

TM/C5394/13458

3rd September 2024

Bury Council Environment Section
Town Hall
Knowsley Street
Bury
Greater Manchester
BL9 0SW

For the Attention of Ms Rebecca Jones

Dear Rebecca

Re: Star Academy, Radcliffe (Temporary Accommodation) – Letter response to Bury Council

We write in response to Bury Council letter reference CL295.210824.1 dated 22nd August 2024 written by Rebecca Jones, Environmental Protection Officer at Bury Council. The letter was produced after the Environment Section received a copy of the following report which was submitted in support of discharge of condition 5 of Bury Council Planning Permission ref. 70002:

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- Remediation Validation Report – Temporary Accommodation, Star Academy, Radcliffe, Brownfield Solutions, Reference: TM/C5394/13333 Rev A / P01 Final, 14 August 2024.
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Upon review of your letter, we understand that the vast majority of the Remediation Validation Report already submitted is acceptable, however there are several areas where further evidence is required, summarised as follows:

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1. The pre-demolition asbestos survey identified asbestos containing materials within the former school and leisure centre which were required to be removed prior to demolition. Validation information including waste disposal documentation is still required to demonstrate that the asbestos containing materials identified in the survey were removed prior to demolition of the former buildings.
 2. The results of 'at-source' testing of 13 no. samples for metals, inorganic compounds, PAHs, TPH-CWG, BTEX, MTBE and asbestos were provided for imported topsoil. These samples were taken in October 2023, more than 8 months before the topsoil was imported to the school site at Spring Lane. Therefore, it was considered unlikely that it will be the same material. On-site in-situ testing of the topsoil has been requested alongside delivery notes.
 3. With respect to the potable water supply pipe, no information regarding this action was included in the Validation Report. A copy of the United Utilities water supply pipe risk assessment has been requested. Where barrier pipe is needed, validation information including photographic evidence and receipts/delivery notes for the barrier pipe has been requested.
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Point 1 – Pre-Demolition Asbestos Removal

The client has now provided copies of an Asbestos Removal Project Completion Pack including waste transfer notes, which is presented in Appendix A.

We trust this represents satisfactory evidence demonstrating removal of asbestos from the former building prior to demolition.

Point 2 – Imported Topsoil Testing

A total of 14 No. samples of topsoil representative of the material imported to site have been tested for a comprehensive range of contaminants as required by the Remedial Strategy. Whilst it is acknowledged that the samples tested were collected in October 2023, in this instance the total number of tests undertaken far exceeds the minimum requirements of the Remedial Strategy for the relatively low volumes of material imported to the site (total imported 40m³, Remedial Strategy requirements are 1 sample per 150m³ or min. 6 per source).

With respect to testing of proposed imported soils, the approved Remedial Strategy states the following:

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- Section 5.8: *“Prior to commencing any works the Contractor will submit to the Clients Representative (Suitably qualified Geo-environmental Engineers) details for the testing laboratories to be used together with their UKAS and MCERTS accreditations (as appropriate).”*

13 No. samples were tested by Element Materials Technology, a UKAS and MCERTS accredited laboratory and BSL are satisfied with the competency of the laboratory used. A further 1 No. sample reported in the Tim O’Hare Associates report is stated to have been tested by a UKAS and MCERTS accredited laboratory although no further details are provided.

- Section 5.8: *“Any material to be imported to the site shall be tested and its suitability demonstrated prior to it being brought to the site.”*

Sufficient testing has been carried out and the suitability of the topsoil has been demonstrated prior to it being brought to the site.

- Section 7.1: *“Soils used within the top 450mm in proposed soft landscaping areas will comply with the chemical specification and testing frequencies provided within Appendix A.”*

As stated previously, sufficient testing has been carried out far exceeding the minimum frequencies stipulated in the Remedial Strategy.

- Appendix A – Quality Control Methodology for Imported and Re-used Soils: *“The imported soils should be inspected on site to confirm it is the same material inspected at source and it is suitable for use. Once imported to site, tests should also be undertaken to confirm the batch is suitable prior to use and has not been contaminated in transit”.*

Following importation to site, the topsoil has been visually inspected by BSL engineers on 2 No. occasions, as a stockpile on 30th July 2024 and post-placement during verification of the cover system thickness on 12th August 2024. On both occasions the composition of the material was compared against the petrographic description provided by Tim O’Hare Associates and was confirmed as having the same description and free of any anthropogenic constituents. Given the absence of any anthropogenic constituents and the material being free of any evidence of contamination, it was considered highly unlikely that the material was contaminated in transit, therefore no further laboratory testing was specified given the abundance of laboratory testing already completed at source far exceeding minimum requirements.

Based on the requirements of the Remedial Strategy detailed above, BSL are satisfied that the testing completed on the imported topsoil is compliant with the requirements of the Remedial Strategy. Whilst it is accepted that more recent testing and ideally post-importation confirmatory testing would

have been ideal, nowhere in the Remedial Strategy is a timeframe stipulated after which laboratory testing results are invalidated, therefore the suitability of testing is a matter of professional judgement for the appointed geo-environmental engineer. It should be noted that the suitability for use evidence provided included petrographic description as well as chemical testing, which allows for comparison of descriptions pre- and post-importation, and no concerns were raised as to the physical composition of the topsoil.

As stated within the Remediation Validation Report – Temporary Accommodation ref. TM/C5394/13333 Rev A, the results of the topsoil testing are below the relevant screening criteria and are considered acceptable for use. However, further to this it should be stressed that the concentrations of contaminants are consistent over the sample population and consistently well below the screening criteria. The concentrations of key contaminants such as phytotoxic metals and benzo(a)pyrene are typically an order of magnitude below the relevant screening criteria, and the majority of petroleum hydrocarbon fractions were below the laboratory limits of detection, which provides further confidence as to the suitability of the material.

Delivery notes for the imported topsoil are presented alongside the chemical testing results in Appendix B, and these state the point of loading was Eaton Hall, confirming the origin of the material is consistent with the at source testing provided.

Point 3 – Potable Water Supply

A United Utilities water supply pipe risk assessment has been completed for the purposes of the new water supply, which is required for the main school redevelopment, to be completed under a separate planning application. At the time of writing the separate Remedial Strategy produced for the Temporary Accommodation (BSL report ref. PH/C5394/12924 Rev A) details of the proposed water connection were not fully understood, therefore the Remedial Strategy contained references to the pipeline risk assessment (completed for the main school development) in error. The pipeline risk assessment for the main school development is presented in Appendix C for completeness and confirms that the main school will require barrier pipe for the potable water supply.

However, as detailed in the Temporary Accommodation Proposed External Services Layout drawing, ref. FS1013-KRD-EX-XX-D-Z-9002 rev P05, the water supply for the temporary accommodation building is drawn predominantly from an existing water main running northwards from Spring Lane towards the north-eastern corner of an existing sports pitch on site. The only new services installed as part of the temporary accommodation are a new water meter at the connection point and a new polyethylene water pipe feed linking the new meter and the temporary accommodation. Given the temporary nature of the new building, which is only anticipated to be open for 18 months while the new permanent school is constructed, the installation of barrier pipe is considered highly onerous as the PE pipe which has been installed is highly unlikely to undergo any significant degradation over this short time period. In addition, given the majority of the length of the water supply is utilising existing service runs, the installation of barrier pipe over the short distance between the meter and the new temporary building would likely be ineffective and consideration is also given to the fact that the existing water main has served the former school and leisure centre for many years with no reports of ill health.

The Temporary Accommodation Proposed External Services Layout drawing is presented in Appendix D, alongside a photographic record of the installation of the limited section of new underground water supply to the west of the temporary accommodation building.

On the balance of risk and given the factors discussed above, the potential for exposure to contaminants within the made ground via the potable water supply pipe is considered to be very low to negligible due to the temporary nature of the new building which is only expected to be open for a

period of 18 months. BSL can confirm that barrier pipe will be used for the entire length of the new services being installed as part of the new permanent school development.

Closing Remarks

We hope the additional rationale presented above provides further confidence to the Environment Section at Bury Council to demonstrate that the temporary accommodation development has been completed in accordance with the approved Remedial Strategy and poses no risk to human health or the environment.

BSL are satisfied with the evidence provided by the main contractor and in conjunction with validation visits completed by BSL, we are confident there should be no further requirements with respect to remediation at the Temporary Accommodation site.

We trust the above is acceptable and sufficient in order to allow the discharge of any remaining planning conditions with respect to contaminated land at the Temporary Accommodation Site.

If you have any queries, then please do not hesitate to contact the undersigned.

Yours sincerely

For Brownfield Solutions Limited



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MGeol (Hons) FGS
Senior Project Engineer
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Appendix A – Asbestos Removal Project Completion Pack

Appendix B – Imported Topsoil Laboratory Testing and Delivery Notes

Appendix C – United Utilities Water Pipeline Risk Assessment

Appendix D - Temporary Accommodation Proposed External Services Layout and Photographic Record

APPENDIX A

Asbestos Removal Project Completion Pack (download link below)

[B-46826 Completion Pack.pdf](#)

Should there be any issues accessing the link above, please contact Brownfield Solutions.

