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GROUND ASSESSMENT in response to

Planning Application 54817/APP/2024/839

1, NICHOLLS AVENUE, HILLINGDON, UB8 3JL

for : Mr Ian Cook

3rd September 2024

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Ground Contamination Assessment at
1, NICHOLLS AVENUE, HILLINGDON, UB8 3JL

Planning Application 54817/APP/2024/839

The old domestic garage/shed is to be replaced by a larger outbuilding

The Planning Department of London Borough of Hillingdon have expressed some concern over two factors :

1. Possible ground contamination
2. Critical drainage issues

1. Ground Conditions

The Geological Survey map shows that Gravel is present overlying London Clay. Old OS maps show an area of Gravel Pits on the west side of Harlington Road. The gravel was extracted between 1900 and 1920 with minor increases later. The map of 1935 is enclosed. The ground was subsequently filled. Part of the area was developed in 1964 for a Corporation Yard. Exploratory boreholes carried out in 2020 encountered made-up ground generally to depths of around 2m to 2.4m. The fill material typically comprised a mixture of clay, stones, pieces of brick and some ash. Local oil spillages were present. Relatively minor amounts of potentially harmful materials were recorded. The land alongside the main road has since been developed with houses, and with commercial units on the south side (see 1992 map).

The Application site is to the east of Harlington Road and the OS maps show that this area was fields and Orchards. Nicholls Road was constructed in about 1933 as part of a large housing estate. The Application site was not built on and has been vacant since.

A ground investigation borehole has now been constructed close to the existing building. Working access was restricted by the overgrown brambles and the borehole was located by the south west corner.

The soil encountered was firm to stiff Clay fill containing some stones. At a depth of 1.5m, natural London Clay was encountered. It is possible that Gravel is present over other parts of the Site.

Three samples of the clay fill were analysed for a suite of chemical elements associated with potential harm to humans and plants. The Laboratory Test Certificate is enclosed. The concentrations of Heavy Metals are low. There are only traces of PAHs. The TPH values are very minor. This soil can be considered as Not Contaminated.

2. Natural Drainage

The capping of Gravel extends for at least 1000m in all directions from this Site The ground elevation is about 51m OD and the land rises up gently to the north. The surrounding land surface is predominantly residential with driveways and gardens. Thus rainwater would seep into the underlying Gravel. The thickness of the Gravel varies.

The proposed building will cover an area of 72 sq.m compared to the existing floor area of 38 sq.m. It is evident that this building will have minimal influence on the ground water regime.

Conclusion

The ground at the Application site does not appear to contain any significant harmful matter. Migration of any pollutants or ground gas from the filled gravel pit is most unlikely. The pit is 130m distant and the presence of clay soil minimises lateral and vertical flow.

The new building will incorporate a concrete floor slab. Hence the ground will be encapsulated and the Pathway for contact by humans will be sealed. The presence of any pollutants is therefore of minor significance. During the construction period, normal PPE clothing should be adequate to protect workers.

The proposed larger building will have minimal impact on ground water.

Client	Project	Borehole No.
Mr Ian Cook	1, NICHOLLS AVENUE	A
Engineer	HILLINGDON, UB8 3JL	**Elevation**
Borehole Type		**Date**
Percussive Sampler		23-Aug-24

Legend	Depth (m)	Description	Samples/ Tests
		grey-brown stoney soil with some pieces of brick	0.1 J chemical analysis
	0.20	firm pale grey silty clay with pockets of grey-brown clay, and scattered stones	0.3 J chemical analysis
	0.40	stiff grey-brown and orange mottled clay with scattered stones and occasional piece of brick, roots to 1.1m	0.5 J chemical analysis
			1.4 J water content =29%
	1.50	stiff brown and pale grey mottled clay	2.0 J water content = 15%
			2.5 J water content =28%
	3.00	end of borehole	

Remarks Borehole constructed to the south of the proposed building groundwater was not encountered

