



**Former Ducie Arms
424 Stockport Road
Longsight
Manchester**

**Supplementary Ground Contamination
Risk Assessment Report and
Remediation Strategy**

Report Beneficiary:
Shellco 148 Ltd
Tameside business park
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EXECUTIVE SUMMARY

The following presents a summary of the main findings of the report. It is emphasised that no reliance should be placed on any individual point until the whole of the report has been read as other sections of the report may put into context the information contained herein.

It is proposed to redevelop the site of the former Ducie Arms located at 424 Stockport Road, Longsight, Manchester. The development proposals are understood to comprise the demolition of the existing public house and the construction of a three storey mixed use development comprising a medical centre on the ground floor with residential units above. Small decorative areas of planting are proposed along the eastern, southern and western boundaries of the site, along with grasscrete car parking areas.

A Phase 1 Contaminated Land Assessment, undertaken by others, identified potential pollutant linkages associated with the likely presence of made ground and the potential for elevated concentrations of ground gases from coal mining beneath the site.

A previous ground investigation and quantitative ground contamination risk assessment recorded elevated concentrations of lead and PAH compounds in the made ground and remedial measures were considered to be required in all proposed soft landscaped areas and the grasscrete car parking areas.

The report was submitted to the Local Authority in discharge of planning conditions imposed with respect to contaminated land, who required additional ground investigation beneath the footprint of the building on site.

A second phase of ground investigation was undertaken which recorded lower concentrations of contaminants within the made ground and very low/negligible concentrations of contaminants within the Till deposits beneath the footprint of the former building.

In consideration of the findings of the first phase of investigation, remedial measures are still considered to be required. Remedial measures are recommended within this report, along with details as to how they should be verified to allow production of a verification report.

The conclusions drawn and recommendations made within this report should be considered as provisional until such time as they have been approved by Local Authority and the relevant planning condition has been discharged.

Regulatory feedback on this report should be included within the verification report.

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1. INTRODUCTION

It is proposed to redevelop the site of the former Ducie Arms at 424 Stockport Road, Longsight, Manchester. The site comprises a roughly triangular plot of land located to the south west of Stockport Road and between Plymouth Grove and Hayley Street and is centred on the approximate Ordnance Survey national grid reference 386472 395932. A site location plan is presented as Figure 1.

The development proposals are understood to comprise the demolition of the existing public house and the construction of a three storey mixed use development comprising a medical centre on the ground floor with residential units above.

Small decorative areas of planting are proposed along the eastern, southern and western boundaries of the site, along with grasscrete car parking areas. A copy of the proposed development layout plans is presented in Appendix A.

The development has been approved conditionally by Manchester City Council, with conditions 22 and 23 imposed in respect of contaminated land.

GeoSmart Information Ltd. has previously undertaken a Phase 1 Contaminated Land Assessment¹ for the site. The assessment identified potential pollutant linkages associated with the likely presence of made ground and the potential for elevated concentrations of ground gases from coal mining beneath the site.

Ashdown Site Investigation Ltd. carried out a ground investigation and produced a quantitative ground contamination risk assessment² for the site.

The ground investigation found elevated concentrations of lead and PAH compounds within the shallow made ground and remedial measures were considered to be required in all proposed soft landscaped areas and the grasscrete car parking areas.

Ground gas monitoring recorded very low concentrations of ground gases and the development was categorised as "Characteristic Situation 1", with no specific gas protection measures considered to be necessary.

A copy of the quantitative conceptual model from the previous report is presented in Appendix B.

The report recommended that a remediation strategy would be required for the site and recommended that the report was submitted to the Local Authority in relation to Condition 22.

The report was submitted to the Local Authority in relation to Condition 22 (Application No. CDN/23/0183). The Local Authority in their response stated:

"No details of the ground investigations that have been carried out under the existing building at the site has been provided. Additional ground monitoring in that area is required to be undertaken when the building has been demolished. Until such time that satisfactory details are received and agreed, condition 22 cannot be discharged."

A full copy of the Local Authority response is included as Appendix C.

¹ EnviroSmart Plus, Report Ref: 94579R1, dated August 2021

² Project Ref: P15726, dated 11th October 2022

Ashdown Site Investigation Ltd. was commissioned to undertake further ground investigation within the area of the demolished building to provide a supplementary quantitative ground contamination risk assessment and remediation strategy for the site.

The scope of the works covered by this report, and the terms and conditions under which they were undertaken, were set out within the offer letter Q14158/Rev1, dated 25th June 2024. The instruction to proceed was received on behalf of the client, Shellco 148 Ltd.

2. SITE WORKS

2.1 Introduction

The intrusive site works comprised a series of machine dug pits, excavated at the time of general demolition works being undertaken at the site. The intrusive work was carried out on 26th June 2024. The exploratory hole locations are shown on Figure 2.

Descriptions of the strata encountered and comments on groundwater conditions are shown in the exploratory hole records given in Appendix D, together with explanatory notes to assist in their interpretation.

2.2 Exploratory Holes

The following table summarises the intrusive works undertaken at the site.

Table 1. Summary of Intrusive Works Undertaken

Designation	Depth (m bgl)	Method
TP101	2.50 (0.30m deep pit)	Machine Dug Pit
TP102	2.60 (0.40m deep pit)	Machine Dug Pit
TP103	0.70m	Machine Dug Pit

Trial pits TP101 and TP102 were excavated within the basement level of the demolished public house building, but were excavated from ground level. Trial pit TP103 was excavated from the existing ground level.

2.3 Sampling

Samples of soil were taken from the exploratory holes at the depths shown in the exploratory hole records. The types of samples taken are indicated on the exploratory hole records. Details on the sample types are provided in the explanatory notes.

Where appropriate, samples were stored in cool boxes with cooling blocks to maintain temperatures below 4°C until transferred to refrigerators upon return to the office and subsequently forwarded to the external accredited chemical testing laboratory.

2.4 Laboratory Testing

Laboratory testing was scheduled by Ashdown Site Investigation Ltd. Results from the laboratory tests are provided in Appendix E.

Chemical testing was undertaken by a laboratory with recognised (UKAS and MCERTS) accreditation for quality control.

3. GROUND CONDITIONS

3.1 Stratigraphy

3.1.1 Surface Covering

Trial pits TP101 and TP102 were excavated at basement level through concrete surfacing some 50mm and 100mm in thickness, respectively.

No specific surfacing materials were encountered within trial pit TP103, which was commenced from ground level, beneath the footprint of the former public house building.

3.1.2 Made Ground

Underlying the concrete surfacing, made ground some 100mm and 150mm in thickness, comprising slightly gravelly clay, was recorded within trial pits TP101 and TP102, to depths of 2.35m and 2.45m below ground level, respectively. The gravel fraction comprised variable quantities of brick, concrete and mudstone.

Made ground comprising black gravelly clayey sand was recorded within trial pit TP103 to the final excavation depth of 0.70m below ground level. The gravel fraction comprised brick, concrete, chert and tile.

3.1.3 Till

Underlying the made ground, trial pits TP101 and TP102 progressed into undisturbed slightly gravelly clay deposits. These deposits continued to final excavation depths of 2.50m and 2.60m below ground level, respectively.

These deposits are considered to represent the Till indicated to underlie the site on BGS geological maps.

3.2 Groundwater Conditions and Stability

Each of the exploratory holes was recorded to remain dry and stable during the course of excavation.

4. SUPPLEMENTARY QUANTITATIVE CONTAMINATION ASSESSMENT

4.1 Assessment Strategy

The additional ground investigation beneath the footprint of the building was undertaken at the request of the Local Authority.

Samples of the made ground soils and Till deposits from beneath the basement floor slab and two samples of the made ground from beneath the building footprint at ground floor level were tested for a broad range of contaminants comprising heavy metals, polycyclic aromatic hydrocarbon (PAH) compounds and petroleum hydrocarbons. The samples were also screened for asbestos.

4.2 Analysis of Contamination Test Results

As with the previous report, comparison of the results of the laboratory testing has been made against the 'Suitable For Use Levels' (S4UL)³ or, in lieu of an S4UL being developed for lead, the Category 4 Screening Level (C4SL)⁴. These are collectively referred to as soil screening values (SSV).

In view of the development proposal, the SSV utilised in this assessment are those calculated for the generic "Residential" land use⁵, but without the pathways associated with ingestion of site grown vegetables and ingestion of soil attached to vegetables, as residential units are proposed above the medical centre. The critical receptor for this land use is considered to be a young female child resident on site from birth to age 6. Exposure routes that are considered include the potential for direct ingestion of the soil, the outdoor and indoor ingestion of dust and the potential inhalation of dust and vapours.

For the assessment of risk to controlled waters a qualitative assessment has been undertaken based upon the concentrations of contaminants recorded within the soil samples and the information obtained about the sensitivity of the underlying strata or nearby surface water receptors.

The results for the made ground soils and the Till deposits have been analysed separately.

³ Nathanail, C.P, et al., The LQM/CIEH S4ULs for Human Health Risk Assessment, 2015, Land Quality Press, Nottingham. Copyright Land Quality Management Limited reproduced with permission; Publication Number S4UL3071.

⁴ SP1010: Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination. Final Project Report, published by DEFRA, 2014.

⁵ As defined within Science Report SC050021/SR3, January 2009, with the amendments discussed in the LQM/CIEH report.

4.3 Made Ground

4.3.1 Heavy Metals

The following table summarises the SSV along with the maximum and minimum concentrations of the heavy metals tested for.

Table 2. Summary of Test Results for Heavy Metals

Contaminant	SSV (mg/kg)	No. of Samples	Minimum Concentration (mg/kg)	Maximum concentration (mg/kg)	Limit of Detection (mg/kg)	No of exceedances
Arsenic	40	4	6	10	< 2	0
Water Soluble Boron	11000	4	<LOD	1.1	< 1	0
Cadmium	85	4	<LOD	<LOD	< 0.2	0
Chromium	910	4	10	21	< 2	0
Hexavalent Chromium	6	4	<LOD	<LOD	< 2	0
Copper	7100	4	13	36	< 4	0
Lead	310	4	10	281	< 3	0
Mercury	56	4	<LOD	<LOD	< 1	0
Nickel	180	4	7	27	< 3	0
Selenium	430	4	<LOD	<LOD	< 3	0
Zinc	40000	4	20	54	< 3	0

None of the four samples of made ground tested in this phase recorded concentrations of heavy metals above their respective SSV.

The concentrations of heavy metals in the made ground soils would not be considered to pose a risk to end users or controlled waters beneath the site.

4.3.2 Asbestos

No suspected asbestos materials were noted within any of the exploratory holes undertaken at the site. Four samples of the made ground were screened for the presence of asbestos. None of the samples recorded the presence of any asbestos materials.

It is assumed an asbestos survey of existing structures and infrastructure⁶ was undertaken ahead of demolition works being undertaken at the site and where asbestos was identified, it was removed in accordance with legal requirements prior to wider demolition works starting to avoid contaminating the soils at the site.

⁶ As defined under Section 5(a) of the Control of Asbestos Regulations, 2012.

4.3.3 Polycyclic Aromatic Hydrocarbon (PAH) Compounds

The following table summarises the soil screening values, maximum and minimum concentrations for the PAH compounds tested for.