APPENDIX B

Imported Topsoil Laboratory Testing and Delivery Notes

Human Health Assessment Summary - Soils Test Data			Soil Type:			Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	
						Eaton Hall	Eaton Hall	Eaton Hall	Eaton Hall	Eaton Hall	Eaton Hall	Eaton Hall	Eaton Hall	Eaton Hall	Eaton Hall	Eaton Hall	Eaton Hall	Eaton Hall	Eaton Hall	Eaton Hall
			Laboratory Reference No.			Topsoil	TS1	TS2	TS3	TS4	TS5	TS6	TS7	TS8	TS9	TS10	TS11	TS12	TS13	
			TOHA/23/1	136/SS	23-16922	23-16922	23-16922	23-16922	23-16922	23-16922	23-16922	23-16922	23-16922	23-16922	23-16922	23-16922	23-16922	23-16922	23-16922	
Contaminant	GAC (mg/kg)	No. Samples	Min. Value	Max. Value	No. Samples ≥GAC															
Moisture Content	-	0	0.00	<LOD	-															
Soil Organic Matter	-	1	2.50	2.50	-	2.5														
pH	-	14	7.81	8.50	-	8.5	7.9	8.3	8.1	7.9	7.9	7.8	7.9	7.8	8.0	8.0	7.9	7.9	8.0	
Arsenic	40	14	2.00	5.10	0	2.0	3.5	3.1	3.3	3.6	3.7	5.1	4.0	3.8	3.3	3.4	3.2	3.6	3.5	
Cadmium	85	14	0.10	0.10	0	<0.2	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Chromium (III)	910	14	3.00	62.10	0	3.0	60.9	60.5	62.1	55.9	37.1	34.6	32.8	36.1	40.4	36.7	58.1	39.0	56.8	
Hexavalent Chromium (VI)	6	14	0.00	<LOD	0	<1.8	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	
Copper	7100	14	8.00	23.00	0	10.0	15.0	13.0	15.0	18.0	17.0	15.0	18.0	17.0	23.0	15.0	14.0	8.0	15.0	
Lead	310	14	5.00	29.00	0	8.0	22.0	18.0	22.0	29.0	21.0	21.0	20.0	26.0	19.0	19.0	18.0	5.0	20.0	
Mercury	1.2	14	0.10	0.10	0	<0.3	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Nickel	180	14	4.00	10.50	0	4.0	8.1	7.2	10.1	8.9	8.0	8.1	9.2	9.0	8.5	7.4	7.3	10.5	8.4	
Selenium	430	14	0.00	<LOD	0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Zinc	40000	14	19.00	49.00	0	19.0	43.0	35.0	42.0	49.0	42.0	40.0	43.0	45.0	38.0	38.0	38.0	20.0	40.0	
Cyanide (free)	34	1	0.00	<LOD	0	<1														
Phenol (total)	440	1	0.00	<LOD	0	<1														
Naphthalene	2.3	14	0.00	<LOD	0	<0.05	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	
Acenaphthylene	2900	14	0.00	<LOD	0	<0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	
Acenaphthene	3000	14	0.00	<LOD	0	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Fluorene	2800	14	0.00	<LOD	0	<0.05	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	
Phenanthrene	1300	14	0.04	0.90	0	<0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.90	0.04	0.11	<0.03	<0.03	<0.03	<0.03	
Anthracene	31000	14	0.00	<LOD	0	<0.05	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	
Fluoranthene	1500	14	0.07	0.32	0	<0.05	0.09	0.12	0.11	0.10	0.08	0.11	0.30	0.12	0.32	0.07	0.09	0.11	0.09	
Pyrene	3700	14	0.06	0.27	0	<0.05	0.08	0.09	0.09	0.07	0.06	0.08	0.26	0.08	0.27	0.06	0.08	0.08	0.07	
Benzo(a)anthracene	11	14	0.07	0.22	0	<0.05	<0.06	0.07	0.09	<0.06	<0.06	0.08	0.22	0.07	0.19	<0.06	0.07	0.07	0.07	
Chrysene	30	14	0.06	0.22	0	<0.05	0.06	0.07	0.07	0.06	0.06	0.07	0.22	0.07	0.19	0.06	0.06	0.07	0.07	
Benzo(b)fluoranthene	3.9	14	0.06	0.29	0	<0.05	0.08	0.09	0.10	0.08	0.06	0.09	0.29	0.08	0.21	0.07	0.07	0.09	0.09	
Benzo(k)fluoranthene	110	14	0.03	0.11	0	<0.05	0.03	0.04	0.04	0.03	0.03	0.04	0.11	0.03	0.08	0.03	0.03	0.04	0.03	
Benzo(a)pyrene	2.2	14	0.05	0.23	0	<0.05	<0.04	<0.04	<0.04	<0.04	<0.04	0.07	0.23	0.05	0.16	<0.04	0.06	0.06	0.06	
Indeno(1,2,3-cd)pyrene	45	14	0.05	0.18	0	<0.05	<0.04	0.05	0.07	<0.04	<0.04	0.06	0.18	0.06	0.09	<0.04	<0.04	0.06	0.06	
Dibenz(a,h)anthracene	0.31	14	0.00	<LOD	0	<0.05	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	
Benzo(ghi)perylene	360	14	0.05	0.18	0	<0.05	<0.04	0.06	0.07	<0.04	0.05	0.06	0.18	0.05	0.11	<0.04	0.05	0.06	0.06	
Asbestos Detected (Detected or Not-Detected)	Y	14	0.00	0.00	0	Not-Detected	Not-Detected	Not-Detected	Not-Detected	Not-Detected	Not-Detected	Not-Detected	Not-Detected	Not-Detected	Not-Detected	Not-Detected	Not-Detected	Not-Detected	Not-Detected	
Asbestos Quantification (% w/w)	0.001	0	0.00	<LOD	0															
Petroleum Hydrocarbons Aliphatic >EC5-EC6	42	14	0.00	<LOD	0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Petroleum Hydrocarbons Aliphatic >EC6-EC8	100	14	0.00	<LOD	0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Petroleum Hydrocarbons Aliphatic >EC8-EC10	27	14	0.00	<LOD	0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Petroleum Hydrocarbons Aliphatic >EC10-EC12	130	14	0.00	<LOD	0	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Petroleum Hydrocarbons Aliphatic >EC12-EC16	1100	14	0.00	<LOD	0	<2	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	
Petroleum Hydrocarbons Aliphatic >EC16-EC35	65000	14	14.00	85.00	0	<16	47.0	14.0	19.0	85.0	30.0	39.0	34.0	64.0	39.0	14.0	65.0	36.0	36.0	
Petroleum Hydrocarbons Aromatic >EC5-EC7	370	14	0.00	<LOD	0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Petroleum Hydrocarbons Aromatic >EC7-EC8	860	14	0.00	<LOD	0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Petroleum Hydrocarbons Aromatic >EC8-EC10	47	14	0.00	<LOD	0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Petroleum Hydrocarbons Aromatic >EC10-EC12	250	14	0.00	<LOD	0	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Petroleum Hydrocarbons Aromatic >EC12-EC16	1800	14	0.00	<LOD	0	<2	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	
Petroleum Hydrocarbons Aromatic >EC16-EC21	1900	14	9.00	15.00	0	<10	11.0	9.0	9.0	15.0	<7	<7	<7	<7	<7	<7	<7	<7	<7	
Petroleum Hydrocarbons Aromatic >EC21-EC35	1900	14	76.00	181.00	0	<10	102.0	102.0	96.0	181.0	105.0	113.0	86.0	97.0	81.0	98.0	97.0	111.0	76.0	
Benzene	0.38	14	0.00	<LOD	0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
Toluene	880	14	0.00	<LOD	0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
Ethyl benzene	83	14	0.00	<LOD	0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
o-Xylene	88	14	0.00	<LOD	0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
m- & p-Xylene	161	14	0.00	<LOD	0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
MTBE	49	14	0.00	<LOD	0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
Mean Average SOM			2.5																	
Mean Average pH			8.0																	
Residential without Homegrown Produce 1% SOM						Values in RED are > the relevant screening levels and further assessment is required. Exceedance of the screening levels alone may not mean a risk is posed														
Job Number: C5394																				
Client: Morgan Sindall																				
Site: Star Academy																				



TIM O'HARE ASSOCIATES
SOIL & LANDSCAPE CONSULTANCY

Mr Nathan Birchenall
Tarmac Topscope
Manchester Road
Congleton
Cheshire, CW12 2LU

23rd October 2023
Our Ref: TOHA/23/1136/SS
Your Ref: PO 2002663335

Dear Sirs

Topsoil Analysis Report: Topscope Topsoil (Eaton Hall)

We have completed the analysis of the soil sample recently submitted, referenced *Topscope Topsoil (Eaton Hall)*, and have pleasure reporting our findings.

The purpose of the analysis was to determine the suitability of the sample for general landscape purposes (trees, shrubs, amenity grass). In addition, this sample has been assessed to determine its compliance with the requirements of the British Standard for Topsoil (*BS3882:2015 – Specification for Topsoil – Table 1, Multipurpose Topsoil*).

This report presents the results of analysis for the sample submitted to our office, and it should be considered 'indicative' of the topsoil source. The report and results should therefore not be used by third parties as a means of verification or validation testing or waste designation purposes, especially after the topsoil has left the Tarmac Topscope site.

SAMPLE EXAMINATION

The sample was described as a brown (Munsell Colour 10YR 4/3), slightly moist, friable, very slightly calcareous LOAMY SAND with a weakly developed, very fine to fine granular structure*. The sample was stone-free and contained a low proportion of organic fines and occasional woody fragments. No unusual odours, deleterious materials, roots or rhizomes of pernicious weeds were observed.

*This appraisal of soil structure was made from examination of a disturbed sample. Structure is a key soil characteristic that may only be accurately assessed by examination in an in-situ state.

Tim O'Hare Associates LLP
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www.toha.co.uk

ANALYTICAL SCHEDULE

The sample was submitted to a UKAS and MCERTS accredited laboratory for a range of physical and chemical tests to confirm the composition and fertility of the soil, and the concentration of selected potential contaminants. The following parameters were determined:

- detailed particle size analysis (% 5 sands, silt, clay);
- stone content (2-20mm, 20-50mm, >50mm);
- pH and electrical conductivity values;
- exchangeable sodium percentage;
- major plant nutrients (N, P, K, Mg);
- organic matter content;
- C:N ratio;
- heavy metals (As, B, Cd, Cr, Cu, Pb, Hg, Ni, Se, Zn);
- total cyanide and total (mono) phenols;
- speciated PAHs (US EPA16 suite);
- aromatic and aliphatic TPH (C5-C35 banding);
- benzene, toluene, ethylbenzene, xylene (BTEX);
- asbestos screen.

The results are presented on the attached Certificate of Analysis and an interpretation of the results is given below.

RESULTS OF ANALYSIS

Detailed Particle Size Analysis and Stone Content

The sample fell into the *loamy sand* texture class. Further detailed particle size analysis found the sample to have a sufficiently narrow particle size distribution and a predominance of *medium sand* (0.25-0.50mm). This is usually ideal for topsoil in general landscape applications as reasonable porosity levels can be maintained in a consolidated state and the risk of particle interpacking is reduced. This type of grading therefore normally provides adequate water attenuation, drainage and aeration properties for general landscape applications.

The stone content of the sample was stone free and, as such, stones should not restrict the use of the soil for general landscape purposes.

pH and Electrical Conductivity Values

The sample was strongly alkaline in reaction (pH 8.5). This pH value would be considered suitable for general landscape purposes provided species with a wide pH tolerance or those known to prefer alkaline soils are selected for planting, turfing and seeding.

The electrical conductivity (salinity) value (water extract) was moderate, which indicates that soluble salts should not be present at levels that would be harmful to plants.

The electrical conductivity value by CaSO₄ extract (BS3882 requirement) fell below the maximum specified value (3300 µS/cm) given in BS3882:2015 – Table 1.

Organic Matter and Fertility Status

The sample was well supplied with extractable phosphorus, extractable potassium and extractable magnesium but was deficient in organic matter and total nitrogen. These deficiencies can be remedied by a suitable compost application.

The C:N ratio of the sample was acceptable for general landscape purposes.

Potential Contaminants

With reference to *BS3882:2015 - Table 1*: Notes 3 and 4, there is a requirement to confirm levels of potential contaminants in relation to the topsoil's proposed end use. This includes human health, environmental protection and metals considered toxic to plants. In the absence of site-specific assessment criteria, the concentrations that affect human health have been compared with the *residential with homegrown produce* land use in the Suitable For Use Levels (S4ULs) presented in *The LQM/CIEH S4ULs for Human Health Risk Assessment* (2015) and the DEFRA SP1010: *Development of Category 4 Screening Levels (C4SLs) for Assessment of Land Affected by Contamination – Policy Companion Document* (2014).

