the basement excavation due to the secant perimeter wall cutting off any groundwater outside the excavation) it is recommended that sumps be fitted to allow any build-up of waters within the excavation to be pumped out. The use of secant bored pile wall set into the underlying impermeable clay will minimise the volume of water requiring removal.

5.4 Flood Risk

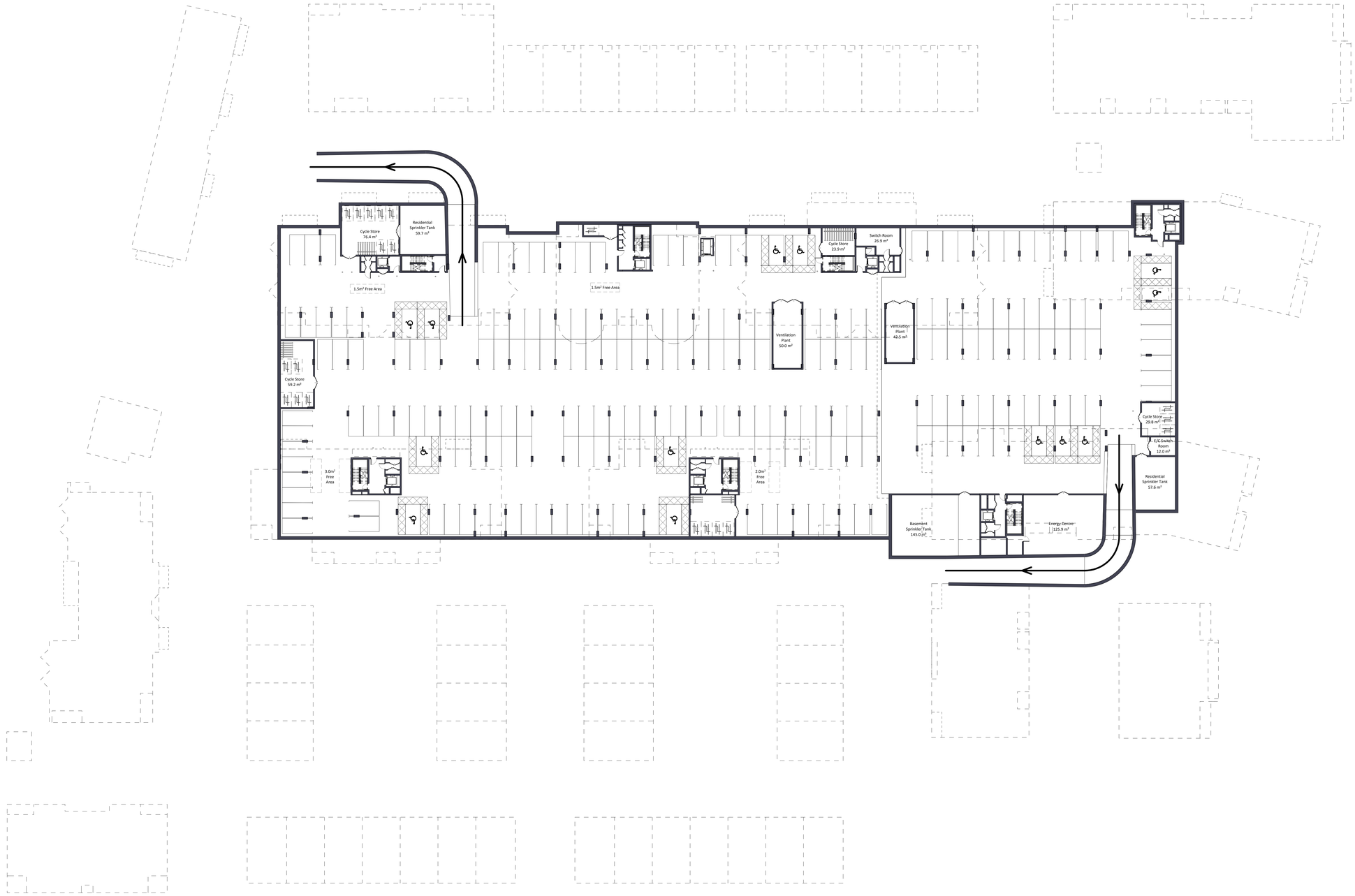
5.4.1 The flood risk posed to the development is 'Low' to 'Medium' and will be mitigated by the following methods:

- The basement development will be entirely tanked therefore sealing the development and mitigating any affects from potential sources of flooding;
- Appropriately sized SUDs including: porous material underlying the basement area; and
- 150mm threshold level (above surrounding ground / floor level) at all new external entry points to the basement
- There is also a requirement to assess if the proposed basement will block the flow of any groundwater and therefore result in a build up of groundwater pressure up gradient of the proposed basement. This has been considered and dismissed as the permeability of the Kempton Park Gravels has a high clay content resulting in low permeability.