Table 3. Summary of Test Results for PAH Compounds

Contaminant	SSV (mg/kg)	No. of Samples	Minimum Concentration (mg/kg)	Maximum concentration (mg/kg)	Limit of Detection (mg/kg)	No of exceedances
Naphthalene	2.3	4	<LOD	0.66	< 0.1	0
Acenaphthylene	2900	4	<LOD	0.13	< 0.1	0
Acenaphthene	3000	4	<LOD	0.21	< 0.1	0
Fluorene	2800	4	<LOD	0.4	< 0.1	0
Phenanthrene	1300	4	<LOD	3.25	< 0.1	0
Anthracene	31000	4	0.13	0.67	< 0.1	0
Fluoranthene	1500	4	<LOD	2.3	< 0.1	0
Pyrene	3700	4	<LOD	2.38	< 0.1	0
Benz(a)anthracene	11	4	<LOD	1.01	< 0.1	0
Chrysene	30	4	<LOD	1.11	< 0.1	0
Benzo(b)fluoranthene	3.9	4	<LOD	0.92	< 0.1	0
Benzo(k)fluoranthene	110	4	<LOD	0.35	< 0.1	0
Benzo(a)pyrene	3.2	4	<LOD	0.81	< 0.1	0
Indeno(123-cd)pyrene	45	4	<LOD	0.38	< 0.1	0
Dibenz(ah)anthracene	0.31	4	<LOD	0.12	< 0.1	0
Benzo(ghi)perylene	360	4	<LOD	0.38	< 0.1	0

None of the four samples of made ground tested in this phase recorded concentrations of PAH compounds above their respective SSV.

The concentrations of PAH compounds in the made ground soils would not be considered to pose a risk to end users or controlled waters beneath the site.

4.3.4 Petroleum Hydrocarbons

The following table lists the SSV for petroleum hydrocarbon equivalent carbon weight fractions calculated for 1% organic content.

Table 4. SSV for petroleum hydrocarbon equivalent carbon weight fractions

Petroleum Hydrocarbon Fraction	SSV (mg/kg)	Petroleum Hydrocarbon Fraction	SSV (mg/kg)
Aliphatic EC 5-6	42	Aromatic EC 5-7	370
Aliphatic EC >6-8	100	Aromatic EC >7-8	560
Aliphatic EC >8-10	27	Aromatic EC >8-10	47
Aliphatic EC >10-12	130	Aromatic EC >10-12	250
Aliphatic EC >12-16	1100	Aromatic EC >12-16	1800
Aliphatic EC >16-35	65000	Aromatic EC >16-21	1900
Aliphatic EC >35-44	65000	Aromatic EC >21-35	1900
		Aromatic EC >35-44	1900

Whilst full speciation of the concentrations of petroleum hydrocarbons by aromatic and aliphatic fractions was not undertaken, the results of the testing undertaken can still be compared with the more stringent of the screening values for the respective equivalent carbon weight fraction and, where the concentration recorded is found to be lower, it can be reasonably concluded that no significant risk is present.

No visual olfactory evidence of petroleum hydrocarbon contamination was encountered in the made ground soils at the site. None of the samples recorded concentrations of any fractions above the more conservative SSV.

There is not considered to be an unacceptable risk to end users or controlled waters from petroleum hydrocarbon contamination beneath the site.

The concentrations of petroleum hydrocarbons have been compared to the threshold values for the use of PE water supply pipework as published by United Utilities⁷. The concentrations recorded do not exceed the threshold value.

4.3.5 Conclusions

The samples of made ground from beneath the footprint of the building recorded much lower concentrations of heavy metals and PAH compounds than those tested as part of the previous phase of the ground investigation.

No new areas of soft landscaping are proposed in areas where the former building stood and therefore the conclusions of the previous report are still considered to be valid i.e. the made ground soils elsewhere on the site pose an unacceptable risk to end users of the site due to the concentrations of lead and PAH compounds present, and remedial measures are considered to be necessary within all proposed soft landscaped areas, including the proposed areas of grasscrete.

4.4 Till Deposits

4.4.1 Heavy Metals

Very low concentrations of heavy metals were recorded in the two samples of Till deposits tested, much lower than the SSV in Table 2.

4.4.2 Asbestos

Neither of the samples of Till deposit screened recorded the presence of asbestos.

4.4.3 PAH Compounds

No detectable concentrations of PAH compounds were recorded in the two samples of Till deposits tested.

⁷ Supplementary guidance for the selection of water pipes in land potentially affected by contamination, Former Ducie Arms, 424 Stockport Road, Longsight, Manchester

4.4.4 Petroleum Hydrocarbons

No detectable concentrations of petroleum hydrocarbons were recorded in the two samples of Till deposits tested.

4.4.5 Conclusions

The undisturbed Till deposits are not considered to pose an unacceptable risk to end users of the development.

4.5 Supplementary Quantitative Contamination Risk Assessment

4.5.1 Introduction

The risk assessment for the site considers the sources of contamination identified, the receptors that may be present in view of the development proposals and the contaminant pathways by which these may be linked.

A complete pollutant linkage is only deemed to exist where all three are present and a site is considered suitable for use where no complete pollutant linkages are identified.

Where a complete pollutant linkage is considered to be present, an assessment of the level of risk associated with the pollutant linkage has been carried out in line with published guidance⁸.

The level of risk is determined using the risk matrix presented in the following table. Classifications of probability, consequence and risk are presented in Appendix F.

Table 5. Risk Assessment Matrix

		Probability			
		Very Low	Low	Moderate	High
Consequence	Very Minor	Negligible	Very Low	Low	Low/Moderate
	Minor	Very Low	Low	Low/Moderate	Moderate
	Moderate	Low	Low/Moderate	Moderate	High
	Severe	Low/Moderate	Moderate	High	Very High

4.5.2 Basis of Assessment

The development is to comprise a new mixed-use development, including residential units. Small areas of decorative soft landscaping will be provided around the boundary of the site where end users could potentially come into contact with the underlying soils and where soil derived dusts may be generated.

It is considered that such areas would not permit the growing of any significant volumes of fruit or vegetables, given they would not be privately owned and that they would surround the car park for a medical centre.

⁸ Contaminated Land Risk Assessment: A guide to good practice, CIRIA C552, 2001.

The proposed development layout plans are presented in Appendix A. Should the proposed development plans be altered, a revised risk assessment may be required.

4.5.3 Contamination Sources Identified

The following source of contamination has been identified by the quantitative contamination risk assessment, giving consideration to both phases of the ground investigation:

- Made ground soils containing elevated concentrations of lead and PAH compounds.

4.5.4 Quantitative Conceptual Model

The quantitative conceptual model for the proposed development is presented in Appendix G.

5. REMEDIATION STRATEGY

Current best practice guidance recommends that any remedial action proposed for the site should be justified. The requirement for remedial action is considered to be justified due to the identification of complete pollutant linkages.

The remediation works have been developed to meet the technical objectives for the development, the major drivers behind which are:

- To achieve successful remediation within a particular timescale and budget;
- Familiarity with the methodology by the developer/ground worker;
- Confidence that the remediation can be carried out by good technical practices; and
- Likely success of the style of remediation.

The remediation strategy takes into the Local Authority guidance⁹.

5.1 Options Appraisal

The driver for remediation at the site is the presence of made ground soils containing concentrations of lead and PAH compounds that are considered to pose an unacceptable level of risk to human health in the context of the development. There are no in situ or ex situ remediation techniques available to reduce the concentrations of lead and PAH compounds within the made ground soils to below that of the published screening values.

The method chosen for remediation must be achievable by the groundworker, using techniques that they are familiar with. It is therefore considered that the remediation proposals could either comprise the complete removal of the contaminant source (the made ground soils), or the provision of a cover system to sever the contaminant pathways in areas where the end users may reasonably be expected to be exposed to the soils or soil derived dust.

Given the depth of made ground soils recorded during the ground investigation their complete removal would require significant disruption to the existing site and would result in the disposal of a very large volume of soil. Such an approach is considered to be unsustainable and therefore provision of a cover system is considered to represent the better approach to reducing the risk to end users of the site to an acceptable level.

5.2 Protection of Human Health

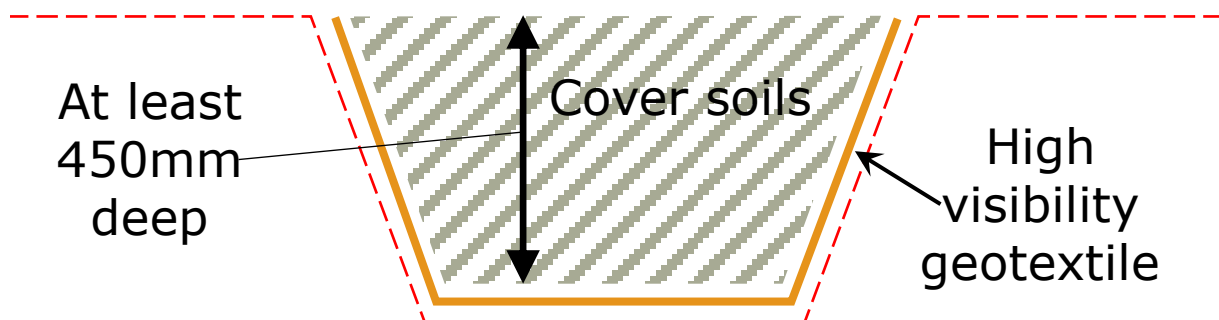
The areas of remediation discussed below are shown on Figure 3.

5.2.1 Soft Landscaping Areas

Within proposed areas of soft landscaping, a cover system of at least 450mm of verified "clean" topsoil and/or subsoil underlain by a high visibility geotextile marker which laps up the sides of the excavation to prevent future intermixing between the cover system soils and the residual made ground.

A schematic cross section of the cover system construction is shown below.

⁹ Manchester City Council, Planning & Contaminated Land Technical Guidance, February 2021
Former Ducie Arms, 424 Stockport Road, Longsight, Manchester

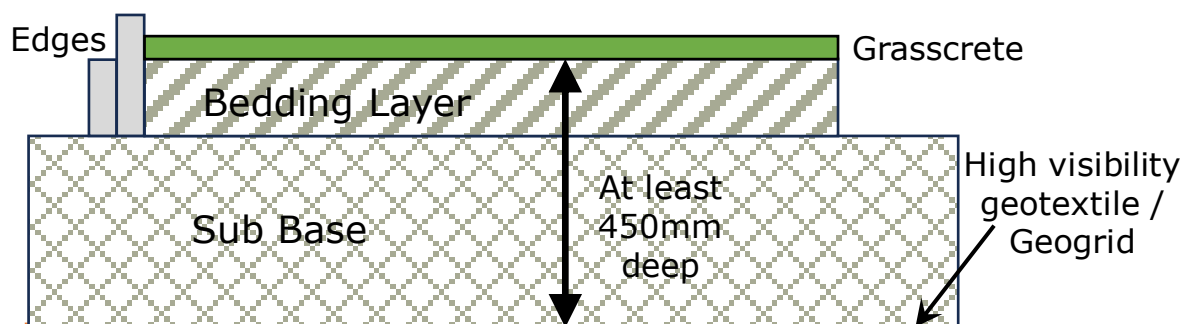


As the soft landscaping areas are not privately owned, 450mm depth is considered sufficient to sever the contaminant pathway, rather than the more typical depth of a cover system of 600mm, as it is unlikely that residents will be responsible for excavations within the cover system, nor will children or pets dig within the cover soils.