Ground Contamination Assessment at
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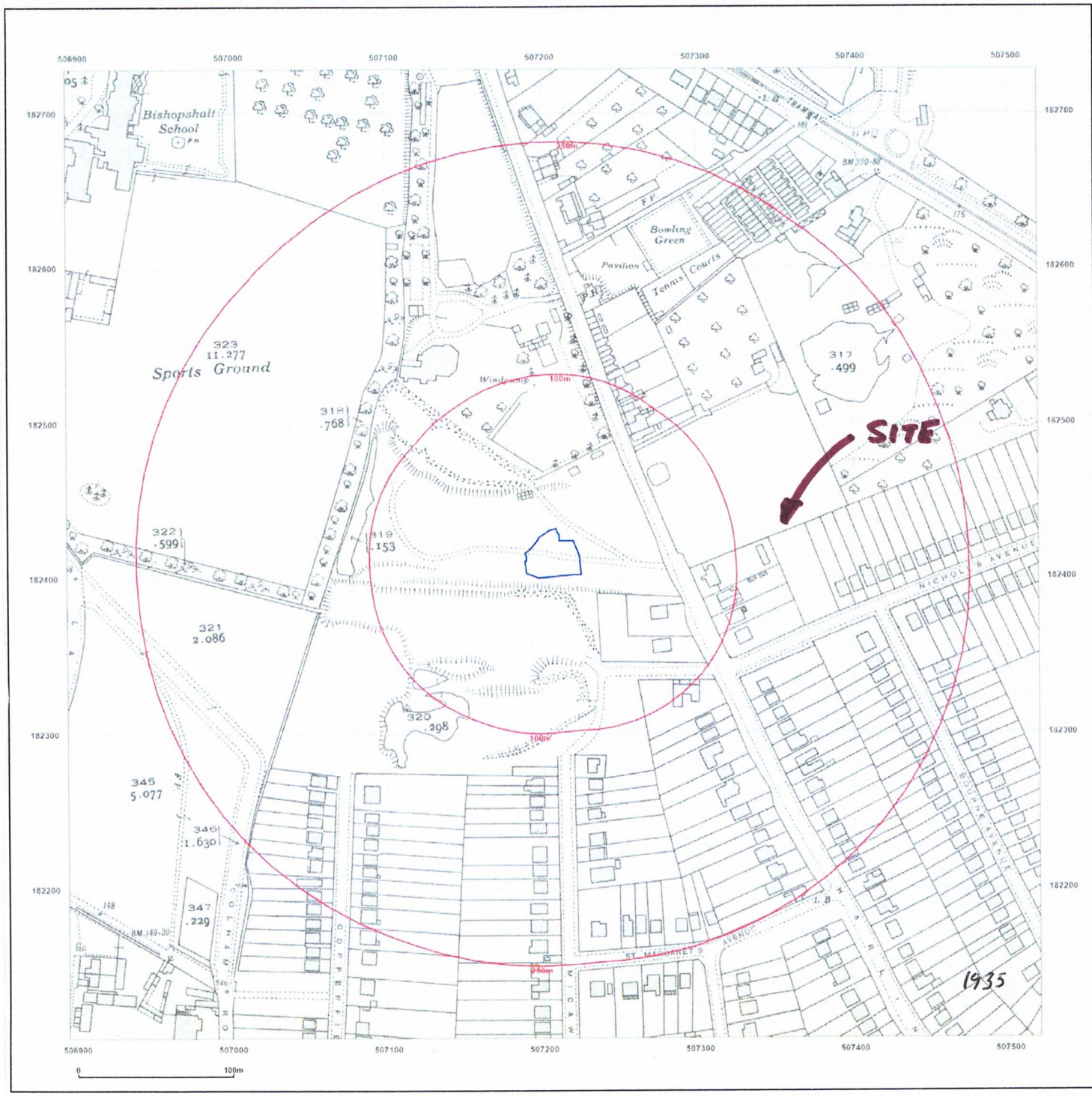
Gravel Pit on west side of Harlington Road **OS MAP 1935**

Application site in Nicholls Avenue is vacant



Simon Quarrell **consulting engineer** **3rd September 2024**

Ground Contamination Assessment at
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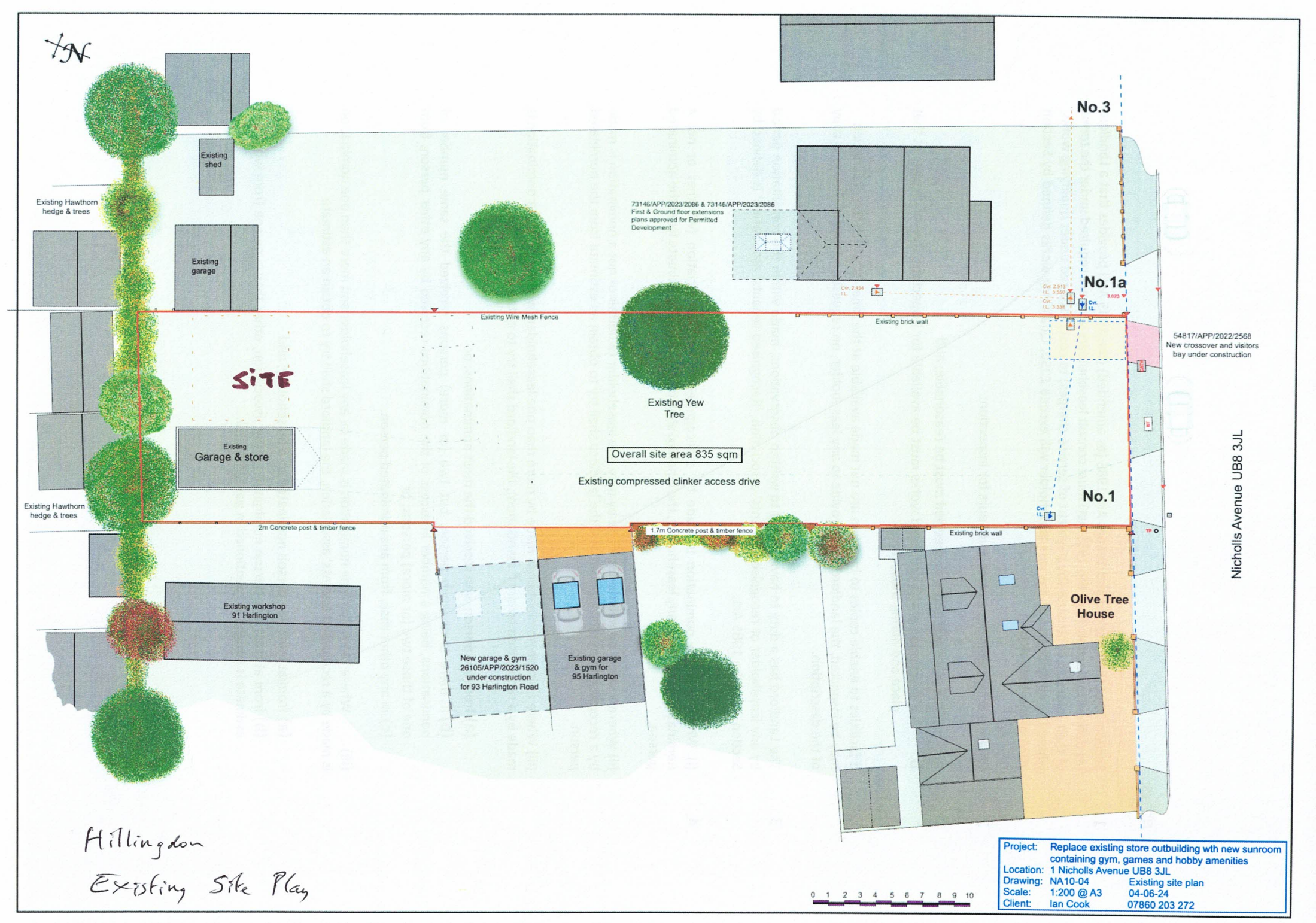
Gravel Pit now infilled, and Buildings constructed **OS MAP 1992**