5.5 Summary

5.5.1 The potential flood risks to the development, discussed above, have been suitably mitigated through the inclusion of flood proof design measures. Management measures have been specified to negate residual risks, which cannot be borne out through design. This includes the management and maintenance of the Sustainable Drainage elements.

APPENDIX A – SUPPORTING DRAWING



Notes:
Do not scale. All dimensions are in millimetres unless otherwise stated. This drawing should be read in conjunction with all relevant project information and contract documentation. All dimensions to be checked prior to fabrication and or commencement of works. All works to comply with all relevant legal standards, building regulations and warranty provider requirements. Report any discrepancies, if in doubt ask.

Revisions:

Rev.	Status	Date	Description	Drn	Chkd
C01	A3	26.04.22	Planning Issue	JB	CD

Client Name: Hill Residential

Project Name: Ham Close Regeneration

Drawing Name: Detailed Masterplan Basement Floor

Drawing Number:	Rev:	Status:
HCR-BPTW-S01-B1-DR-A-0127	C01	A3

Project No:	RIBA Stage:	Drawn By:	Scale:
21-090	03	JB	1:250 @ A0

PLANNING ISSUE

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KEY

- Planning red line boundary
- Tree to be retained & RPA
- Proposed buildings
- Basement outline
- Storeys A 4 12 Block/Terrace Letter Units

Notes:
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Revisions:

Rev.	Status	Date	Description	Drn	Chkd
C01	A3	26.04.22	Planning Issue	JB	CD

Client Name: Hill Residential

Project Name: Ham Close Regeneration

Drawing Name: Proposed Masterplan

Drawing Number:	Rev:	Status:
HCR-BPTW-S01-ZZ-DR-A-0102	C01	A3

Project No:	RIBA Stage:	Drawn By:	Scale:
21-090	03	JB	1:500 @ A1

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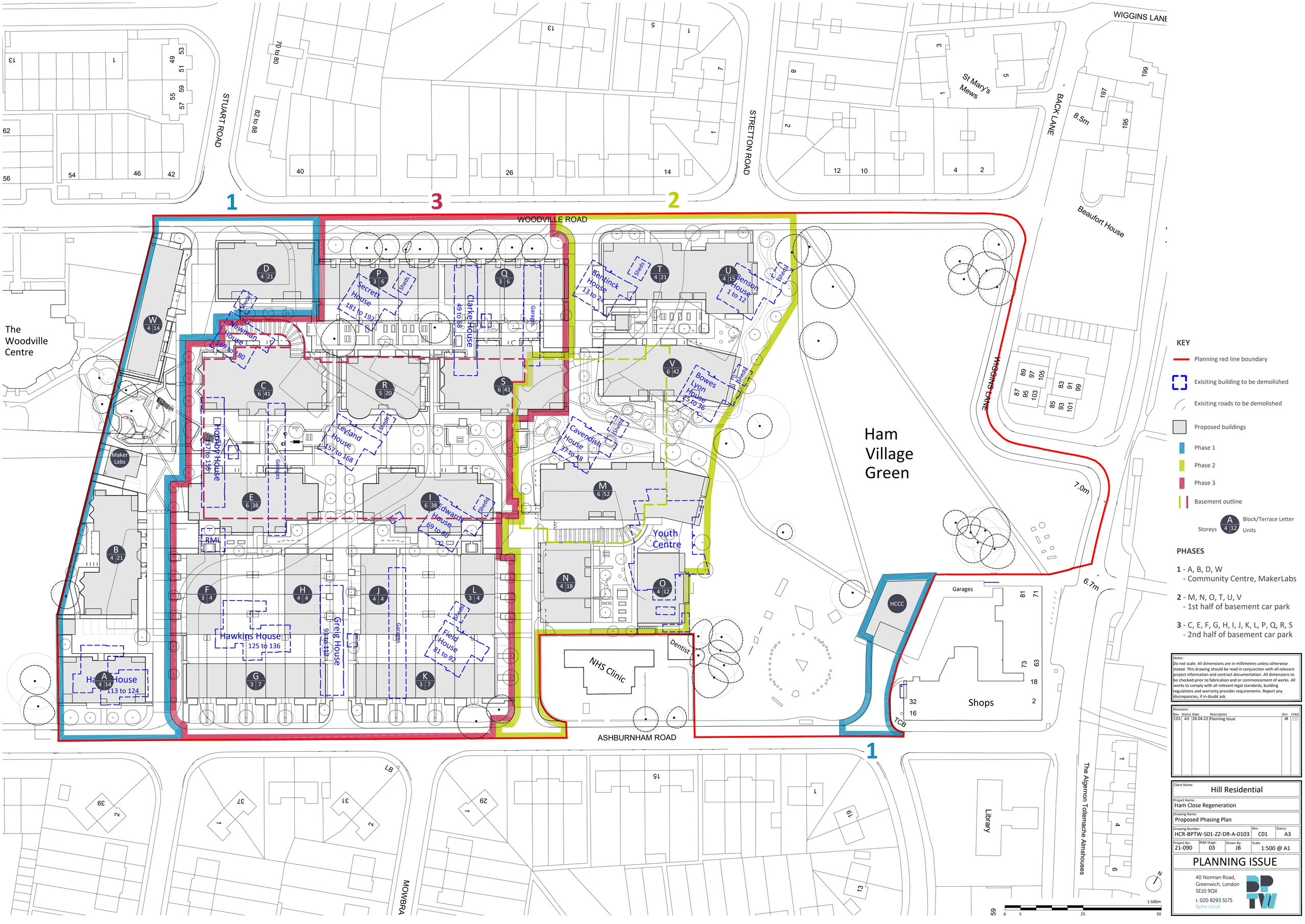