5.2.2 Grasscrete Car Parking

Within the grasscrete car parking areas, these should be formed using at least 450mm of appropriate sub base materials, underlain by a geotextile and/or geogrid as required by the engineer's design. It is noted that the depth of the cover system may need to be deepened beneath the grasscrete car parking to comply with the engineer's design, and the above is a minimum specification to be protective of human health.

A schematic cross section for the grasscrete car parking areas is shown below.



5.2.3 Hard landscaping

Elsewhere on the site the presence of building cover, access driveway and walkways comprising hard cover will also act to sever the contaminant pathways and thereby reduce the risk to end users to an acceptable level.

5.3 Protection of Controlled Waters

The risk assessment did not identify any unacceptable risks to controlled waters beneath the site and therefore no specific remedial works are considered necessary in this regard.

5.4 Protection of Services

The local water supply company should be consulted as to the selection of water supply pipework.

All service providers' requirements must be fully adhered to in order to reduce the risk to end users and services to an acceptable level.

Details of any measures required by service providers and confirmation of their implementation should be included within the verification report.

5.5 Protection of Construction Workers

All construction workers must undertake their own risk assessment, based upon the works to be carried out and the proposed method by which this will be achieved, in accordance with current health and safety legislation. Their assessment should take into account all available information about the site, including that present within this report.

Appropriate working procedures and PPE should be adopted to ensure the health and safety of the site operatives. Instruction should be given in the recognition of potentially hazardous materials. All site personnel should be appropriately briefed on the discovery strategy, presented below, and what actions they must take in the event that further evidence of contamination is identified or suspected.

5.6 Watching Brief on Development Works

If, during the course of the site clearance and development works, any materials not previously identified by the investigation that are suspected of being 'contaminants' are encountered, then the following procedure should apply:

- All works in that area should cease and the site manager should be informed.
- Advice should be sought from suitably qualified and experienced personnel as to whether any further site inspection, sampling, testing and/or assessment is deemed necessary.
- If required, the conclusions of any assessment and any proposed remedial works (if required) should be agreed by the local authority.
- If necessary, full details of any remedial works should be included in a verification report for the site.

Suspected 'contamination' may take the following form, though it is noted that this list is not exhaustive and site operatives should ask if they are at all unsure of any findings:

- Soil or water looks oily and/or has an oily odour
- Soil or water has a solvent type of odour
- Significant quantities of man-made materials within fill such as paint cans, car parts, glass fragments
- Suspected asbestos containing materials (insulating boards, cement, loose fibres etc.)
- Significant volumes of clinker like or ashy material
- Sand bags, and/or subsurface concrete structures
- Animal carcasses or evidence of animal burial pits

6. VERIFICATION PLAN

A checklist summarising the requirements of the verification report is presented within Appendix H.

6.1 Soft Landscaping Areas

6.1.1 *Inspection of Stripped Formations and Placement of Geotextile Marker*

For all soft landscaping areas, the formation level will be inspected, prior to placement of any cover soils, to confirm that there is sufficient space to enable placement of the required thickness of cover, and to document the placement of the high visibility geotextile marker.

A photographic record of all stripped formations and the high visibility geotextile marker will be maintained for inclusion in the verification report.

If for any reason the above inspections are not undertaken for areas where remediation works are required, retrospective verification will be carried out by way of the excavation of trial pits to expose the geotextile in representative locations. In such circumstances these works may be undertaken in conjunction with the works detailed in Section 6.1.2 below.

6.1.2 *Cover System Depth*

The final depth of cover material placed in all required areas should be confirmed by use of tape measurements made within excavations to the base of the cover soils. In the event that all made ground soils have been removed from site, then the depth of cover soils will not be measured.

Photographic evidence of the depth of cover soils present will be included in the verification report.

6.2 Grasscrete Car Parking

6.2.1 *Inspection of Formation Level*

For all grasscrete car parking areas, the formation level will be inspected prior to placement of any sub base materials to confirm there is sufficient space to enable placement of the required thickness of cover, and to document the placement of the high visibility geotextile marker/geogrid (as required).

A photographic record of all stripped formations and the high visibility geotextile marker/geogrid will be maintained for inclusion in the verification report.

These inspections must be undertaken prior to placement of sub base materials as it will not be possible to excavate inspection pits to confirm the thickness of cover following its compaction.

Photographs should be provided by the groundworker of the placement of the sub base materials in the grasscrete car parking area.

6.3 Imported Materials

6.3.1 Imported Materials for use in Soft Landscaped Areas

Topsoil and/or subsoil will need to be brought to site for use in proposed areas of soft landscaping, and within the surface "grid" of the grasscrete areas. All such soils must be tested to confirm they are suitable for use in a residential development.

Any imported material from a potentially contaminated (e.g. industrial) site should be rejected.

It is recommended that chemical testing results are obtained and supplied for comment prior to accepting the soils on site to provide information that batch testing of soils has taken place. However, it is noted that the chemical nature of the soils imported to site may be different to that provided on the certification and therefore on site verification testing of soils is required.

A copy of the supplier certification (if available) should be included within the verification report.

It is recommended that one sample per 50m³ of soil, with at least three samples for each batch of soils imported to site, should be tested for concentrations of a broad range of contaminants comprising heavy metals, PAH compounds and petroleum hydrocarbons (equivalent carbon weight fractions). The samples should also be screened for asbestos.

The results of the testing should be compared to generic soil screening values¹⁰ (as used in the risk assessment), and the table below summarises the SSV against which any imported soils will be assessed.

Table 6. Calculated SSV for imported soils

Contaminant	Screening Value (mg/kg)	Contaminant	Screening Value (mg/kg)
Heavy Metals / Asbestos			
Arsenic	37	Nickel	180
Cadmium	11	Selenium	250
Chromium	910	Zinc	3700
Copper	2400	Hexavalent Chromium	6
Lead	200	Water Soluble Boron	290
Mercury	40	Asbestos	None Detected
PAH Compounds			
Naphthalene	2.3	Benz(a)anthracene	7.2
Acenaphthylene	170	Chrysene	15
Acenaphthene	210	Benzo(b)fluoranthene	2.6
Fluorene	170	Benzo(k)fluoranthene	77
Phenanthrene	95	Benzo(a)pyrene	2.2
Anthracene	2400	Indeno(123-cd)pyrene	27
Fluoranthene	280	Dibenz(ah)anthracene	0.24
Pyrene	620	Benzo(ghi)perylene	320
Petroleum Hydrocarbons			
Petroleum Hydrocarbon Fraction	SSV (mg/kg)	Petroleum Hydrocarbon Fraction	SSV (mg/kg)

¹⁰ Comprising 'Suitable For Use Levels' (S4ULs), 'The LQM/CIEH Suitable 4 Use Levels, 2015' and for lead, the Category 4 Screening Level (C4SL), SP1010: Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination. Final Project Report, published by DEFRA, 2014.

R16272

Aliphatic EC 5-6	42	Aromatic EC 5-7	70
Aliphatic EC >6-8	100	Aromatic EC >7-8	130
Aliphatic EC >8-10	27	Aromatic EC >8-10	34
Aliphatic EC >10-12	130	Aromatic EC >10-12	74
Aliphatic EC >12-16	1100	Aromatic EC >12-16	140
Aliphatic EC >16-35	65000	Aromatic EC >16-21	260
Aliphatic EC >35-44	65000	Aromatic EC >21-35	1100
		Aromatic EC >35-44	1100

It is noted that the SSV are only protective of long-term risk to human health and do not necessarily represent suitable concentrations for planting or landscaping. If necessary, a horticulturalist should be consulted in this regard.

All soils used in soft landscaped areas must contain no significant quantity of putrescible material (incl. wood or paper) and be free from propagules of aggressive weeds, fragments of glass, bricks, concrete, wire or other potentially hazardous foreign matter and bulk vegetative growth, in order to ensure negligible risk of subsequent weed problems (introduced in the soil) or traumatic injury.

In the event that any individual sample of imported material records concentrations of contaminants above the screening values listed above, the following method of assessment will be undertaken:

- Statistical analysis of the results, along with an assessment of whether any statistical 'outliers' should be removed from the dataset and treated as 'hotspots'. If the data indicates that the majority of the soil mass as a whole may be considered to contain contaminant concentrations below the screening values then it may be deemed suitable to remain.
- Depending on the findings of the analysis additional testing (which may include retests of the original sample) may be undertaken along with further analysis of the results to determine if this is representative of a widespread issue, or may be attributed to a smaller part of the site, or batch of imported soils.
- Liaison with the regulators may be undertaken to agree whether or not the materials are to be considered suitable to remain.

Where testing and analysis identify a significant failure and the procedures above do not provide sufficient evidence that the imported materials are suitable to remain, then the imported soils will be removed and replaced with other suitable soils.

The results of all testing carried out will be included within the verification report.

6.3.2 Crushed Materials for Sub Base

Virgin quarried material must only be used as the sub base for the grasscrete car parking areas (not recycled materials) meeting a specification supplied by the engineer.

Invoices from the supplier must be included from the supplier that demonstrates the provenance of the material.

It is recommended that one sample per 50m³ of crush material, with at least three samples for each batch of crush imported to site, should be tested for concentrations of heavy metals. The samples should also be screened for asbestos.

R16272

The results should be compared to the SSV in Table 6.

The results of all testing carried out will be included within the verification report.

6.4 Services

The details of any service provider requirements and details of their adherence from the groundworker should be included within the verification report.

7. POST REMEDIATION RISK ASSESSMENT

The remedial works set out in this report are considered to remove or sever the identified pollutant linkages. A post remediation conceptual model is presented in the following table.

Table 7. Post Remediation Conceptual Model for End Users – Potential Pollutant Linkages and Assessment of Risk

Contaminant Source	Remedial Measures	Potential Pathway(s)	Assessment of Risk to Human Health
Made ground soils containing elevated concentrations of lead and PAH compounds.	Soft Landscaping Areas Provision of 450mm of verified "clean" cover soils over a high visibility geotextile marker.	Pathways severed by remedial measures	No significant pollutant linkages identified.
	Grasscrete Car Parking Provision of at least 450mm of verified sub base overlying a high visibility geotextile or geogrid (as required). Bedding soils within the surface "grid" to be verified "clean" material.	Pathways severed by remedial measures and construction works.	
	Services All service providers requirements fully adhered to.	Pathways severed by construction works	
	Provision of building cover, driveway and walkway comprising hard cover.	Pathways severed by construction works	

8. REGULATORY APPROVAL

This report should be submitted to the Local Authority in relation to discharge of Condition 22 only.

The conclusions drawn and recommendations made within this report should be considered as provisional until such time as they have been approved by Local Authority and the relevant planning condition has been discharged.

Regulatory feedback on this report should be included within the verification report.