Application site in Nicholls Avenue still vacant

Analytical Report Number: 24-038303
Project / Site name: Nicholls Avenue, Uxbridge

Lab Sample Number				297051	297052	297053
Sample Reference				BH1	BH1	BH1
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.30	0.50
Date Sampled				23/08/2024	23/08/2024	23/08/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**			
Stone Content	%	0.1	NONE	31.4	< 0.1	33
Moisture Content	%	0.01	NONE	11	8.1	7.7
Total mass of sample received	kg	0.1	NONE	0.5	0.5	0.5
Speciated PAHs						
Naphthalene	mg/kg	0.05	MCERTS	0.12	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	0.12	< 0.05	0.06
Acenaphthene	mg/kg	0.05	MCERTS	0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	1.1	< 0.05	0.31
Anthracene	mg/kg	0.05	MCERTS	0.17	< 0.05	0.06
Fluoranthene	mg/kg	0.05	MCERTS	2.1	< 0.05	0.85
Pyrene	mg/kg	0.05	MCERTS	1.9	< 0.05	0.74
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1	< 0.05	0.41
Chrysene	mg/kg	0.05	MCERTS	1.3	< 0.05	0.48
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	1.7	< 0.05	0.56
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.86	< 0.05	0.29
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.5	< 0.05	0.52
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.94	< 0.05	0.3
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.24	< 0.05	0.08
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.1	< 0.05	0.34
Total PAH						
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	14.2	< 0.80	4.99
Heavy Metals / Metalloids						
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14	4.7	11
Boron (water soluble)	mg/kg	0.2	MCERTS	2.5	0.8	0.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.6	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	22	14	22
Copper (aqua regia extractable)	mg/kg	1	MCERTS	34	4	16
Lead (aqua regia extractable)	mg/kg	1	MCERTS	170	9.7	170
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.7	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	19	6.7	12
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	210	16	66
Petroleum Hydrocarbons						
TPH (EC10 - EC40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	24	< 10	14

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected


N
No.3
Existing shed
Existing Hawthorn hedge & trees
Existing garage
73146/APP/2023/2086 & 73146/APP/2023/2086
First & Ground floor extensions plans approved for Permitted Development
No.1a
Existing Wire Mesh Fence
Existing brick wall
54817/APP/2022/2568
New crossover and visitors bay under construction
SITE
Existing Yew Tree
Existing Garage & store
Overall site area 835 sqm
Existing compressed clinker access drive
No.1
Existing Hawthorn hedge & trees
2m Concrete post & timber fence
1.7m Concrete post & timber fence
Existing brick wall
Nicholls Avenue UB8 3JL
Existing workshop 91 Harlington
New garage & gym 26105/APP/2023/1520 under construction for 93 Harlington Road
Existing garage & gym for 95 Harlington
Olive Tree House
Hillingdon
Existing Site Plan
0 1 2 3 4 5 6 7 8 9 10
Project: Replace existing store outbuilding wth new sunroom containing gym, games and hobby amenities
Location: 1 Nicholls Avenue UB8 3JL
Drawing: NA10-04 Existing site plan
Scale: 1:200 @ A3 04-06-24
Client: Ian Cook 07860 203 272