Of the potential contaminants determined, none was found at levels that exceeded their guideline values.

Phytotoxic Contaminants

Of the phytotoxic (toxic to plants) contaminants determined (copper, nickel, zinc), none was found at levels that exceeded the maximum permissible levels specified in *BS3882:2015 – Table 1*.

CONCLUSION

The purpose of the analysis was to determine the suitability of the sample for general landscape purposes (trees, shrubs, amenity grass). In addition, this sample has been assessed to determine its compliance with the requirements of the British Standard for Topsoil (*BS3882:2015 – Specification for Topsoil – Table 1, Multipurpose Topsoil*).

From the soil examination and subsequent laboratory analysis, the sample was described as a strongly alkaline, non-saline, very slightly calcareous, stone free *loamy sand* with an adequate structure. The sample contained sufficient reserves of most major plant nutrients but was deficient in organic matter and total nitrogen. Of the potential contaminants determined, none exceeded their respective guideline values.

To conclude, based on our findings, the topsoil represented by this sample would be considered suitable for general landscape purposes (trees, shrubs and amenity grass), provided the organic matter and total nitrogen deficiencies are addressed, species with a wide pH tolerance or those known to prefer alkaline soils are selected and the physical condition of the soil is satisfactory.

The sample was largely compliant with the requirements of the British Standard for Topsoil (*BS3882:2015 – Specification for Topsoil – Table 1, Multipurpose Topsoil*) with the exception of deficient levels of organic matter and total nitrogen.

On this occasion, these non-compliances would be considered minor when reviewed in the context of all the other results, and the deficiencies are addressed by a suitable compost application.

RECOMMENDATIONS

Compost Application

To address the deficiencies in organic matter and total nitrogen, we recommend applying and incorporating suitable compost (e.g. PAS100:2011 /Landscape Institute/WRAP grade (10mm screened) green compost) at a rate of **15%** by volume, ensuring the soil is dry and friable.

For planting purposes, the compost should be incorporated to a depth of 200mm and for grass areas the compost should be worked into the upper 100mm.

Soil Handling Recommendations

It is important to maintain the physical condition of the soil and avoid structural damage during all phases of soil handling (e.g. stockpiling, resspreading, cultivating, planting, seeding or turfing). As a consequence, soil handling operations should be carried out when soil is sufficiently dry to be non-plastic (friable) in consistency.

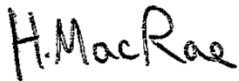
It is important to ensure that the soil is not unnecessarily compacted by trampling or trafficking by site machinery, and soil handling should be stopped during and after heavy rainfall and not continued until the soil is friable in consistency. If the soil is structurally damaged and compacted at any stage during the course of

soiling or landscaping works, it should be cultivated appropriately to relieve the compaction and to restore the soil's structure prior to any planting, turfing or seeding.

Further details on soil handling are provided in Annex A of BS3882:2015.

We hope this report meets with your approval and provides the necessary information. Please do not hesitate to contact the undersigned if we can be of further assistance.

Yours faithfully



Harriet MacRae
BSc MSc
Graduate Soil Scientist



Rebecca Hollands
BSc MSc MScSoilSci
Senior Soil Scientist

For & on behalf of Tim O'Hare Associates LLP



Tier Environmental
Suite 414, Chadwick House
Warrington Rd
Birchwood
Warrington
United Kingdom
WA3 6AE



4225



Attention : Eve Rowland
Date : 19th October, 2023
Your reference : TE1438
Our reference : Test Report 23/16922 Batch 1
Location : Eaton Hall
Date samples received : 12th October, 2023
Status : Final Report
Issue : 1

Sixteen samples were received for analysis on 12th October, 2023 of which sixteen were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 57.92 kg of CO2

Scope 1&2&3 emissions - 136.88 kg of CO2

Authorised By:



Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Tier Environmental
Reference: TE1438
Location: Eaton Hall
Contact: Eve Rowland
EMT Job No: 23/16922

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	Please see attached notes for all abbreviations and acronyms		
Sample ID	TS1	TS2	TS3	TS4	TS5	TS6	TS7	TS8	TS9	TS10			
Depth													
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023	LOD/LOR	Units	Method No.
Arsenic [#]	3.5	3.1	3.3	3.6	3.7	5.1	4.0	3.8	3.3	3.4	<0.5	mg/kg	TM30/PM15
Cadmium [#]	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM30/PM15
Chromium [#]	60.9	60.5	62.1	55.9	37.1	34.6	32.8	36.1	40.4	36.7	<0.5	mg/kg	TM30/PM15
Copper [#]	15	13	15	18	17	15	18	17	23	15	<1	mg/kg	TM30/PM15
Lead [#]	22	18	22	29	21	21	20	26	19	19	<5	mg/kg	TM30/PM15
Mercury [#]	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM30/PM15
Nickel [#]	8.1	7.2	10.1	8.9	8.0	8.1	9.2	9.0	8.5	7.4	<0.7	mg/kg	TM30/PM15
Selenium [#]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	mg/kg	TM30/PM15
Total Sulphate as SO4 [#]	257	242	266	302	290	279	291	346	267	305	<50	mg/kg	TM50/PM29
Zinc [#]	43	35	42	49	42	40	43	45	38	38	<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene [#]	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Acenaphthene [#]	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM4/PM8
Fluorene [#]	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Phenanthrene [#]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.09	0.04	0.11	<0.03	<0.03	mg/kg	TM4/PM8
Anthracene [#]	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Fluoranthene [#]	0.09	0.12	0.11	0.10	0.08	0.11	0.30	0.12	0.32	0.07	<0.03	mg/kg	TM4/PM8
Pyrene [#]	0.08	0.09	0.09	0.07	0.06	0.08	0.26	0.08	0.27	0.06	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene [#]	<0.06	0.07	0.09	<0.06	<0.06	0.08	0.22	0.07	0.19	<0.06	<0.06	mg/kg	TM4/PM8
Chrysene [#]	0.06	0.07	0.07	0.06	0.06	0.07	0.22	0.07	0.19	0.06	<0.02	mg/kg	TM4/PM8
Benzo(b)fluoranthene [#]	0.11	0.13	0.14	0.11	0.09	0.13	0.40	0.11	0.29	0.10	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene [#]	<0.04	<0.04	<0.04	<0.04	<0.04	0.07	0.23	0.05	0.16	<0.04	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene [#]	<0.04	0.05	0.07	<0.04	<0.04	0.06	0.18	0.06	0.09	<0.04	<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene [#]	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene [#]	<0.04	0.06	0.07	<0.04	0.05	0.06	0.18	0.05	0.11	<0.04	<0.04	mg/kg	TM4/PM8
PAH 16 Total	<0.6	<0.6	0.6	<0.6	<0.6	0.7	2.1	0.7	1.7	<0.6	<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	0.08	0.09	0.10	0.08	0.06	0.09	0.29	0.08	0.21	0.07	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.03	0.04	0.04	0.03	0.03	0.04	0.11	0.03	0.08	0.03	<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	115	113	113	112	113	113	114	111	113	111	<0	%	TM4/PM8
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) [#]	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) [#]	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) [#]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) [#]	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) [#]	<7	<7	<7	<7	<7	<7	<7	14	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) [#]	40	<7	12	78	23	32	27	50	32	<7	<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<7	<7	<7	11	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH+HS_CU_1D_AL)	40	<26	<26	89	<26	32	27	64	32	<26	<26	mg/kg	TM5/PM8/PM16

Element Materials Technology

Client Name: Tier Environmental
Reference: TE1438
Location: Eaton Hall
Contact: Eve Rowland
EMT Job No: 23/16922

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	Please see attached notes for all abbreviations and acronyms		
Sample ID	TS1	TS2	TS3	TS4	TS5	TS6	TS7	TS8	TS9	TS10			
Depth													
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023	LOD/LOR	Units	Method No.
TPH CWG													
Aromatics													
>C5-EC7 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	11	9	9	15	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	102	102	96	181	105	113	86	97	81	98	<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	8	10	11	24	8	9	<7	9	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH+HS_CU_1D_AR)	121	121	116	220	113	122	86	106	81	98	<26	mg/kg	TM5/PM8/PM16
Total aliphatics and aromatics(C5-40) (EH+HS_CU_1D_Total)	161	121	116	309	113	154	113	170	113	98	<52	mg/kg	TM5/PM8/PM16
MTBE #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
Benzene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
Toluene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
Ethylbenzene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
m/p-Xylene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
o-Xylene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
Total Phenols HPLC	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	mg/kg	TM26/PM21B
Natural Moisture Content	17.7	15.8	17.5	22.4	18.5	18.1	16.7	18.4	17.5	19.8	<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.0491	0.0474	0.0499	0.0563	0.0569	0.0476	0.0472	0.0527	0.0454	0.0470	<0.0015	g/l	TM38/PM20
Total Organic Carbon #	2.89	2.00	2.46	3.05	3.28	2.51	2.45	2.87	2.17	2.82	<0.02	%	TM21/PM24
pH #	7.91	8.32	8.10	7.85	7.94	7.81	7.91	7.81	8.03	8.02	<0.01	pH units	TM73/PM11

Element Materials Technology

Client Name: Tier Environmental
Reference: TE1438
Location: Eaton Hall
Contact: Eve Rowland
EMT Job No: 23/16922

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	31-33	34-36	37-39	40-42	43-45	46-48					Please see attached notes for all abbreviations and acronyms		
Sample ID	TS11	TS12	TS13	SS1	SS2	SS3							
Depth													
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T							
Sample Date	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023	10/10/2023							
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1	1							
Date of Receipt	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023					LOD/LOR	Units	Method No.
Arsenic #	3.2	3.6	3.5	3.9	3.3	3.9					<0.5	mg/kg	TM30/PM15
Cadmium #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					<0.1	mg/kg	TM30/PM15
Chromium #	58.1	39.0	56.8	37.3	40.8	37.6					<0.5	mg/kg	TM30/PM15
Copper #	14	8	15	11	16	10					<1	mg/kg	TM30/PM15
Lead #	18	5	20	<5	19	<5					<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					<0.1	mg/kg	TM30/PM15
Nickel #	7.3	10.5	8.4	13.2	7.8	13.4					<0.7	mg/kg	TM30/PM15
Selenium #	<1	<1	<1	<1	<1	<1					<1	mg/kg	TM30/PM15
Total Sulphate as SO4 #	286	58	324	52	264	<50					<50	mg/kg	TM50/PM29
Zinc #	38	20	40	22	42	21					<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04					<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03					<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05					<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04					<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03					<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04					<0.04	mg/kg	TM4/PM8
Fluoranthene #	0.09	0.11	0.09	<0.03	<0.03	<0.03					<0.03	mg/kg	TM4/PM8
Pyrene #	0.08	0.08	0.07	<0.03	<0.03	<0.03					<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	0.07	0.07	0.07	<0.06	<0.06	<0.06					<0.06	mg/kg	TM4/PM8
Chrysene #	0.06	0.07	0.07	<0.02	<0.02	<0.02					<0.02	mg/kg	TM4/PM8
Benzo(b)fluoranthene #	0.10	0.13	0.12	<0.07	<0.07	<0.07					<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	0.06	0.06	0.06	<0.04	<0.04	<0.04					<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	0.06	0.06	<0.04	<0.04	<0.04					<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04					<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	0.05	0.06	0.06	<0.04	<0.04	<0.04					<0.04	mg/kg	TM4/PM8
PAH 16 Total	<0.6	0.6	0.6	<0.6	<0.6	<0.6					<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	0.07	0.09	0.09	<0.05	<0.05	<0.05					<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.03	0.04	0.03	<0.02	<0.02	<0.02					<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	110	115	115	131	114	118					<0	%	TM4/PM8
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2					<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	<4	<4	<4	<4	<4	<4					<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	10	<7	<7	<7	<7	<7					<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	55	29	29	<7	<7	<7					<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<7	<7	<7	<7	<7	<7					<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH+HS_CU_1D_AL)	65	29	29	<26	<26	<26					<26	mg/kg	TM5/PM8/PM16/PM12/PM15