KEY

- Planning red line boundary
- Exisiting building to be demolished
- Exisiting roads to be demolished
- Proposed buildings
- Phase 1
- Phase 2
- Phase 3
- Basement outline
- Storeys A 4 | 12 Units — Block/Terrace Letter

PHASES

1 - A, B, D, W
- Community Centre, MakerLabs

2 - M, N, O, T, U, V
- 1st half of basement car park

3 - C, E, F, G, H, I, J, K, L, P, Q, R, S
- 2nd half of basement car park

Notes:
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Revisions:

Rev	Status	Date	Description	Drn	Chkd
C01	A3	26.04.22	Planning Issue	JB	CD

Client Name: Hill Residential

Project Name: Ham Close Regeneration

Drawing Name: Proposed Phasing Plan

Drawing Number:	Rev:	Status:
HCR-BPTW-S01-ZZ-DR-A-0103	C01	A3

Project No:	RIBA Stage:	Drawn By:	Scale:
21-090	03	JB	1:500 @ A1

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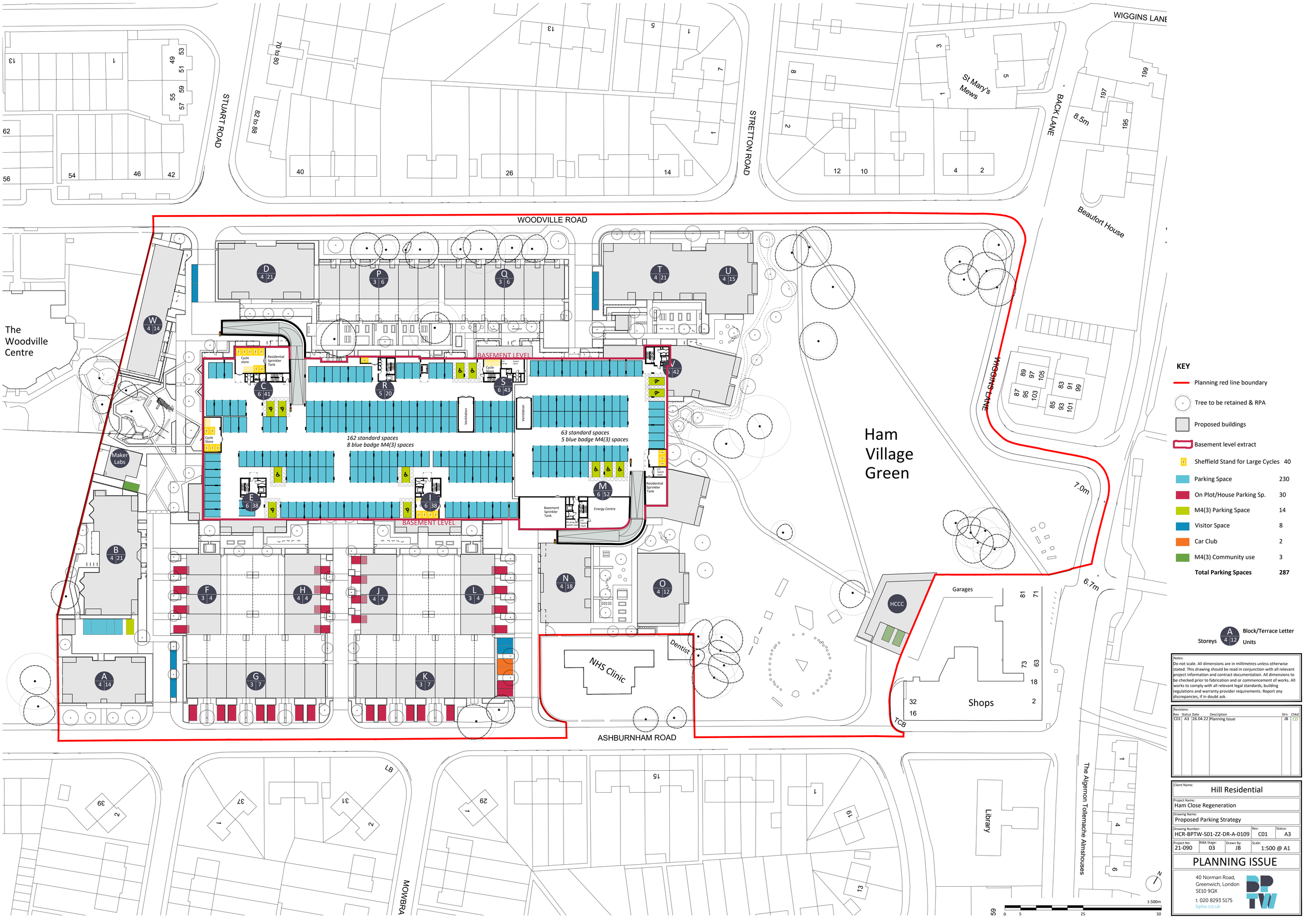