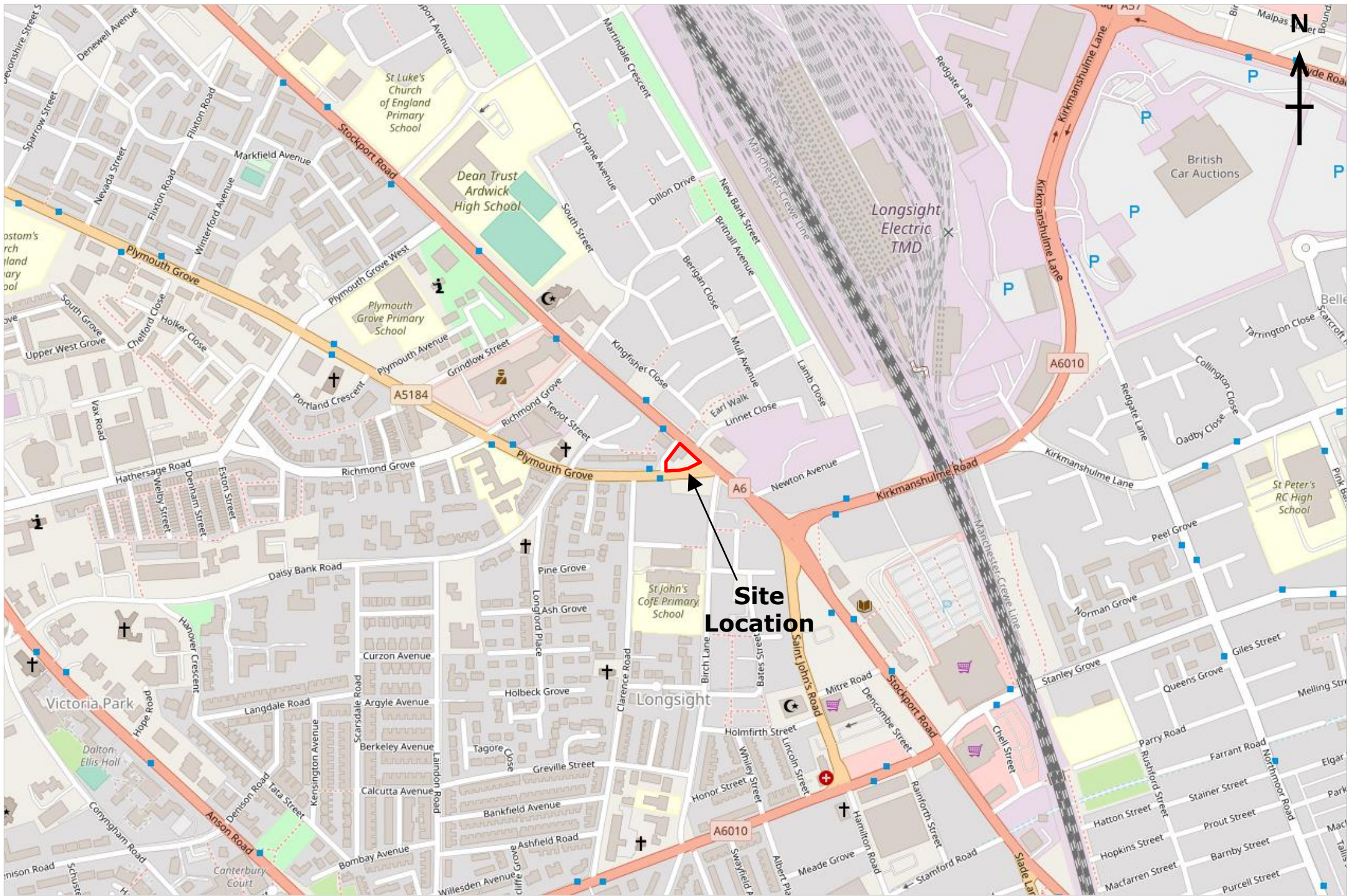
Ashdown Site Investigation Ltd.

FIGURES

Figure 1 Site Location Plan

Figure 2 Site Plan

Figure 3 Site Plan Indicating Extent of Remediation Required

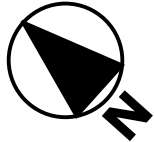


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ASHDOWN SITE INVESTIGATION L I M I T E D	Site Location Plan	Site Name	Figure No.	Project Reference
		Former Ducie Arms, 424 Stockport Road, Longsight, Manchester	1	P16688

Hayley Street

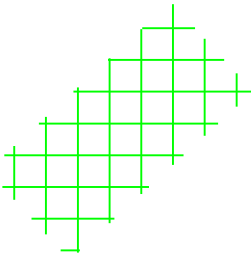
Plymouth Grove



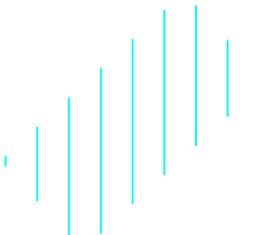
ASHDOWN SITE INVESTIGATION
L · I · M · I · T · E · D

Unit 3
The Old Grain Store
Ditchling Common Business Park
Ditchling
East Sussex
BN6 8SG
01273 483119
contact@ashdownsi.co.uk

Site:
Former Ducie Arms 424 Stockport Road Longsight Manchester
Project Ref:
P16688
Figure No.
3
Drawing Title
Site Plan Indicating Extent of Remedial Works Required
Scale
NTS



Soft Landscaped Area:
Provision of Provision of 450mm of verified cover soils over a high visibility geotextile marker.



Grasscrete Car Parking:
Provision of at least 450mm of verified cover materials overlying a high visibility geotextile or geogrid.

APPENDIX A

Proposed Development Layout

SCHEDULE

Gross Internal Areas

RESIDENTIAL UNITS

1	1B/1P	42 SQM
2	2B/3P	68 SQM
3	2B/3P	64 SQM
4	1B/2P	58 SQM
5	1B/1P	42 SQM
6	2B/3P	64 SQM
7	1B/2P	58 SQM
8	2B/4P	73 SQM

TOTAL 469 SQM

Total Units 8

COMMERICAL UNITS

MEDICAL

Ground Floor	144 SQM
First Floor	73 SQM

Total 217 SQMT

Total Car Parking 14

Total Bicycle racks 26

Cover

I	FIRST ISSUE	Second Issue	Third Issue	fourth	EJG/II	27/07/21	09/08/21	10/08/21	20/10/21	02/11/21
H	FIRST ISSUE				EJG/II	07/06/21				
G	FIRST ISSUE				EJG/II	24/03/21				

E	FIRST ISSUE	EJG/VK	10/02/21
D	FIRST ISSUE	EJG/VK	3 Nov 20
C	FIRST ISSUE	EJG	3 Sept 20
B	FIRST ISSUE	EJG	30 Jul 20
A	FIRST ISSUE	EJG	2 Jul 20
Rev	DESCRIPTION	By	Date



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 E-MAIL : ADMIN@HOWARDANDEDSON.CO.UK

Project
 Proposed development
 DUCIE ARMS 424 STOCKPORT ROAD
 MANCHESTER M12 4EX

Client
 Dr Noman Ehsan

Title

Cover

Drawn
 EJG/II

Date
 02/11/21

Scale
 1:x(A3)

DRG no.

14,273

I03

Amendment
 L

PROGRESS DRAWING

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Roof - site Plan as proposed Scale 1:200

1	FIRST ISSUE	Second Issue	Third Issue fourth	EJG/II	27/07/21	09/08/21	10/08/21	20/10/21	02/11/21
H	FIRST ISSUE			EJG/II	07/06/21				
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 MANCHESTER M12 4EX
 Client
 Dr Noman Ehsan

Title
 Roof - Site
 Plan as proposed

Drawn EJG/II	DRG no. 14,273
Date 02/11/21	I04
Scale 1:200(A3)	Amendment L

SCHEDULE

Gross Internal Areas
First floor

RESIDENTIAL UNITS

LEVEL 3

5	1B/1P	42 SQM
6	2B/3P	64 SQM
7	2B/4P	73 SQM
8	1B/2P	58 SQM

Level 3 Plan as proposed Scale 1:200

I	FIRST ISSUE	Second Issue	Third Issue	fourth	EJG/II	27/07/21	09/08/21	10/08/21	20/10/21	02/11/21
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G	FIRST ISSUE				EJG/II	24/03/21				

E	FIRST ISSUE	EJG/VK	10/02/21
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B	FIRST ISSUE	EJG	30 Jul 20
A	FIRST ISSUE	EJG	2 Jul 20
Rev	DESCRIPTION	By	Date



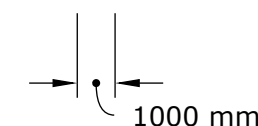
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Project
Proposed development
DUCIE ARMS 424 STOCKPORT ROAD
MANCHESTER M12 4EX

Client
Dr Noman Ehsan

Title
**Level 3
Plan as proposed**

Drawn EJG/II	DRG no. 14,273
Date 02/11/21	105
Scale 1:200(A3)	Amendment L



SCHEDULE

Gross Internal Areas
Second floor

RESIDENTIAL UNITS

LEVEL 2

1	1B/1P	42 SQM
2	2B/3P	68 SQM
3	2B/3P	64 SQM
4	1B/2P	58 SQM



Level 2 Plan as proposed Scale 1:200

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H	FIRST ISSUE				EJG/II	07/06/21				
G	FIRST ISSUE				EJG/II	24/03/21				

E	FIRST ISSUE	EJG/VK	10/02/21
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Project
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MANCHESTER M12 4EX

Client
Dr Noman Ehsan

Title
**Level 2
Plan as proposed**

Drawn EJG/II	DRG no. 14,273
Date 02/11/21	I06
Scale 1:200(A3)	Amendment L



SCHEDULE

Gross Internal Areas

COMMERICAL UNITS

MEDICAL

Ground Floor 144 SQM

First Floor 73 SQM

Level 1 Plan as proposed Scale 1:200

I	FIRST ISSUE	Second Issue	Third Issue	fourth	EJG/II	27/07/21	09/08/21	10/08/21	20/10/21	02/11/21
H	FIRST ISSUE				EJG/II	07/06/21				
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Client
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Title

Level 1
 Plan as proposed

Drawn
 EJG/II

Date
 02/11/21

Scale
 1:200(A3)

DRG no.