Element Materials Technology

Client Name: Tier Environmental
Reference: TE1438
Location: Eaton Hall
Contact: Eve Rowland
EMT Job No: 23/16922

Report : Solid

Solids: V=60g VOC jar. J=250g glass jar. T=plastic tub

[illegible]

Client Name: Tier Environmental
Reference: TE1438
Location: Eaton Hall
Contact: Eve Rowland

Note:

Asbestos Screen analysis is carried out in accordance with our documented in-house methods PM042 and TM065 and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Detailed Gravimetric Quantification and PCOM Fibre Analysis is carried out in accordance with our documented in-house methods PM042 and TM131 and HSG 248 using Stereo and Polarised Light Microscopy and Phase Contrast Optical Microscopy (PCOM). Asbestos sub-samples are retained for not less than 6 months from the date of analysis unless specifically requested.

The LOQ of the Asbestos Quantification is 0.001% dry fibre of dry mass of sample.

Where the sample is not taken by a Element Materials Technology consultant, Element Materials Technology cannot be responsible for inaccurate or unrepresentative sampling.

Where trace asbestos is reported the amount of asbestos will be <0.1%.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
23/16922	1	TS1		3	Bart Kuznicki	13/10/2023	General Description (Bulk Analysis)	Brown Loose soil with stones
					Bart Kuznicki	13/10/2023	Asbestos Fibres	NAD
					Bart Kuznicki	13/10/2023	Asbestos ACM	NAD
					Bart Kuznicki	13/10/2023	Asbestos Type	NAD
23/16922	1	TS2		6	Bart Kuznicki	13/10/2023	General Description (Bulk Analysis)	Brown Loose soil with stones
					Bart Kuznicki	13/10/2023	Asbestos Fibres	NAD
					Bart Kuznicki	13/10/2023	Asbestos ACM	NAD
					Bart Kuznicki	13/10/2023	Asbestos Type	NAD
23/16922	1	TS3		9	Bart Kuznicki	13/10/2023	General Description (Bulk Analysis)	Brown Loose soil with stones
					Bart Kuznicki	13/10/2023	Asbestos Fibres	NAD
					Bart Kuznicki	13/10/2023	Asbestos ACM	NAD
					Bart Kuznicki	13/10/2023	Asbestos Type	NAD
23/16922	1	TS4		12	Bart Kuznicki	13/10/2023	General Description (Bulk Analysis)	Brown Loose soil with stones
					Bart Kuznicki	13/10/2023	Asbestos Fibres	NAD
					Bart Kuznicki	13/10/2023	Asbestos ACM	NAD
					Bart Kuznicki	13/10/2023	Asbestos Type	NAD
23/16922	1	TS5		15	Catherine Coles	17/10/2023	General Description (Bulk Analysis)	brown soil,vegetation
					Catherine Coles	17/10/2023	Asbestos Fibres	NAD
					Catherine Coles	17/10/2023	Asbestos ACM	NAD
					Catherine Coles	17/10/2023	Asbestos Type	NAD
23/16922	1	TS6		18	Catherine Coles	17/10/2023	General Description (Bulk Analysis)	brown soil,vegetation
					Catherine Coles	17/10/2023	Asbestos Fibres	NAD
					Catherine Coles	17/10/2023	Asbestos ACM	NAD
					Catherine Coles	17/10/2023	Asbestos Type	NAD
23/16922	1	TS7		21	Charlotte Taylor	17/10/2023	General Description (Bulk Analysis)	brown soil/stones
					Charlotte Taylor	17/10/2023	Asbestos Fibres	NAD
					Charlotte Taylor	17/10/2023	Asbestos ACM	NAD
					Charlotte Taylor	17/10/2023	Asbestos Type	NAD
23/16922	1	TS8		24	Emily Anderton	17/10/2023	General Description (Bulk Analysis)	Brown soil with vegetation
					Emily Anderton	17/10/2023	Asbestos Fibres	NAD
					Emily Anderton	17/10/2023	Asbestos ACM	NAD
					Emily Anderton	17/10/2023	Asbestos Type	NAD

Client Name: Tier Environmental
Reference: TE1438
Location: Eaton Hall
Contact: Eve Rowland

[illegible]

Element Materials Technology

Notification of Deviating Samples

Client Name: Tier Environmental

Reference: TE1438

Location: Eaton Hall

Contact: Eve Rowland

[illegible]

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.

It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 23/16922

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 37°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overestimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a requirement of our Accreditation Body for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.

Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

HWOL ACRONYMS AND OPERATORS USED

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.
Total	Aliphatics & Aromatics.
AL	Aliphatics only.
AR	Aromatics only.
2D	GC-GC - Double coil gas chromatography.
#1	EH_Total but with humics mathematically subtracted
#2	EU_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +).
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total
MS	Mass Spectrometry.

EMT Job No: 23/16922

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GC/FID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GC/FID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Preparation of Soil and Marine Sediment Samples for Total Organic Carbon.	Yes		AD	Yes
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM21B	As Received samples are extracted in Methanol: Water (60:40) by reciprocal shaker.			AR	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.	Yes		AD	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes

EMT Job No: 23/16922

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AR	Yes
TM50	Acid soluble sulphate (Total Sulphate) analysed by ICP-OES	PM29	A hot hydrochloric acid digest is performed on a dried and ground sample, and the resulting liquor is analysed.	Yes		AD	Yes
TM65	Asbestos Bulk Identification method based on HSG 248 Second edition (2021)	PM42	Modified SCA Blue Book V.12 draft 2017 and WM3 1st Edition v1.1:2018. Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM11	Extraction of as received solid samples using one part solid to 2.5 parts deionised water.	Yes		AR	No

CP AGGREGATES LTD

CONVEYANCE NOTE

FORM B (WEIGHT)

Low Foot Farm, Fairfield, Buxton, High Peak SK17 7JG.
Telephone: 01298 77017

PRESCRIBED BY THE BOARD OF
TRADE UNDER SECTION 4 OF THE
WEIGHTS AND MEASURES ACT 1936

ALL IN BLOCK LETTERS STAR Academy
CUSTOMER

LOADED AT: Eaton Hall

ADDRESS OF PLACE
OF DELIVERY

SPRINGS Rd.
RADCLIFFE

M26 2SZ

SITUATION OF NEAREST AVAILABLE WEIGHING
STATION TO PLACE WHERE VEHICLE WAS LOADED

ORDER NUMBER

TICKET NUMBER

74531

DATE

6. AUG 24

QUARRY TICKET NUMBER

1004043764

WEIGHT (IN WORDS) AND DESCRIPTION OF MATERIALS BEING CARRIED
E.G. LIMESTONE, SAND ETC.

18.50

TONNES

KILOS

GROSS WEIGHT OF
VEHICLE AT WEIGH-
BRIDGE

31.70

OF TP 5.1

TARE WEIGHT OF
VEHICLE

13.80

HAULIER: Hattershead

REGISTRATION NUMBER: V999 HPS

NETT

18.50

DRIVER: John

CERTIFIED THAT THE ABOVE PARTICULARS ARE TRUE AND RELATE TO THE SAND OR BALLAST BEING CONVEYED IN THE VEHICLE DESCRIBED, WHICH SAND OR BALLAST IS BEING SO CONVEYED IN PURSUANCE OF:- (a) A SALE OR AN AGREEMENT FOR THE SALE THEREOF MADE BY WEIGHT. (b) AN AGREEMENT FOR THE CARRIAGE THEREOF MADE BY WEIGHT. (a) OR (b) DELETE WORDS INAPPLICABLE.

Customer Signature: John Cunn

Print Name: JOHN CUNN

Date:

Date:

CUSTOMERS ORDERING VEHICLES OFF THE PUBLIC ROAD DO SO ENTIRELY ON THEIR OWN RESPONSIBILITY

CP AGGREGATES LTD

Low Foot Farm, Fairfield, Buxton, High Peak SK17 7JG
Telephone: 01298 77017

CONVEYANCE NOTE FORM B (WEIGHT)

PRESCRIBED BY THE BOARD OF
TRADE UNDER SECTION 4 OF THE
WEIGHTS AND MEASURES ACT 1936

ALL IN BLOCK LETTERS
CUSTOMER

Chart Range

LOADED AT: EATON HALL

ADDRESS OF
PLACE OF DELIVERY

STAR ACADEMY, SPRING LAKE
PO BOX RADCLIFF, M26 2SZ

SITUATION OF NEAREST AVAILABLE WEIGHING
STATION TO PLACE WHERE VEHICLE WAS LOADED

ORDER NUMBER

~~66975~~

TICKET NUMBER

6651

DATE

29-7-24

QUARRY TICKET NUMBER

66975

WEIGHT (IN WORDS) AND DESCRIPTION OF MATERIALS BEING CARRIED
(e.g. Limestone, Sand, etc).

20

TONNES KILOS

GROSS WEIGHT OF
VEHICLE AT
WEIGHBRIDGE

32-00

OF Top Soil

TARE WEIGHT
OF VEHICLE

12-00

HAULIER:

finch

REGISTRATION NUMBER:

PE18 NES

NETT

20-00

DRIVER:

Mark

CERTIFIED THAT THE ABOVE PARTICULARS ARE TRUE AND RELATE TO THE SAND OR BALLAST BEING CONVEYED IN THE VEHICLE DESCRIBED, WHICH SAND OR BALLAST IS BEING SO CONVEYED IN PURSUANCE OF: (a) A SALE OR AGREEMENT FOR THE SALE THEREOF MADE BY WEIGHT; (b) AN AGREEMENT FOR THE CARRIAGE THEREOF MADE BY WEIGHT. (a) or (b) - DELETE WORDS INAPPLICABLE.

Customer Signature:

Print Name:

Armond

Date:

Date:

29-7-24

CUSTOMERS ORDERING VEHICLES OFF THE PUBLIC ROAD DO SO ENTIRELY ON THEIR OWN RESPONSIBILITY.