KEY

- Planning red line boundary
- Tree to be retained & RPA
- Proposed buildings
- Basement level extract
- Sheffield Stand for Large Cycles 40
- Parking Space 230
- On Plot/House Parking Sp. 30
- M4(3) Parking Space 14
- Visitor Space 8
- Car Club 2
- M4(3) Community use 3
- **Total Parking Spaces 287**

Storeys A 4 12 Block/Terrace Letter, Units

Notes:
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Revisions:

Rev	Status	Date	Description	Drn	Chkd
C01	A3	26.04.22	Planning Issue	JB	CD

Client Name: Hill Residential
Project Name: Ham Close Regeneration
Drawing Name: Proposed Parking Strategy
Drawing Number: HCR-BPTW-S01-ZZ-DR-A-0109 | Rev: C01 | Status: A3
Project No: 21-090 | RIBA Stage: 03 | Drawn By: JB | Scale: 1:500 @ A1

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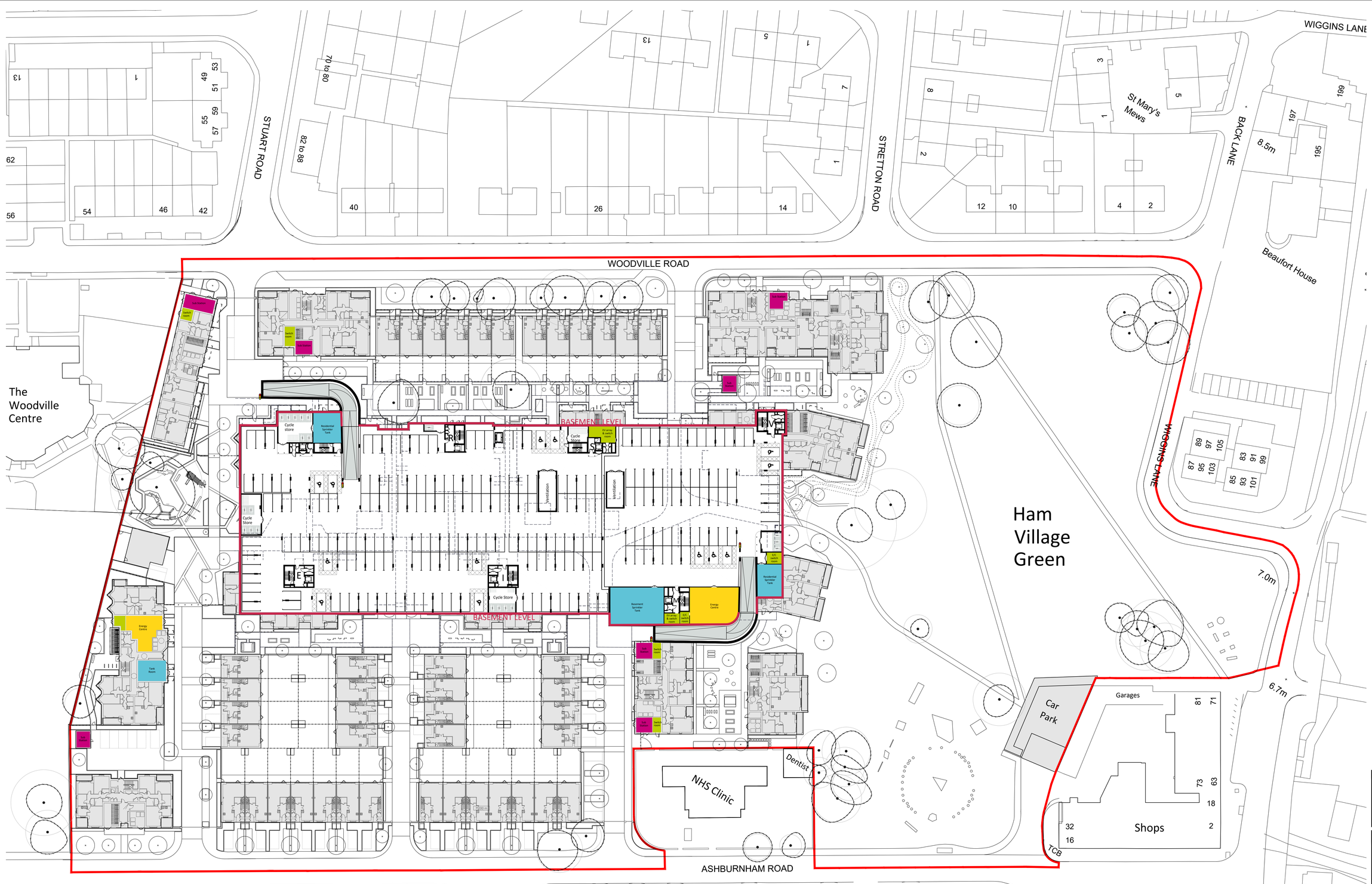

KEY

- Planning red line boundary
- Tree to be retained & RPA
- Proposed buildings
- Basement level extract
- Sub Station
- Energy Centre
- Tank Room
- Switch Room

Storeys A 4 12 Block/Terrace Letter Units

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Revisions:

Rev	Status	Date	Description	Drn	Chkd
C01	A3	26.04.22	Planning Issue	JB	CD

Client Name: Hill Residential

Project Name: Ham Close Regeneration

Drawing Name: Proposed Energy Centre & Sub-Stations

Drawing Number:	Rev:	Status:
HCR-BPTW-S01-ZZ-DR-A-0110	C01	A3

Project No:	RIBA Stage:	Drawn By:	Scale:
21-090	03	JB	1:500 @ A1

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1:500m
0 5 25 50

WOODVILLE ROAD

ASHBURNHAM ROAD

STUART ROAD

STRETTON ROAD

BACK LANE

WIGGINS LANE

WIGGINS LANE

MOWBRAY ROAD

The Woodville Centre

Ham Village Green

Youth Centre

Library

The Algernon Tollemache Almshouses

Beaufort House

The Royal Oak (PH)

Grey Court Stables

Shops

Dentist

NHS Clinic

Maker Labs

RML

TCB

Secrett House 181 to 192

Clarke House 49 to 68

Garages

Bentinck House 13 to 24

Benson House 1 to 12

Bowes Lyon House 25 to 36

Cavendish House 37 to 48

Leyland House 157 to 168

Hornby House 137 to 156

Newman House 169 to 180

Edwards House 69 to 80

Greig House 93 to 112

Hawkins House 125 to 136

Field House 81 to 92

Hatch House 113 to 124

Sheds

D 4 21

W 4 14

B 4 21

HCCC

BM 8.48m LB

8.5m

8.2m

7.0m

6.7m

KEY

- Planning red line boundary
- Exisiting building to be demolished
- Proposed buildings
- Phase 1
- Storeys A 4 | 12 Units — Block/Terrace Letter

Notes:
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Revisions:

Rev	Status	Date	Description	Drn	Chkd
C01	A3	26.04.22	Planning Issue	JB	CD

Client Name: Hill Residential

Project Name: Ham Close Regeneration

Drawing Name: Proposed Phase 1 Masterplan

Drawing Number:	Rev:	Status:
HCR-BPTW-S01-ZZ-DR-A-0114	C01	A3

Project No:	RIBA Stage:	Drawn By:	Scale:
21-090	03	JB	1:500 @ A1

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