14,273

107

Amendment

L



SCHEDULE

Gross Internal Areas

COMMERICAL UNITS

MEDICAL

Ground Floor 144 SQM

First Floor 73 SQM

Level 1 Plan as proposed Scale 1:200

I	FIRST ISSUE	Second Issue	Third Issue	fourth	EJG/II	27/07/21	09/08/21	10/08/21	20/10/21	02/11/21
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Rev	DESCRIPTION	By	Date



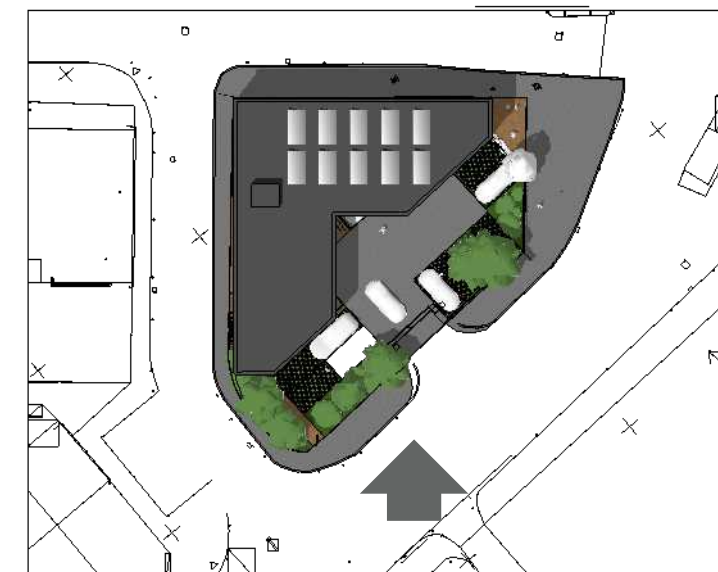
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Client
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Title
Level 1
Plan as proposed

Drawn EJG/II	DRG no. 14,273
Date 02/11/21	I07b
Scale 1:200(A3)	Amendment L



Solar Panels



Elevation 1 as proposed Scale 1:100

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H	FIRST ISSUE				EJG/II	07/06/21				
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Rev	DESCRIPTION	By	Date



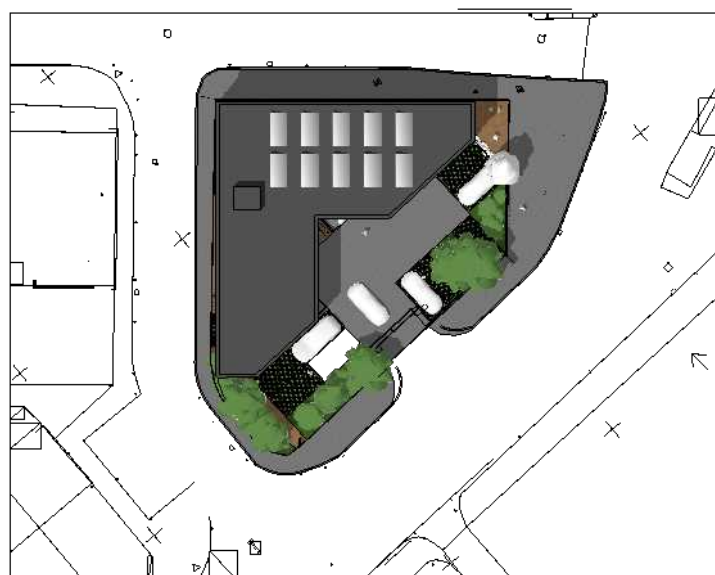
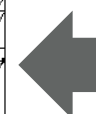
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Client
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Title
 Elevation1 as proposed

Drawn EJG/II	DRG no. 14,273
Date 02/11/21	I08
Scale 1:100(A3)	Amendment L



Elevation 2 as proposed Scale 1:100

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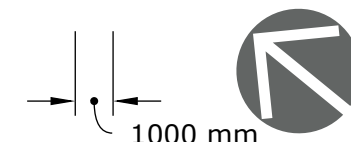
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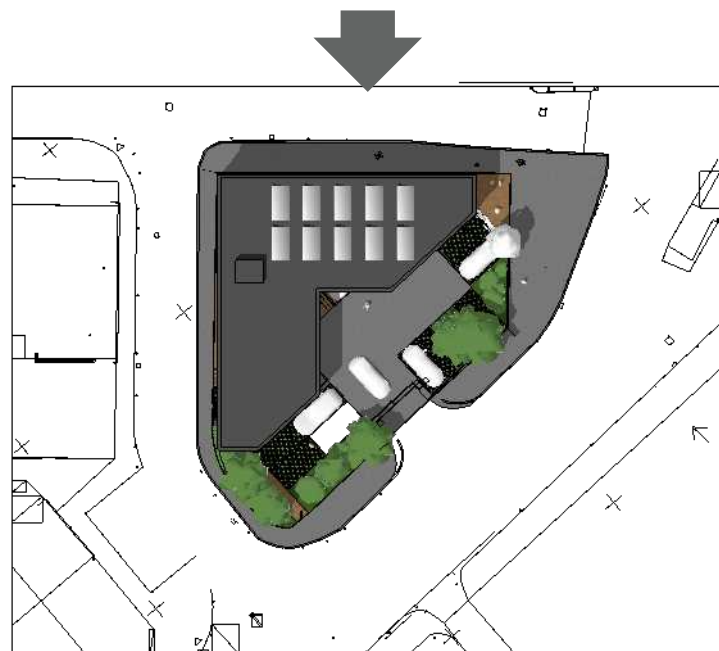
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Title
 Elevation2 as proposed

Drawn
 EJG/II
 Date
 02/11/21
 Scale
 1:100(A3)

DRG no.
 14,273
 I09
 Amendment
 L





Elevation 3 as proposed Scale 1:100

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H	FIRST ISSUE				EJG/II	07/06/21				
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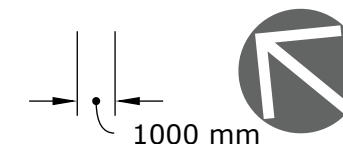
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Title
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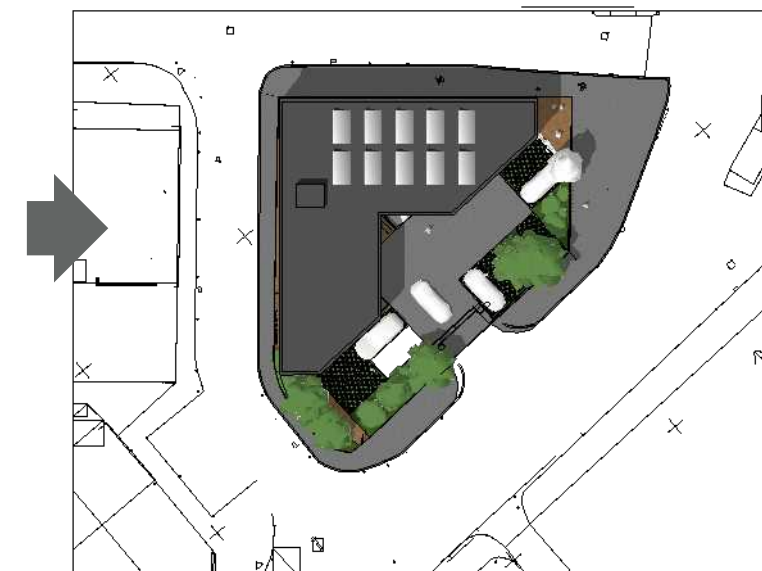
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 14,273
 I10
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Double Glazing window (metal)

Solar Panels



Elevation 4 as proposed Scale 1:100

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H	FIRST ISSUE				EJG/II	07/06/21				
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Rev	DESCRIPTION	By	Date



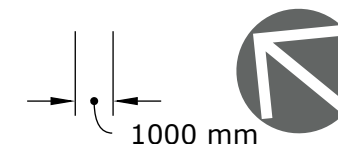
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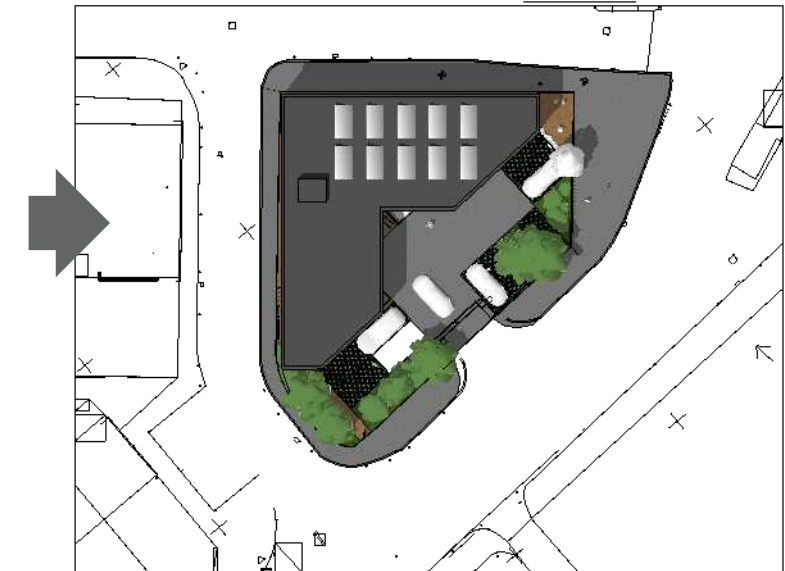
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Drawn EJG/II	DRG no. 14,273
Date 02/11/21	I11
Scale 1:100(A3)	Amendment L

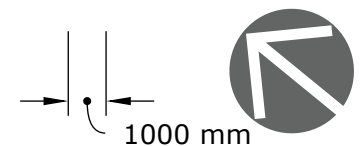


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Street scene as proposed Scale 1:200



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	Proposed development			EJG/II	14,273
	DUCIE ARMS 424 STOCKPORT ROAD			Date	I12
	MANCHESTER M12 4EX			02/11/21	Amendment
	Client Dr Noman Ehsan			Scale	L
				1:200(A3)	





Views as proposed

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Client
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Title
 Views
 as proposed

Drawn EJG	DRG no. 14,273
Date 02/11/21	I13
Scale (A3)	Amendment L



Views as proposed

I	FIRST ISSUE	Second Issue	Third Issue	fourth	EJG/II	27/07/21	09/08/21	10/08/21	20/10/21	02/11/21
H	FIRST ISSUE				EJG/II	07/06/21				
G	FIRST ISSUE				EJG/II	24/03/21				

E	FIRST ISSUE	EJG/VK	10/02/21
D	FIRST ISSUE	EJG/VK	3 Nov 20
C	FIRST ISSUE	EJG	3 Sept 20
B	FIRST ISSUE	EJG	30 Jul 20
A	FIRST ISSUE	EJG	2 Jul 20
Rev	DESCRIPTION	By	Date



HOWARD & SEDDON A.R.I.B.A.
CHARTERED ARCHITECTS
 64 WASHWAY ROAD
 SALE, CHESHIRE, M33 7RE
 TEL NO. 0161 - 973 8296
 FAX NO. 0161 - 962 3485
 E-MAIL : ADMIN@HOWARDANDEDSON.CO.UK

Project
 Proposed development
 DUCIE ARMS 424 STOCKPORT ROAD
 MANCHESTER M12 4EX

Client
 Dr Noman Ehsan

Title
 Views
 as proposed

Drawn EJG	DRG no. 14,273
Date 02/11/21	I14
Scale (A3)	Amendment L



Views as proposed

I	FIRST ISSUE	Second Issue	Third Issue	fourth	EJG/II	27/07/21	09/08/21	10/08/21	20/10/21	02/11/21
H	FIRST ISSUE				EJG/II	07/06/21				
G	FIRST ISSUE				EJG/II	24/03/21				
E	FIRST ISSUE				EJG/VK	10/02/21				
D	FIRST ISSUE				EJG/VK	3 Nov 20				
C	FIRST ISSUE				EJG	3 Sept 20				
B	FIRST ISSUE				EJG	30 Jul 20				
A	FIRST ISSUE				EJG	2 Jul 20				
Rev	DESCRIPTION	By	Date							