C P AGGREGATES LTD

Low Foot Farm, Fairfield, Buxton, High Peak SK17 7JG
Telephone: 01298 77017

CONVEYANCE NOTE

FORM B (WEIGHT)

PRESCRIBED BY THE BOARD OF
TRADE UNDER SECTION 4 OF THE
WEIGHTS AND MEASURES ACT 1936

ALL IN BLOCK LETTERS
CUSTOMER

CHART RANGE

LOADED AT: EATON HALL

ADDRESS OF
PLACE OF DELIVERY

SPRING LANE
RADCLIFF M26 25Z

SITUATION OF NEAREST AVAILABLE WEIGHING
STATION TO PLACE WHERE VEHICLE WAS LOADED

ORDER NUMBER

002550

TICKET NUMBER

6652

DATE

31-7-24

QUARRY TICKET NUMBER

67958

WEIGHT (IN WORDS) AND DESCRIPTION OF MATERIALS BEING CARRIED
(e.g. Limestone, Sand, etc).

20

TONNES

00

KILOS

GROSS WEIGHT OF
VEHICLE AT
WEIGHBRIDGE

FULL

OF

TOP SOIL

TARE WEIGHT
OF VEHICLE

LOAD

HAULIER:

RAL

REGISTRATION NUMBER:

P017 UFL

NETT

DRIVER:

PATRICK

CERTIFIED THAT THE ABOVE PARTICULARS ARE TRUE AND RELATE TO THE SAND OR BALLAST BEING CONVEYED IN THE VEHICLE DESCRIBED,
WHICH SAND OR BALLAST IS BEING SO CONVEYED IN PURSUANCE OF: (a) A SALE OR AGREEMENT FOR THE SALE THEREOF MADE BY WEIGHT;
(b) AN AGREEMENT FOR THE CARRIAGE THEREOF MADE BY WEIGHT. (a) or (b) - DELETE WORDS INAPPLICABLE.

Customer Signature:	Armano	Print Name:	
Date:	31/7/24	Date:	

CUSTOMERS ORDERING VEHICLES OFF THE PUBLIC ROAD DO SO ENTIRELY ON THEIR OWN RESPONSIBILITY.

C P AGGREGATES LTD

Low Foot Farm, Fairfield, Buxton, High Peak SK17 7JG

Telephone: 01298 77017

CONVEYANCE NOTE

FORM B (WEIGHT)

PRESCRIBED BY THE BOARD OF
TRADE UNDER SECTION 4 OF THE
WEIGHTS AND MEASURES ACT 1936

ALL IN BLOCK LETTERS CUSTOMER		Chartrange		LOADED AT: Eaton hall	
ADDRESS OF PLACE OF DELIVERY		Star academy Spring lane Radcliffe M16 2SZ		SITUATION OF NEAREST AVAILABLE WEIGHING STATION TO PLACE WHERE VEHICLE WAS LOADED	
ORDER NUMBER 002550		TICKET NUMBER 6653		DATE 1 - 8 - 24	
QUARRY TICKET NUMBER 67968		WEIGHT (IN WORDS) AND DESCRIPTION OF MATERIALS BEING CARRIED (e.g. Limestone, Sand, etc.) Twenty TONNES zero KILOS			
GROSS WEIGHT OF VEHICLE AT WEIGHBRIDGE		32.00 OF grade 1 Soil			
TARE WEIGHT OF VEHICLE		12.00 HAULIER: Pat			
NETT		20.00 REGISTRATION NUMBER: PE18 NEJ			
		DRIVER: Mark			

CERTIFIED THAT THE ABOVE PARTICULARS ARE TRUE AND RELATE TO THE SAND OR BALLAST BEING CONVEYED IN THE VEHICLE DESCRIBED, WHICH SAND OR BALLAST IS BEING SO CONVEYED IN PURSUANCE OF: (a) A SALE OR AGREEMENT FOR THE SALE THEREOF MADE BY WEIGHT; (b) AN AGREEMENT FOR THE CARRIAGE THEREOF MADE BY WEIGHT. (a) or (b) - DELETE WORDS INAPPLICABLE.

Customer Signature: Lyon Amy	Print Name:
Date: 1-9-24	Date:

CUSTOMERS ORDERING VEHICLES OFF THE PUBLIC ROAD DO SO ENTIRELY ON THEIR OWN RESPONSIBILITY.

APPENDIX C

United Utilities Water Pipeline Risk Assessment

Supplementary guidance for the selection of water pipes in land potentially affected by contamination

Introduction

In January 2011, UK Water Industry Research (UKWIR) published “Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites” (Ref 10/WM/03/21; the ‘UKWIR Guidance’). Its aim is to ensure that the correct materials are selected for water pipes and components to be used below ground in brownfield sites to protect the quality of drinking water whilst taking into account the service life of the water distribution system. It supersedes the Water Regulations Advisory Scheme (WRAS) Information and Guidance Note 9-04-03 “Laying Pipes in Contaminated Land” which has been withdrawn.

The UKWIR Guidance is for use by developers, self-lay organisations, water companies and consultants when planning, designing and constructing water mains and/or services in brownfield sites. It defines brownfield sites as “land or premises that have previously been used or developed. They may also be vacant or derelict. However, they are not necessarily contaminated.” The UKWIR Guidance states that it does not apply to greenfield sites; however, we consider this supplementary guidance and the relevant sections of the UKWIR guidance as being equally suitable for application to those greenfield sites considered to be potentially affected by contamination. Where greenfield sites are not affected by contamination a preliminary risk assessment (see below) will suffice.

The UKWIR Guidance also states that there should be no departure from its provisions “*except where formally approved by the Water Company, such departure being technically justifiable or representing advances in knowledge or product development*”.

We have adopted the UKWIR Guidance in principle and produced this company specific supplementary guidance (the ‘UUW Guidance’) which includes the Risk Assessment for Water Pipes (the ‘RA’).

This guidance does not cover operative safety, health exposure modelling or accidental pipe damage.

Risk Assessment for Water Pipes in Land Potentially Affected by Contamination

Any application for new water supplies to a development (construction of new properties, or renovation or conversion of existing buildings) in land potentially affected by contamination shall include a completed RA.

As a minimum a desk study (preliminary risk assessment) shall be provided with the RA in accordance with the framework in Environment Agency publication “Model Procedures for the Management of Land Contamination” (ref: CLR11) that sets out whether the land through

which the pipes are to be laid may be affected by contamination. The application of the source, pathway, receptor concept will be an integral part of any pipeline risk assessment. For each potential source (the contamination) and each potential receptor (the water pipe), consideration shall be given to whether a potential pathway between source and receptor exists, or may exist in the future, linking the two. There are normally only three pathways by which contamination may come into contact with water pipes. These are direct contact with the soil or backfill, an excessive vapour phase or a contaminated groundwater regime. If none of these conditions exist on site (adopting the source, pathway, receptor concept) then it is likely that extended and/or targeted soil testing will not be required and a simple risk assessment will suffice. For those sites where land may be affected by contamination appropriate testing shall be undertaken on the materials within which the pipes are to be laid, whether that be existing ground materials, remediated materials or imported capping materials. The testing requirements are as described in the following section.

The signatories of the Water Supply Application Form and the RA must ensure that all assessments of land condition have been carried out in accordance with applicable current standards and guidelines by or under the direction of a suitably qualified competent person.

We require the competent person to be a) a chartered member of an appropriate professional body (such as the Institution of Civil Engineers, the Geological Society of London or the Royal Institution of Chartered Surveyors) with relevant experience of investigating contaminated sites or b) a Specialist in Land Condition (SiLC) with appropriate geo-environmental experience.

How to contact us about the information in this leaflet



DeveloperServicesWater@uuplc.co.uk



0345 072 6067

Opening hours:
8am-5pm Mon to Thurs
8am-4.30pm Fri

Testing Requirements

The soil, rock and if appropriate groundwater tests that are required on all sites where the potential for organic contamination has been identified in the desk study and where water pipes are proposed to be laid must be accredited by United Kingdom Accreditation Service (UKAS) as a minimum and where commercially available the Environment Agency's Monitoring Certification Service (MCERTS). These accredited tests should be undertaken for:

Banded hydrocarbons EC5-EC10, EC10-EC16, EC16-EC40 (Total aliphatic and aromatic hydrocarbons for each banding may be summed). Aliphatic/aromatic fractionation and subsequent banding may be required should a more detailed site specific risk assessment be undertaken. The bandings have been amended to take into account readily available laboratory tests. The equivalent carbon number (EC) is used to assess petroleum hydrocarbon mixtures rather than the actual number of carbon atoms in the molecule in line with guidance issued by the Environment Agency (2005).

Volatile organic compounds (VOCs) (method by head space or purge & trap GCMS) with tentative identification of compounds greater than 20µg/kg. The method used should be capable of detecting a wide range of compounds listed in US EPA Method 8260C or similar. The method should include analysis of naphthalene.

BTEX (Benzene, toluene, ethyl benzene and xylenes) plus MTBE (Methyl-tertiary butyl ether) (by head space GCMS)

Semi-Volatile Organic Compounds (SVOCs) (method by GCMS) with tentative identification of compounds greater than 20µg/kg The method used should be capable of detecting the compounds listed in US EPA Method 8270D or similar. The total concentration of SVOCs excludes polycyclic aromatic hydrocarbons, ethers, nitrobenzene, ketones, aldehydes, phenols, cresols and chlorinated phenols. Phenols, cresols and chlorinated phenols which are detected by the SVOC analysis are given their own assessment criteria.

We do not consider Table G1 and Table 3.1 of the UKWIR Guidance to be a definitive guide for assessing total concentrations. Table 1 in the RA below replaces Table 3.1 of the UKWIR Guidance.

Where previous site uses include the use, storage, treatment, disposal or manufacture of any of the following, appropriate testing for these substances will be required:

- Ethers, nitrobenzene, ketones, aldehydes and amines. Note that the presence of amines on any site at the proposed pipe depth +/- 1.0m precludes the use of polyethylene. The methods of analysis and method of calculation of total concentrations of these compounds will need to be agreed with UuW.

To comply with the testing requirements, the suites of tests that are required on all brownfield sites where wrapped steel, wrapped ductile iron or copper pipes are to be laid as minimum must include:

- pH, Conductivity and redox potential

Sufficiency of Testing

Water pipes are normally laid at between 0.75 and 1.35m from finished ground level to crown of pipe. Samples taken and tested must represent both a) the soil in which the water pipes are to be laid and b) the soil down to at least 500mm below the underside of the proposed pipe. Where the proposed depth of the pipes is unknown at the time of application, soil samples representative of the ground condition between surface level and 1.5m below finished ground level shall be taken as a minimum. Where appropriate (see UKWIR Guidance) groundwater sampling and groundwater monitoring will also be necessary. Photo-ionisation detection (PID) monitoring along the proposed route of the pipeline may be employed, though this does not provide a definitive guide to the suitability of water pipe materials.

Where required a sufficient number of test results should be obtained from the material in which the pipes are to be laid. CLAIRE/CIEH 2008 "Guidance on comparing soil contamination data with a critical concentration" may be used, where appropriate, to justify the number of soil samples tested; however, this statistical model should not be used on heterogeneous materials or used to average test results from different types of materials.

Further guidance on representative sampling is contained within BS10175:2011 Code of Practice for the Investigation of Potentially Contaminated Sites, the Department of the Environment's Contaminated Land Research Report "Sampling strategies for contaminated land" prepared by The Centre for Research into the Built Environment, Nottingham Trent University (Ref: CLR 4; 1994) and the Environment Agency's "Secondary Model Procedure for the Development of Appropriate Soil Sampling Strategies for Land Contamination" (ref: R&D Technical Report P5-066/TR; 2000).

Where remediation has been carried out on the site, the test results obtained from validation samples will be used in the assessment. Where a horizontal capping system has been or will be employed using materials spread across a site, sufficient samples will need to be taken to characterise the capping material used and the results presented to UuW. However, the sufficiency of sampling on the horizontal capping system, in which the pipeline will be placed, may be assessed on the basis of the source, quantity and type of materials used.

Detection Limits

Only positive concentrations, ie those above the limit of detection should be used in summation of VOC and SVOC (or other test groups of compounds ie phenols, cresols and chlorinated phenols). Laboratory methods shall provide a minimum limit of detection of 10µg/kg for each individual VOC or SVOC (or other test groups of compounds) quantitatively detected in accordance with the methods described above. For tentatively identified compounds (TICs), only those compounds with a concentration of 20µg/kg or greater shall be used in the summation of VOC and SVOC (or other test groups of compounds).

Protective Measures

Where polyethylene, ductile iron, steel or copper pipes are to be laid on a brownfield site or other land potentially affected by contamination (whether or not it has been remediated) and where the concentrations exceed the generic guideline values set out in Table 1 of the RA, the developer shall provide either:

- a) a robust risk assessment to show how any contaminants will not significantly impact on proposed water supplies or buried assets over the lifetime of the assets; or
- b) more suitable pipe materials; or
- c) an engineering solution to protect the pipe work backed up by an adequate assessment of the risk.

Liquid free phase product (e.g. oil or free solvent layers) shall not remain in the ground or groundwater in the vicinity of water pipes, whether barrier pipe or any other pipe materials are used.

When designing pipe routes on land potentially affected by contamination, new preferential contamination pathways along the route of new water pipes shall not be created. Particular measures may be required to prevent the possible migration of contamination through pipe bedding and into controlled waters.

References

BS10175: 2011

“Investigation of Potentially Contaminated Sites Code of Practice”

CLAIRE/CIEH

“Guidance on comparing soil contamination data with a critical concentration” 2008

Department of the Environment Contaminated Land Research Report

“Sampling strategies for contaminated land”
prepared by The Centre for Research into the Built Environment, Nottingham Trent University (Ref: CLR 4) 1994

Environment Agency

“Secondary Model Procedure for the Development of Appropriate Soil Sampling Strategies for Land Contamination”
(ref: R&D Technical Report P5-066/TR) 2000

Environment Agency

“Model Procedures for the Management of Land Contamination” (ref: CLR11), 2004

Environment Agency P5-080/TR3

“The UK Approach for Evaluating Human Health Risks from Petroleum Hydrocarbons in Soils”, 2005

UK Water Industry Research (UKWIR)

“Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites” (Ref 10/WM/03/21) January 2011

Water Regulations Advisory Scheme (WRAS)

Information and Guidance Note 9-04-03

“Laying Pipes in Contaminated Land” 2002

Frequently asked questions

Why has UUW published supplementary guidance to the 'UKWIR Guidance for the Selection of Water Pipes to be used in Brownfield Sites'?

UUW agrees with the UKWIR Guidance in principle; we have published supplementary guidance to clarify some of the areas in which it will operate.

Does the UKWIR Guidance only apply to 'brownfield sites'?

Yes, the UKWIR Guidance does apply to brownfield sites; in addition United Utilities Water will apply this guidance and the UUW supplementary guidance to any greenfield sites which are potentially affected by contamination.

Who is responsible for completing/ signing the Risk Assessment for Water Pipes (RA)?

This may be the Developer, the Developers representative, or the competent person directing the land assessment. The signatory of the Risk Assessment for Water Pipes (RA) must ensure that all land assessments have been carried out in accordance with current standards and guidelines by or under the direction of a suitably qualified competent person. For water supply applications on land potentially affected by contamination, UUW requires the competent person to be either a chartered member of an appropriate professional body (such as the Institution of Civil Engineers, the Geological Society of London or the Royal Institution of Chartered Surveyors) with relevant experience of investigating contaminated sites or a Specialist in Land Condition (SiLC). This level of competency is intended to promote good practice and high professional standards and is no greater than that required for planning purposes by Local Authorities.

Do we need to agree the number and location of soil samples with the Water Company as indicated by the UKWIR guidance following the Preliminary Risk Assessment (PRA)?

Where a preliminary risk assessment (PRA) highlights the need for a site investigation UUW considers it is a responsibility of the qualified competent person directing the land assessment to determine the location and frequency of sampling. UUW's role would be to confirm that the appropriate

choice of pipe material has been made on the basis of the information provided.

What do we do if the pipe route is not known when the Site Investigation report is commissioned?

Where the route of the pipe is not known at the site investigation stage, then any resultant pipe selection needs to take account of any contamination found on the site. Consideration should be given to identifying the route and depth of the pipeline at the site investigation stage to avoid unnecessary testing.

Is it acceptable not to undertake a site investigation and specify the use of barrier pipe which seems to be suitable for all conditions?

Not all brownfield land is contaminated, and because of that a default to barrier pipe is not an acceptable approach to UUW, due to the possibility of higher installation and future maintenance costs. The approach as to whether a site investigation is needed should be risk based. For those sites where land may be affected by contamination appropriate testing shall be undertaken on the ground materials within which the pipes are to be laid, whether that be existing ground materials, remediated materials or imported capping materials.

Examples where defaulting to barrier pipe would not be acceptable:

- Where a capping layer (non-contaminated) is introduced within which the pipes will be installed.
- Sites with a potential low risk for contamination.
- Where liquid free phase product (e.g. oil or free solvent layers) is in the ground or groundwater in the vicinity of water pipes.
- Where the route of the pipe could be diverted to another suitable location free from contamination.

Are UUW employees who will assess the Design Proposals for contaminated sites suitably qualified?

It is the role of the Developer's suitably qualified competent person to deal with or direct the assessment of land. UUW's role is to assess the Risk Assessment for Water

Pipes and supporting Site Assessment Report (SAR) which is provided with any new water supply application (ie. it has been provided in the correct format, proposals for pipe selection are included, the methodology is in line with the UKWIR Guidance and UUW Supplementary Guidance, it has been directed by a suitably qualified competent person etc.). If UUW do need to provide assistance or information in deciding pipe materials then the assessment would be carried out under the direction of a suitably qualified competent person.

What happens to existing PE that is in the ground under the "old" guidelines?

The latest UKWIR guidance and UUW's supplementary guidance are intended to be used to decide what pipe materials will be used for new water mains and services. It will have no effect for developers with regard to any parts of UUW's existing network.

Will the Developer be required to submit a fully completed Risk Assessment for Water Pipes (RA) and supporting Site Assessment Report (SAR), including pipe material recommendation, for both the option of a mains requisition application and the option of a self-lay application?

Yes, UUW expect the 'Developer', as defined in UUW Supplementary Guidance, to submit a Risk Assessment for Water Pipes (RA) and supporting Site Assessment Report (SAR), including pipe material recommendation, in respect of any water pipes being installed on the development irrespective of who is to install them.

Does Table 1 in UUW's Risk Assessment for Water Pipes (RA) replace any of the tables to be completed in the Site Assessment Report (SAR) as required in the UKWIR Guidance?

UUW does not consider Table G1 and Table 3.1 of the UKWIR Guidance to be a definitive guide for assessing total concentrations. Table 1 in UUW's RA replaces Table 3.1 of the UKWIR Guidance.

Have any other Water Companies adopted the UKWIR Guidance yet?

You will need to contact the water company concerned if you are intending to install water pipes outside UUW's licensed area.

About us

United Utilities is the North West's water company. We keep the taps flowing and toilets flushing for seven million customers every day. From Crewe to Carlisle, we work hard behind the scenes to help your life flow smoothly.

Risk assessment for water pipes (RA)

The risk assessment for water pipes will help you choose appropriate materials for your development. We are happy to deal with a risk assessment for water pipes in advance of any formal application for a new water supply.

If you need any help completing the form please call us on **0345 072 6067**.

Section 1: Development details	
Development name (if it has one)	STAR ACADEMY
Development address	SPRING LANE, RADCLIFFE, MANCHESTER, M26 2SZ
OS Grid reference (mid point)	378700, 407630
Developer's name	MORGAN SINDALL CONSTRUCTION
UUW reference number (for UU use only)	
Please provide details below of the current and historical use of the site and adjacent sites. <i>If your supporting information has details of the current and historical site use, please reference below the relevant sections of your report.</i> The site has been shown to have been developed from 1850, with a railway track transversing through the centre of the site. The site's features are generally related to railway development with associated goods yards and sidings, present until 1978. From 1987 a school is present onsite with associated playing fields and infrastructure. The site is predominantly occupied by a secondary school (Spring Lane School) and leisure centre (Radcliffe Leisure Centre) with associated hardstanding car parking areas in the south. Sports courts in the north-east of the site. The northwest of the site comprises open grassland Please refer to Section 3.0 of Geotechnics, Desk Study Report (ref. PC228400, May 2022), Section 2.2 and 3.1 of BSL's Phase II Geo-Environmental Assessment Report (ref. PH/C5394/12387 Rev C, January 2024).	
Section 2: Preliminary risk assessment	
Has your desk study and site walkover identified any land potentially affected by contamination?	☒ Yes ☐ No
If the site is potentially affected by contamination but you have not completed any intrusive site investigation please provide details below of the rationale behind the intended pipe selection. <i>If your supporting information has details of the rationale behind the intended pipe selection, please reference below the relevant sections of your report.</i> N/A Site investigation completed.	