 HOWARD & SEDDON A.R.I.B.A. CHARTERED ARCHITECTS 64 WASHWAY ROAD SALE, CHESHIRE, M33 7RE TEL NO. 0161 - 973 8296 FAX NO. 0161 - 962 3485 E-MAIL : ADMIN@HOWARDANDEDSON.CO.UK	Project	Views as proposed	Drawn	DRG no.
	Proposed development		EJG	
	DUCIE ARMS 424 STOCKPORT ROAD MANCHESTER M12 4EX		Date	14,273
Client	Dr Noman Ehsan		02/11/21	I15
			Scale (A3)	Amendment L



Views as proposed

I	FIRST ISSUE	Second Issue	Third Issue	fourth	EJG/II	27/07/21	09/08/21	10/08/21	20/10/21	02/11/21
H	FIRST ISSUE				EJG/II	07/06/21				
G	FIRST ISSUE				EJG/II	24/03/21				

E	FIRST ISSUE	EJG/VK	10/02/21
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 MANCHESTER M12 4EX

Client
 Dr Noman Ehsan

Title
**Views
 as proposed**

Drawn EJG	DRG no. 14,273
Date 02/11/21	I16
Scale (A3)	Amendment L



Views as proposed

I	FIRST ISSUE	Second Issue	Third Issue	fourth	EJG/II	27/07/21	09/08/21	10/08/21	20/10/21	02/11/21
H	FIRST ISSUE				EJG/II	07/06/21				
G	FIRST ISSUE				EJG/II	24/03/21				

E	FIRST ISSUE	EJG/VK	10/02/21
D	FIRST ISSUE	EJG/VK	3 Nov 20
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B	FIRST ISSUE	EJG	30 Jul 20
A	FIRST ISSUE	EJG	2 Jul 20
Rev	DESCRIPTION	By	Date



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Project
 Proposed development
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Client
 Dr Noman Ehsan

Title
 Views
 as proposed

Drawn EJG	DRG no. 14,273
Date 02/11/21	I17
Scale (A3)	Amendment L



Views as proposed

I	FIRST ISSUE	Second Issue	Third Issue	fourth	EJG/II	27/07/21	09/08/21	10/08/21	20/10/21	02/11/21
H	FIRST ISSUE				EJG/II	07/06/21				
G	FIRST ISSUE				EJG/II	24/03/21				

E	FIRST ISSUE	EJG/VK	10/02/21
D	FIRST ISSUE	EJG/VK	3 Nov 20
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FAX NO. 0161 - 962 3485
E-MAIL : ADMIN@HOWARDANDEDSON.CO.UK

Project
Proposed development
DUCIE ARMS 424 STOCKPORT ROAD
MANCHESTER M12 4EX

Client
Dr Noman Ehsan

Title
**Views
as proposed**

Drawn EJG	DRG no. 14,273
Date 02/11/21	I18
Scale (A3)	Amendment L



Views as proposed

I	FIRST ISSUE	Second Issue	Third Issue	fourth	EJG/II	27/07/21	09/08/21	10/08/21	20/10/21	02/11/21
H	FIRST ISSUE				EJG/II	07/06/21				
G	FIRST ISSUE				EJG/II	24/03/21				

E	FIRST ISSUE	EJG/VK	10/02/21
D	FIRST ISSUE	EJG/VK	3 Nov 20
C	FIRST ISSUE	EJG	3 Sept 20
B	FIRST ISSUE	EJG	30 Jul 20
A	FIRST ISSUE	EJG	2 Jul 20
Rev	DESCRIPTION	By	Date



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Project
 Proposed development
 DUCIE ARMS 424 STOCKPORT ROAD
 MANCHESTER M12 4EX

Client
 Dr Noman Ehsan

Title
**Views
 as proposed**

Drawn EJG	DRG no. 14,273
Date 02/11/21	I19
Scale (A3)	Amendment L



Views as proposed

I	FIRST ISSUE	Second Issue	Third Issue	fourth	EJG/II	27/07/21	09/08/21	10/08/21	20/10/21	02/11/21
H	FIRST ISSUE				EJG/II	07/06/21				
G	FIRST ISSUE				EJG/II	24/03/21				

E	FIRST ISSUE	EJG/VK	10/02/21
D	FIRST ISSUE	EJG/VK	3 Nov 20
C	FIRST ISSUE	EJG	3 Sept 20
B	FIRST ISSUE	EJG	30 Jul 20
A	FIRST ISSUE	EJG	2 Jul 20
Rev	DESCRIPTION	By	Date



HOWARD & SEDDON A.R.I.B.A.
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 FAX NO. 0161 - 962 3485
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 Proposed development
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Client
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Title
 Views
 as proposed

Drawn EJG	DRG no. 14,273
Date 02/11/21	120
Scale (A3)	Amendment L



Views as proposed

I	FIRST ISSUE	Second Issue	Third Issue	fourth	EJG/II	27/07/21	09/08/21	10/08/21	20/10/21	02/11/21
H	FIRST ISSUE				EJG/II	07/06/21				
G	FIRST ISSUE				EJG/II	24/03/21				

E	FIRST ISSUE	EJG/VK	10/02/21
D	FIRST ISSUE	EJG/VK	3 Nov 20
C	FIRST ISSUE	EJG	3 Sept 20
B	FIRST ISSUE	EJG	30 Jul 20
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Rev	DESCRIPTION	By	Date



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Client
 Dr Noman Ehsan

Title
 Views
 as proposed

Drawn EJG	DRG no. 14,273
Date 02/11/21	121
Scale (A3)	Amendment L



Views as proposed

I	FIRST ISSUE	Second Issue	Third Issue	fourth	EJG/II	27/07/21	09/08/21	10/08/21	20/10/21	02/11/21
H	FIRST ISSUE				EJG/II	07/06/21				
G	FIRST ISSUE				EJG/II	24/03/21				

E	FIRST ISSUE	EJG/VK	10/02/21
D	FIRST ISSUE	EJG/VK	3 Nov 20
C	FIRST ISSUE	EJG	3 Sept 20
B	FIRST ISSUE	EJG	30 Jul 20
A	FIRST ISSUE	EJG	2 Jul 20
Rev	DESCRIPTION	By	Date



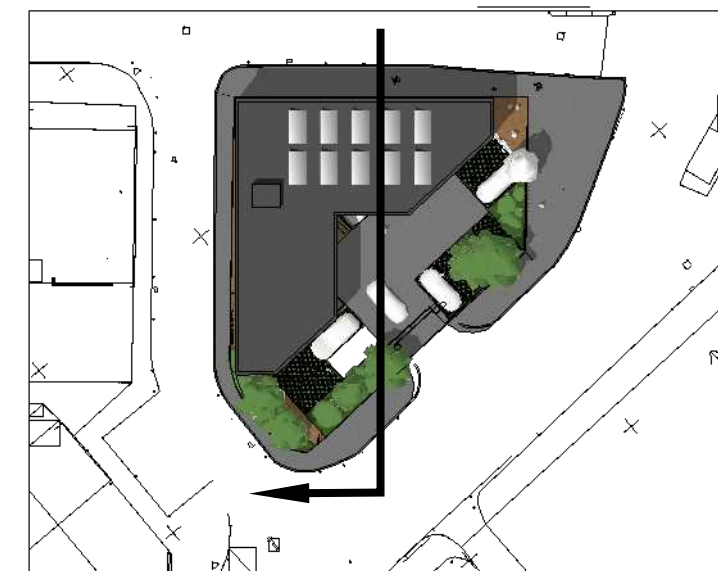
HOWARD & SEDDON A.R.I.B.A.
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Project
 Proposed development
 DUCIE ARMS 424 STOCKPORT ROAD
 MANCHESTER M12 4EX

Client
 Dr Noman Ehsan

Title
 Views
 as proposed

Drawn EJG	DRG no. 14,273
Date 02/11/21	122
Scale (A3)	Amendment L



Section as proposed Scale 1:100

I	FIRST ISSUE	Second Issue	Third Issue	fourth	EJG/II	27/07/21	09/08/21	10/08/21	20/10/21	02/11/21
H	FIRST ISSUE				EJG/II	07/06/21				
G	FIRST ISSUE				EJG/II	24/03/21				

E	FIRST ISSUE	EJG/VK	10/02/21
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B	FIRST ISSUE	EJG	30 Jul 20
A	FIRST ISSUE	EJG	2 Jul 20
Rev	DESCRIPTION	By	Date



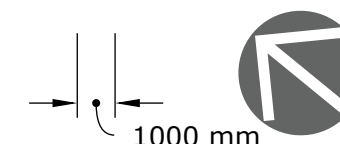
HOWARD & SEDDON A.R.I.B.A.
CHARTERED ARCHITECTS
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Project
 Proposed development
 DUCIE ARMS 424 STOCKPORT ROAD
 MANCHESTER M12 4EX

Client
 Dr Noman Ehsan

Title
 Section as proposed

Drawn EJG/II	DRG no. 14,273
Date 02/11/21	123
Scale 1:100(A3)	Amendment L



APPENDIX B

Previous Quantitative Conceptual Model

Former Ducie Arms, 424 Stockport Road, Longsight, Manchester				Quantitative Conceptual Model		P15726	
Source	Receptor	Contaminants	Pathway	Complete Linkage Present?	Probability	Consequence	Risk
Made ground soils containing elevated concentrations of lead and PAH compounds	End Users	Lead and PAH Compounds	Dermal contact with soil and dust (indoor & outdoor)	Yes	P2: Low	C3: Moderate	Low/Moderate
			Ingestion of soil and indoor dust	Yes	P1: Very Low	C3: Moderate	Low
			Consumption of home-grown produce and attached soil	No private gardens proposed			N/A
			Inhalation of soil dust (indoor and outdoor)	Yes	P2: Low	C3: Moderate	Low/Moderate
			Inhalation of soil vapours	Identified contaminants do not pose a risk via this pathway			N/A
			Inhalation of soil gases/ Risk of explosion	Identified contaminants do not pose a risk via this pathway			N/A
	End Users (via Water Supply Pipework)		Contamination of incoming services	No contaminants present above screening criteria			N/A
	Groundwater		Migration to groundwater	No contaminants present at concentrations posing risk to groundwater			N/A

APPENDIX C

Local Authority Response to Previous Report

Town & Country Planning Act 1990 (as amended)
Planning (Listed Building & Conservation Area) Act 1990 (as amended)

Refusal of details reserved by condition

Applicant

Dr Noman Ehsan
Mediscan Diagnostic Services Ltd
The Forum
Thameside Business Park
Windmill Lane
Denton
M34 3QS

Agent (if used)

Mr DK Seddon
Howard & Seddon ARIBA
64 Washway Road
Sale
M33 7RE

Part 1 – Particulars of the application/development

Proposal: Discharge of condition 4 (CMP) and 22 (ground conditions) attached to planning permission 128987/FO/2020

Location: 424 Stockport Road, Manchester, M12 4EX

Date of application: 15 March 2023

Application number: CDN/23/0183

Part 2 – Particulars of decision

Manchester City Council gives notice that the detail(s) referred to in Part 1 are **Refused** in accordance with the information set out below.

Condition 4 (CMP)

The details contained within the submitted Construction Management Plan are not adequate.

Further details are required in relation to the hours of working and the control of noise and vibration.