Section 3: Intrusive site investigation																									
Have you completed any intrusive site investigation?	☒ Yes ☐ No																								
Have you completed any none intrusive site investigation?	☐ Yes ☒ No																								
Date(s) when the site investigation(s) undertaken	<table border="1"> <tr> <td>0</td><td>7</td> <td>0</td><td>8</td> <td>2</td><td>0</td><td>2</td><td>3</td> </tr> <tr> <td>0</td><td>7</td> <td>1</td><td>1</td> <td>2</td><td>0</td><td>2</td><td>3</td> </tr> <tr> <td>D</td><td>D</td> <td>M</td><td>M</td> <td>Y</td><td>Y</td><td>Y</td><td>Y</td> </tr> </table>	0	7	0	8	2	0	2	3	0	7	1	1	2	0	2	3	D	D	M	M	Y	Y	Y	Y
0	7	0	8	2	0	2	3																		
0	7	1	1	2	0	2	3																		
D	D	M	M	Y	Y	Y	Y																		
At what level has groundwater been encountered?	0.80-14.40 metres below ground level or ☐ Not encountered																								
Table 1 (Pipeline Selection Risk Assessment Summary (PSRAS)) below classifies testing required where the preliminary risk assessment has identified land potentially affected by contamination. Please provide details below of any test groups which have not been tested and the rationale for not testing. <i>If your supporting information has details of the rationale behind not testing any particular test groups, please reference below the relevant sections of your report.</i>																									
Geotechnics, Preliminary Ground Investigation Report (ref. PN224390, August 2022) BSL, Phase II Geo-Environmental Assessment Report (ref. PH/C5394/12387 Rev C, January 2024). The above reports contain details of intrusive investigations undertaken at the site and the chemical testing results. VOC testing (except naphthalene), SVOCs, phenols, cresols etc. were not tested for by BSL as no risk was identified in the desk study. However, a preliminary investigation by Geotechnics did test for VOCs & phenols.																									
If the intrusive site investigation has identified concentrations above the PE threshold (see PSRAS) and your intended pipe selection is PE. Please provide details below of the rationale behind the intended pipe selection. <i>If your supporting information has details of the rationale behind the intended pipe selection, please reference below the relevant sections of your report.</i>																									
N/A																									
Section 4: Site remediation																									
Please provide details below of any site remediation (which may include a change in site levels) already completed. <i>If your supporting information has details of the site remediation already completed, please reference below the relevant sections of your report.</i>																									
N/A																									
Has the PSRAS (Table 1) been completed using appropriate data after remediation?	☐ Yes ☐ No ☒ N/A																								
Please provide details below of any proposed site remediation and an analysis of whether this will affect your intended pipe selection. <i>If your supporting information has details of any proposed site remediation and whether this will affect your intended pipe selection, please reference below the relevant sections of your report.</i>																									
At present a number of elevations above the PE threshold exist: VOCs - DS05 @ 0.50m, HDP04 @ 0.50 EC10-EC16 - WS106 @ 0.15-1.20, DS05 @ 0.50m The sample from DS05 @ 0.50m refers to a strata 0.30m to 1.75m bgl. 73.34-71.89m AOD HD(P)04 @ 0.50 refers to a strata 0 - 0.90m bgl. 70.64-69.74m AOD. Road levels are proposed to be between 74.121m AOD in the north of the access road, falling to 70.40m AOD towards the lower portion of the access road. There is limited variation in levels between that currently present and that proposed for the areas where contaminants exceed the PE threshold, particularly DS05 where a slight hydrocarbon odour is noted in the borehole log. No sheen or free phase was recorded on associated logs. Given this, the intended pipeline will remain as barrier pipe as the soils will likely stay in situ in these areas of the site.																									

Section 5: Final use of site

Please provide details below of any chemicals (including fuel) to be stored on site and any other future contamination risks which may affect your intended pipe selection.

If your supporting information has details of potential contamination risks which may affect your intended pipe selection, please reference below the relevant sections of your report.

None - the end-use is for a school with associated playing fields.

What water pipe materials are intended to be used on site?

☐ PE ☐ PE Barrier Pipe Type A ☒ PE Barrier Pipe Type B
Other (please specify): x

Section 6: Additional information

Please use the section below to provide any additional details to support your intended pipe selection.

Geotechnics, Desk Study Report (ref. PC228400, May 2022)
Geotechnics, Preliminary Ground Investigation Report (ref. PN224390, August 2022)
BSL, Phase II Geo-Environmental Assessment Report (ref. PH/C5394/12387 Rev C, January 2024).

Section 7: Risk assessor

Name and relevant qualifications of person directing the risk assessment for water pipes

K Bolderson BSc (Hons) MSc FGS Checked: A Stokoe BSc Csci

Name and address of risk assessor's company

Brownfield Solutions Ltd. William Smith House, 173 - 183 Witton Street, Northwich, Cheshire, CW9 5LP

Date risk assessment performed

2 0 0 2 2 0 2 4

Section 8: Declaration

I confirm I have completed this form and provided supporting information in accordance with 'UKWIR Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites' and UUW's Supplementary Guidance. I also confirm that if any further site investigation is needed and carried out, I will be required to submit an additional Risk Assessment for Water Pipes with the relevant supporting information. I understand that failure to supply any of the required information may delay my application being processed.

Name

Kyle Bolderson (DATE: 20/02/2024)

Company

Brownfield Solutions Ltd

Telephone

01606 334 844

Date

2 0 0 2 2 0 2 4

Please email the completed form and supporting information to DeveloperServicesWater@uuplc.co.uk or post to us at United Utilities Water, Developer Services, Second floor Grasmere House, Lingley Mere, Warrington WA5 3LP.



About us

United Utilities is the North West's water company. We keep the taps flowing and toilets flushing for seven million customers every day. From Crewe to Carlisle, we work hard behind the scenes to help your life flow smoothly.

United Utilities Water Limited, Haweswater House, Lingley Mere Business Park, Lingley Green Avenue, Warrington WA5 3LP.
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Table 1 - Pipe selection risk assessment summary (PSRAS)

1. Testing must be undertaken on the materials within which the pipes are to be laid, whether that be existing ground materials, remediated materials or imported capping materials. Please use the appropriate testing data to complete Table 1 below.

2. If more than one pipe selection is being made, for example, for pipes in different areas of a large site, a completed PSRAS is required for each selection.

What materials have been tested to populate Table 1 below?

☒ Existing ground materials ☐ Remediated materials ☐ Imported capping materials

All concentrations in mg/kg								
Test Group	Testing Required?	PE threshold	Metal Pipes/ Barrier Pipe	Laboratory Detection Limit	Testing UKAS accredited Y/N	Maximum concentration at proposed pipeline depth See Note [2]	Maximum site concentration See Note [3]	Locations and depths where concentrations exceed proposed pipeline threshold
Total VOCs	Where Preliminary Risk Assessment (PRA) has identified land potentially affected by contamination	0.5	Pass	< 0.01	Y	21	< 0.01	DS05 0.50 HDP04 0.50
Total BTEX & MTBE		0.1	Pass	< 0.005	Y	< 0.005	< 0.005	
Total SVOCs (excluding PAHs and those substances marked with an *)		2	Pass					
EC5-EC10 aliphatic and aromatic hydrocarbons		2	Pass	< 0.10	Y	< 0.10	< 0.10	
EC10-EC16 aliphatic and aromatic hydrocarbons		10	Pass	2	Y	98.5	98.5	WS106 0.15-1.20 DS05 0.50
EC16-EC40 aliphatic and aromatic hydrocarbons		500	Pass	10	Y	90	493.1	
Phenols* (from SVOC analysis)		2	Pass	< 0.30	Y	< 0.30	1.20	
Cresols and chlorinated phenols* (from SVOC analysis)		2	Pass					
Ethers*	Only where identified	0.5	Pass					
Nitrobenzene*		0.5	Pass					
Ketones*		0.5	Pass					
Aldehydes*		0.5	Pass					
Amines		Fail	Pass					
Corrosive	Conductivity, Redox and pH	Pass	See Note [1]					

Note [1] Threshold: For wrapped steel, corrosive if pH<7 and conductivity > 400µS/cm. For wrapped ductile iron corrosive if pH<5, Eh not neutral and conductivity > 400µS/cm. For copper, corrosive if pH<5 or >8 and Eh positive.

Note [2] Water pipes are normally laid at 0.75-1.35m below finished ground level.

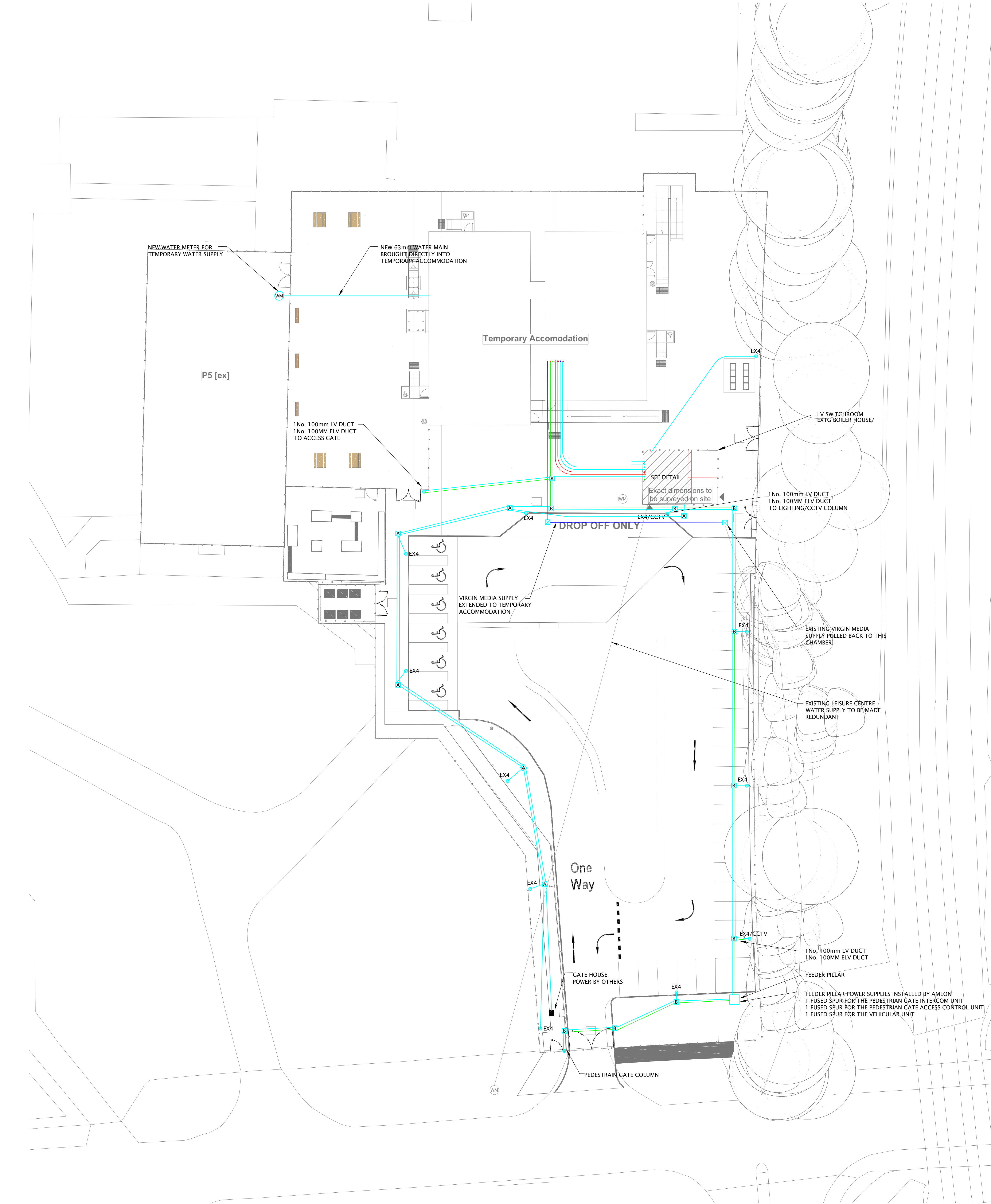
Note [3] Also state if liquid free product is present in soil or groundwater.