As a minimum, details should be provided with respect to the machinery and equipment to be used and their expected noise levels; the identification of the noisiest activities and who these activities / work may impact; the duration of noise activities; site wide noise and vibration mitigation measures with reference to best practice measures to be adopted on site; the maximum site noise level and vibration levels at the site boundary; details of monitoring; the location of monitoring in relation to receptors and how the site supervisor is alerted if the noise /vibration limit is exceeded; and details of what action is taken where the maximum site noise and / or vibration levels is exceeded.

Until such time that satisfactory details are received and agreed, condition 4 cannot be discharged.

Condition 22 (ground conditions)

No details of the ground investigations that have been carried out under the existing building at the site has been provided. Additional ground monitoring in that area is required to be undertaken when the building has been demolished. Until such time that satisfactory details are received and agreed, condition 22 cannot be discharged.

Date: 5 May 2023

Signed: 

Julie Roscoe
Director of Planning, Building Control & Licensing

Manchester City Council, P O Box 532, Town Hall, Manchester M60 2LA

Notes

1. This decision relates only to that required under the Town and Country Planning Act 1990 (as amended) or Planning (Listed Building & Conservation Area) Act 1990 (as amended) does not include any consent or approval under any other enactment, byelaw, order or regulation.

2. If the applicant is aggrieved by the decision of the local planning authority to refuse permission or approval for the proposed development, or to grant permission or approval subject to conditions, they may appeal to the Secretary of State in accordance with Section 78(1) of the Town and Country Planning Act 1990 or sections 20 and 21 of the Planning (Listed Building & Conservation Area) Act 1990 within six months of the date of the notice of the decision. However, if an enforcement notice has been served for the same or very similar development within the previous 2 years, the time limit is:

- 28 days from the date of the LPA decision if the enforcement notice was served before the decision was made yet not longer than 2 years before the application was made.
- 28 days from the date the enforcement notice was served if served on or after the date the decision was made (unless this extends the appeal period beyond 6 months).

The Planning Inspectorate have introduced an online appeals service that can be used to make appeals online. This service is available through the gov.uk website – www.gov.uk/appeal-planning-inspectorate. The Inspectorate will publish details of your appeal on the internet.

Alternatively, appeals can be made on a form which is obtainable from Planning Inspectorate, Customer Support Unit, Room 3/15, Eagle Wing, Temple Quay House, 2 The Square, Temple Quay, Bristol BS1 or by telephone 0117 372 6372.

The Secretary of State has power to allow a longer period for the giving of a notice of appeal but they will not normally be prepared to exercise this power unless there are special circumstances that excuse the delay in giving notice of appeal.

3. The statutory requirements are those set out in Section 79(6) of the Town and Country Planning Act 1990, namely Sections 70(1) and 72(1) of the Act.

4. If either the local planning authority or the Secretary of State refuses permission to develop land or grants it subject to conditions, the owner may claim that they can neither put the land to a reasonably beneficial use in its existing state nor render the land capable of a reasonably beneficial use by the carrying out of any development which has been or would be permitted.

In these circumstances, the owner may serve a purchase notice on the Council in whose area the land is situated. This notice will require the Council to purchase their interest in the land in accordance with the provisions of Part VI of the Town and Country Planning Act 1990

5. In certain circumstances, a claim may be made against the local planning authority for compensation, where permission is refused or granted subject to conditions by the Secretary of State on appeal or on a reference of the application to them. The circumstances in which such compensation is payable are set out in Section 114 of the Town and Country Planning Act 1990.

APPENDIX D

Explanatory Notes

Exploratory Hole Records

Explanatory Notes

Symbols and abbreviations on Exploratory Hole Records

Samples

- U 'Undisturbed' Sample: - 100mm diameter by 450mm long. The number of blows to drive in the sampling tube is shown after the test index letter in the SPT column.
- Pi Piston Sample: 'Undisturbed' sample 100mm diameter by 600mm long.
- D Disturbed Sample
- R Root Sample
- B Bulk Disturbed Sample
- W Water Sample
- ES Environmental Suite (on older records may be referenced J T)

In Situ Testing

- S Standard penetration test (SPT): Using the split spoon sampler.
- C Standard Penetration Test (SPT): Using a solid cone instead of the sampler – conducted usually in coarse grained soils or weak rocks.
- V Shear Vane Test: Undrained shear strength (cohesion) (kN/m²) shown within the Vane/Pen Test and N Value column.
- H Hand penetrometer Test: Undrained shear strength (cohesion) (kN/m²) shown within the Vane/Pen Test and N Value column.
- P Perth Penetrometer Test: Number of blows for 300mm penetration shown under Vane/Pen Test and N Value column.

Excavation Method

- CP Cable Percussion Borehole
- RC Rotary Cored Borehole
- WLS Dynamic Sampler Borehole using windowless sampler tubes
- WS Dynamic Sampler Borehole using window sampler tubes
- TP Trial Pit excavated using mechanic excavator
- HDP Trial Pit excavated using hand tools

Soil Description

Description and classification of soils has been carried out using as a general basis the British Standard Geotechnical investigation and testing – Identification and classification of soil, Part 1 Identification and description (BS EN ISO 14688-1) and Part 2 Principles of classification (BS EN 14688-2) as well as the BS5930 code of Practice for Ground Investigations.

Rock Description

Description and classification of rocks has been carried out using as a general basis the British Standard Geotechnical investigation and testing – Identification and classification of rock, Part 1 Identification and classification (BS EN ISO 14689-1) as well as the BS5930 code of Practice for Ground Investigations. TCR – Total Core Recovery, SCR – Solid Core Recovery, RQD – Rock Quality Designation, NI – Non Intact, If – indicative fracture spacing (min/ave/max), FI – Fracture Index.

Chalk Description

Chalk description is based on BS EN ISO 14688, BS EN ISO 14689 and BS5930. The classification of chalk generally follows the guidance offered by the Construction Industry Research and Information Association (CIRIA) C574, 'Engineering in Chalk'. This is based on assessment of chalk density, discontinuity and aperture spacing, and the proportion of intact chalk to silt of chalk.

In Situ Strength Testing

Standard penetration testing (SPT) carried out in accordance with BS EN ISO 22476-3:2005.

Continuous dynamic probe testing conducted using a super heavy DPSH-B (As defined by BS EN ISO 22476-2:2005) probing geometry. The DPSH-B configuration is similar to that of the standard penetration test (SPT); the main differences being that the tip comprises a 90° cone, the driving rods are lighter than those used for SPT testing and the blow counts are recorded over 100mm increments rather than 300mm, as is the case for the SPT.

Perth penetrometer tests carried out in accordance with Australian Standard AS 1289:6.3.3-1997, Method of Testing Soils for Engineering Purposes; no equivalent European or British Standard having been published to date.

Undrained shear strength determinations made in-situ using a Geonor hand shear vane or a hand penetrometer.

Testing to determine the in-situ California Bearing Ratio (CBR) of soils conducted at shallow depths using a hand-held Transport Research Laboratory (TRL) cone penetrometer.

APPENDIX E

Contamination Laboratory Test Results



Alex Bewick
Ashdown Site Investigations Ltd
Unit 3 The Grain Store
Ditchling Common Business Park
Ditchling Common
West Sussex
BN6 8SG

Normec DETS Limited
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN
t: 01622 850410

DETS Report No: 24-07356

Site Reference: Former Ducie Arms, 424 Stockport Road, Longsight, Manchester

Project / Job Ref: P16688_2295

Order No: 11725

Sample Receipt Date: 01/07/2024

Sample Scheduled Date: 01/07/2024

Report Issue Number: 1

Reporting Date: 05/07/2024

Authorised by:

Steve Knight
Customer Support Manager

Dates of laboratory activities for each tested analyte are available upon request.

Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.



Normec DETS Limited
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



Soil Analysis Certificate					
DETS Report No: 24-07356	~Date Sampled	26/06/24	26/06/24	26/06/24	26/06/24
Ashdown Site Investigations Ltd	~Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Former Ducie Arms, 424 Stockport Road, Longsight, Manchester	~TP / BH No	TP101	TP101	TP102	TP102
~Project / Job Ref: P16688_2295	~Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied
~Order No: 11725	~Depth (m)	2.30	2.40	2.40	2.50
Reporting Date: 05/07/2024	DETS Sample No	724032	724033	724034	724035

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
pH	pH Units	N/a	MCERTS	7.9	8.2	8.3	8.4	7.6
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	2962	414	341	536	11190
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.30	0.04	0.03	0.05	1.12
Organic Matter (SOM)	%	< 0.1	MCERTS	6.9	1.7	1.3	0.9	3.1
Arsenic (As)	mg/kg	< 2	MCERTS	10	8	7	6	6
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	1
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	12	22	21	21	10
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	36	23	20	20	13
Lead (Pb)	mg/kg	< 3	MCERTS	86	15	10	11	81
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	15	29	27	28	7
Selenium (Se)	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Zinc (Zn)	mg/kg	< 3	MCERTS	44	58	54	54	20

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)

~Sample details provided by customer and can affect the validity of results



Normec DETS Limited
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



Soil Analysis Certificate					
DETS Report No: 24-07356	~Date Sampled	26/06/24			
Ashdown Site Investigations Ltd	~Time Sampled	None Supplied			
~Site Reference: Former Ducie Arms, 424 Stockport Road, Longsight, Manchester	~TP / BH No	TP103			
~Project / Job Ref: P16688_2295	~Additional Refs	None Supplied			
~Order No: 11725	~Depth (m)	0.70			
Reporting Date: 05/07/2024	DETS Sample No	724037			

Determinand	Unit	RL	Accreditation				
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected			
pH	pH Units	N/a	MCERTS	7.7			
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	3135			
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.31			
Organic Matter (SOM)	%	< 0.1	MCERTS	4.4			
Arsenic (As)	mg/kg	< 2	MCERTS	9			
W/S Boron	mg/kg	< 1	NONE	1.1			
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2			
Chromium (Cr)	mg/kg	< 2	MCERTS	18			
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2			
Copper (Cu)	mg/kg	< 4	MCERTS	24			
Lead (Pb)	mg/kg	< 3	MCERTS	281			
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1			
Nickel (Ni)	mg/kg	< 3	MCERTS	11			
Selenium (Se)	mg/kg	< 2	MCERTS	< 2			
Zinc (Zn)	mg/kg	< 3	MCERTS	34			

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)

~Sample details provided by customer and can affect the validity of results



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Soil Analysis Certificate - Speciated PAHs

DETS Report No: 24-07356	~Date Sampled	26/06/24	26/06/24	26/06/24	26/06/24	26/06/24
Ashdown Site Investigations Ltd	~Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Former Ducie Arms, 424 Stockport Road, Longsight, Manchester	~TP / BH No	TP101	TP101	TP102	TP102	TP103
~Project / Job Ref: P16688_2295	~Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Order No: 11725	~Depth (m)	2.30	2.40	2.40	2.50	0.30
Reporting Date: 05/07/2024	DETS Sample No	724032	724033	724034	724035	724036