APPENDIX D

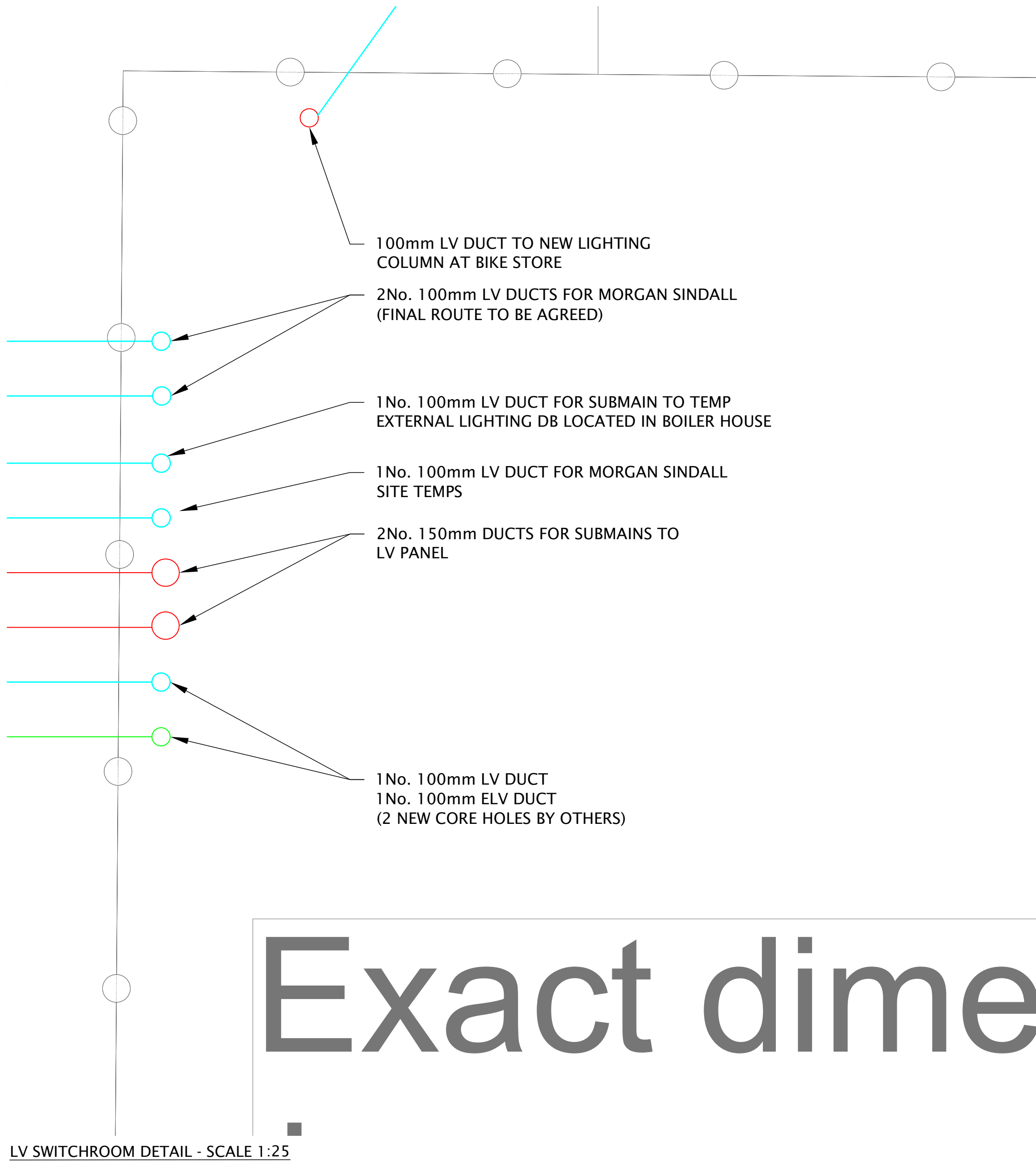
Temporary Accommodation Proposed External Services Layout and Photographic Record

NOTES:
All dimensions must be checked on site and not scaled from this drawing.

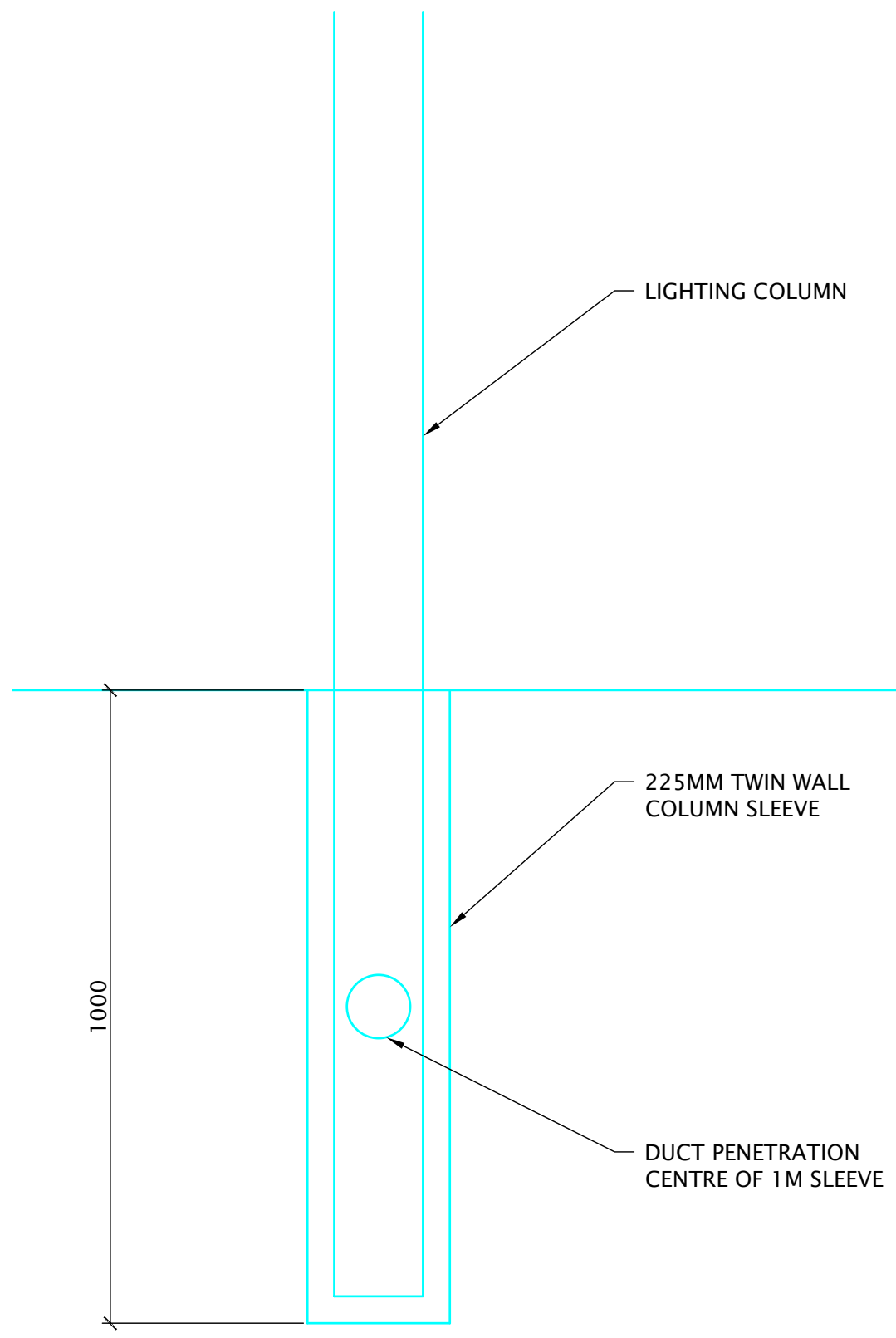
Ref.	Date	Revisions	By
C04	14.08.24	As Fitted Re-issue	NC



SITE PLAN - SCALE 1:200



LV SWITCHROOM DETAIL - SCALE 1:25



LIGHTING COLUMN DETAIL - SCALE 1:10

- LEGEND
- WATER MAIN
 - 1No. 100mm ELV DUCT & 1No. 100mm DATA DUCT
 - 1No. 100mm LV DUCT
 - EXISTING 100mm VIRGIN MEDIA DUCT
 - 2No. 150mm DUCT FROM SUBSTATION
 - A 450x450mm DRAW PIT FOR LV DUCTS
 - B 450x450mm DRAW PIT FOR LV & ELV DUCTS
 - EX4 6M LIGHTING COLUMN (4500 LUMENS)

Exact dime

ameon
Building Services Engineering
Unit 9-10 Olympic Court, Boardmans Way,
Whitehills Business Park, Blackpool, FY4 5GU
Tel: 01253 760160
Fax: 01253 760150
E-mail: info@ameon.co.uk

MORGAN
SINDALL

Job Title
STAR RADCLIFFE ACADEMY
TEMPORARY ACCOMMODATION

Drawing Title
EXTERNAL SERVICES LAYOUT

Scale
1:200 @ A0

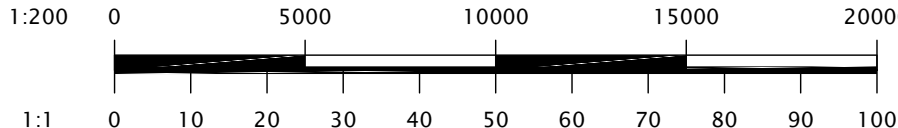
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JUN 24

Drawn by
DC

Status
AS

Drawing Number
FS1013-AME-02-ZZ-D-E-6001

Revision
C04



AS FITTED



PHOTO 1



PHOTO 2



PHOTO 3

Photo Descriptions

PHOTO NO.	DETAILS
1	Existing water main connection identified to north of existing sports pitch, new water meter installed, and new temporary connection installed to temporary accommodation.
2	New temporary water pipe installed between new meter connection and temporary accommodation.
3	New temporary water pipe shown connecting to new temporary accommodation

REV	DATE	DESCRIPTION	BY	CKD



CLIENT
MORGAN SINDALL

PROJECT TITLE
**STAR ACADEMY, RADCLIFFE
(TEMPORARY ACCOMMODATION)**

TITLE
**POTABLE WATER SUPPLY CONTRACTOR
PHOTOGRAPHS**

Associated Document Ref No. TM/C5394/13458	PAGE 1 of 1
COMPILED BY TM	CHECKED BY