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	0.19	< 0.1	< 0.1	< 0.1	0.66
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.13
Acenaphthene	mg/kg	< 0.1	MCERTS	0.15	< 0.1	< 0.1	< 0.1	0.21
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.40
Phenanthrene	mg/kg	< 0.1	MCERTS	1.53	< 0.1	< 0.1	< 0.1	3.25
Anthracene	mg/kg	< 0.1	MCERTS	0.34	< 0.1	0.13	< 0.1	0.67
Fluoranthene	mg/kg	< 0.1	MCERTS	2.18	< 0.1	< 0.1	< 0.1	2.30
Pyrene	mg/kg	< 0.1	MCERTS	2.11	< 0.1	< 0.1	< 0.1	2.38
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	1.01	< 0.1	< 0.1	< 0.1	0.95
Chrysene	mg/kg	< 0.1	MCERTS	1.11	< 0.1	< 0.1	< 0.1	1.03
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	0.92	< 0.1	< 0.1	< 0.1	0.62
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	0.35	< 0.1	< 0.1	< 0.1	0.27
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	0.79	< 0.1	< 0.1	< 0.1	0.61
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	0.38	< 0.1	< 0.1	< 0.1	0.24
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	0.12	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	0.38	< 0.1	< 0.1	< 0.1	0.20
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	11.6	< 1.6	< 1.6	< 1.6	13.9

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Soil Analysis Certificate - Speciated PAHs

DETS Report No: 24-07356	~Date Sampled	26/06/24				
Ashdown Site Investigations Ltd	~Time Sampled	None Supplied				
~Site Reference: Former Ducie Arms, 424 Stockport Road, Longsight, Manchester	~TP / BH No	TP103				
~Project / Job Ref: P16688_2295	~Additional Refs	None Supplied				
~Order No: 11725	~Depth (m)	0.70				
Reporting Date: 05/07/2024	DETS Sample No	724037				

Determinand	Unit	RL	Accreditation				
Naphthalene	mg/kg	< 0.1	MCERTS	0.16			
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1			
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1			
Fluorene	mg/kg	< 0.1	MCERTS	0.13			
Phenanthrene	mg/kg	< 0.1	MCERTS	1.56			
Anthracene	mg/kg	< 0.1	MCERTS	0.30			
Fluoranthene	mg/kg	< 0.1	MCERTS	1.50			
Pyrene	mg/kg	< 0.1	MCERTS	1.63			
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	0.78			
Chrysene	mg/kg	< 0.1	MCERTS	0.90			
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	0.79			
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	0.32			
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	0.81			
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	0.37			
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1			
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	0.30			
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	9.5			

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Soil Analysis Certificate - EPH Banded (Type F)

DETS Report No: 24-07356	~Date Sampled	26/06/24	26/06/24	26/06/24	26/06/24	26/06/24
Ashdown Site Investigations Ltd	~Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Former Ducie Arms, 424 Stockport Road, Longsight, Manchester	~TP / BH No	TP101	TP101	TP102	TP102	TP103
~Project / Job Ref: P16688_2295	~Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Order No: 11725	~Depth (m)	2.30	2.40	2.40	2.50	0.30
Reporting Date: 05/07/2024	DETS Sample No	724032	724033	724034	724035	724036

Determinand	Unit	RL	Accreditation					
EPH (>C8 - C10) : EH 1D Total	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
EPH (>C10 - C12) : EH 1D Total	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
EPH (>C12 - C16) : EH 1D Total	mg/kg	< 1	MCERTS	4	< 1	1	< 1	4
EPH (>C16 - C21) : EH 1D Total	mg/kg	< 1	MCERTS	18	< 1	2	< 1	16
EPH (>C21 - C40) : EH 1D Total	mg/kg	< 6	MCERTS	32	< 6	< 6	< 6	19
EPH (C8 - C40) : EH 1D Total	mg/kg	< 6	MCERTS	54	< 6	< 6	< 6	40

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Soil Analysis Certificate - EPH Banded (Type F)

DETS Report No: 24-07356	~Date Sampled	26/06/24				
Ashdown Site Investigations Ltd	~Time Sampled	None Supplied				
~Site Reference: Former Ducie Arms, 424 Stockport Road, Longsight, Manchester	~TP / BH No	TP103				
~Project / Job Ref: P16688_2295	~Additional Refs	None Supplied				
~Order No: 11725	~Depth (m)	0.70				
Reporting Date: 05/07/2024	DETS Sample No	724037				

Determinand	Unit	RL	Accreditation				
EPH (>C8 - C10) : EH 1D Total	mg/kg	< 1	MCERTS	< 1			
EPH (>C10 - C12) : EH 1D Total	mg/kg	< 1	MCERTS	< 1			
EPH (>C12 - C16) : EH 1D Total	mg/kg	< 1	MCERTS	3			
EPH (>C16 - C21) : EH 1D Total	mg/kg	< 1	MCERTS	11			
EPH (>C21 - C40) : EH 1D Total	mg/kg	< 6	MCERTS	17			
EPH (C8 - C40) : EH 1D Total	mg/kg	< 6	MCERTS	30			

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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 24-07356	
Ashdown Site Investigations Ltd	
~Site Reference: Former Ducie Arms, 424 Stockport Road, Longsight, Manchester	
~Project / Job Ref: P16688_2295	
~Order No: 11725	
Reporting Date: 05/07/2024	

DETS Sample No	~TP / BH No	~Additional Refs	~Depth (m)	Moisture Content (%)	Sample Matrix Description
724032	TP101	None Supplied	2.30	15.1	Brown sandy clay with stones and plastic
724033	TP101	None Supplied	2.40	11.4	Grey clay
724034	TP102	None Supplied	2.40	12.7	Brown clay
724035	TP102	None Supplied	2.50	11.9	Brown clay
724036	TP103	None Supplied	0.30	8.5	Brown sandy clay with stones and concrete
724037	TP103	None Supplied	0.70	12.4	Brown sandy clay with stones and concrete

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{U/S}

Unsuitable Sample ^{U/S}

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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 24-07356

Ashdown Site Investigations Ltd

~Site Reference: Former Ducie Arms, 424 Stockport Road, Longsight, Manchester

~Project / Job Ref: P16688_2295

~Order No: 11725

Reporting Date: 05/07/2024

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received

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List of HWOL Acronyms and Operators

DETS Report No: 24-07356

Ashdown Site Investigations Ltd

~Site Reference: Former Ducie Arms, 424 Stockport Road, Longsight, Manchester

~Project / Job Ref: P16688_2295

~Order No: 11725

Reporting Date: 05/07/2024

Acronym	Description
HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total
~	Sample details provided by customer and can affect the validity of results

EPH Banded (C10 - C12) - EH_1D_Total
EPH Banded (C12 - C16) - EH_1D_Total
EPH Banded (C16 - C21) - EH_1D_Total
EPH Banded (C21 - C40) - EH_1D_Total
EPH Banded (C8 - C10) - EH_1D_Total
EPH Banded (C8 - C40) - EH_1D_Total

APPENDIX F

Classification of Probability, Consequence and Risk

Probability of risk being realised	
Classification	Definition
High	There is a pollution linkage and an event that either appears very likely in the short term and almost inevitable over the long term or there is evidence at the receptor of harm or pollution.
Moderate	There is a pollution linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.
Low	There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place and is less likely in the shorter term.
Very Low	There is a pollution linkage but circumstances are such that it is improbable that an event would occur even in the very long term.

Consequence of risk being realised		
Classification	Category	Definition
Severe	Human Health	Short term (acute) risk to human health likely to result in "significant harm" as defined by the Environment Protection Act 1990, Part IIA.
	Controlled Waters	Short term risk of pollution (note: Water Resources Act contains no scope for considering significance of pollution) of sensitive water resource.
	Property	Catastrophic damage to buildings/property.
	Ecological Systems	A short term risk to a particular ecosystem or organisation forming part of such ecosystem.
Moderate	Human Health	Chronic damage to Human Health.
	Controlled Waters	Pollution of sensitive water resources (note: Water Resources Act contains no scope for considering significance of pollution).
	Ecological System	A significant change in a particular ecosystem or organism forming part of such ecosystem.
Minor	Controlled Waters	Pollution of non-sensitive water resources.
	Property	Significant damage to crops, buildings, structures and services.
	Ecological Systems	Damage to sensitive buildings/structures/services or the environment.
Very Minor	Human Health	Non-permanent health effects to human health (easily prevented by means such as personal protective clothing, etc).
	Property	Easily repairable effects of damage to buildings, structures and services.
	Project	Harm, although not necessarily significant harm, which may result in a financial loss or expenditure to resolve.

Risk classification definitions	
Very High	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required.
High	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the long term.
Moderate	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.
Low	It is possible that harm could arise to a designated receptor from an identified hazard, but there is a low likelihood of this hazard occurring and if realised, harm would at worst normally be mild.
Very Low	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised, it is not likely to be severe.

APPENDIX G

Supplementary Quantitative Conceptual Model

Former Ducie Arms, 424 Stockport Road, Longsight, Manchester				Quantitative Conceptual Model		P16688	
Source	Receptor	Contaminants	Pathway	Complete Linkage Present?	Probability	Consequence	Risk
Made ground soils containing elevated concentrations of lead and PAH compounds	End Users	Lead and PAH Compounds	Dermal contact with soil and dust (indoor & outdoor)	Yes	P2: Low	C3: Moderate	Low/Moderate
			Ingestion of soil and indoor dust	Yes	P1: Very Low	C3: Moderate	Low
			Consumption of home-grown produce and attached soil	No private gardens proposed			N/A
			Inhalation of soil dust (indoor and outdoor)	Yes	P2: Low	C3: Moderate	Low/Moderate
			Inhalation of soil vapours	Identified contaminants do not pose a risk via this pathway			N/A
			Inhalation of soil gases/ Risk of explosion	Identified contaminants do not pose a risk via this pathway			N/A
	End Users (via Water Supply Pipework)		Contamination of incoming services	No contaminants present above screening criteria			N/A
	Groundwater		Migration to groundwater	No contaminants present at concentrations posing risk to groundwater			N/A

APPENDIX H

Checklist for Verification Report

Item	Tick (✓)
Regulatory Feedback on Risk Assessment and Remediation Strategy	
Documentation (Including Photographs) of Formation Level in Soft Landscaping Areas	
Documentation (Including Photographs) of Placed High Visibility Geotextile Marker in Soft Landscaping Areas	
Photographs of Measurements of Space for Cover Soils in Soft Landscaping Areas	
Documentation (Including Photographs) Confirming Depth of Cover Soils	
Documentation (Including Photographs) of Formation Level in Grasscrete Car Parking Areas	
Documentation (Including Photographs) of Placed High Visibility Geotextile Marker and/or Geogrid (as required) in Grasscrete Car Parking Areas	
Photographs of Measurements of Space for Cover Material in Grasscrete Car Parking Areas	
Photographs from Groundworker of placed Sub Base in Grasscrete Car Parking Areas	
Supplier Certification for Imported Soils (Topsoil / Subsoil)	
Delivery Notes for Imported Soils (Topsoil / Subsoil)	
Laboratory Test Data for Imported Soils (Topsoil / Subsoil)	

Item	Tick (✓)
Invoices for Crushed Materials	
Delivery Notes for Crushed Materials	
Laboratory Test Data for Crushed Materials	
Details of Any Service Supplier Requirements (If Imposed)	
Confirmation of Service Supplier Requirements Being Adhered To (If Imposed)	