



Phase IV Validation Completion Report

At

Site Area 2
Cables Way
Prescot

Client: John F Beesley

Reference: 30259-SUT-ZZ-00-RP-G-7401

Date: March 2023

Liverpool Head Office
18-20 Harrington Street
Liverpool
L2 9QA

T: 0151 227 3155
E: enquiries@sutcliffe.co.uk
www.sutcliffe.co.uk

Manchester Office
T: 0161 817 5180

North Wales Office
T: 01978 664 071

London Office
T: 020 8016 4320



@Sutcliffe_1985



Sutcliffe1985



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SUTCLIFFE INVESTIGATIONS

Phase IV Remediation & Validation Strategy Proposals

Document Control Sheet

Report Reference: 30259-SUT-ZZ-00-RP-G-7401

Issue: P01 Date: March 2023

Prepared by:

Checked/Approved by:

Name:	M Wiggins	Name:	D Evans	W G Baldwin
Title:	Geo Environmental Engineer	Title:	Geo-Environmental Scientist	Director
Qualifications:	MESci (Hons) FGS	Qualifications:	BSc (Hons)	BEng (Hons) CEng MIStructE AIEMA

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1 Introduction

1.1 Terms of Reference

Sutcliffe Investigations have carried out remediation validation works on behalf of John F Beesley in order to enable contaminated land conditions to be removed at land on Cable Way, Prescott (Site Area 2).

The present document outlines Sutcliffe Investigations validation works including:

 Gas Membrane Validation

1.2 Previous Works

This report should be read in conjunction with:

 Sutcliffe Phase I Preliminary Risk Assessment at Cables Way, Prescott (March 2019).

 Sutcliffe Phase II Interpretative Ground Assessment at Cables Way, Prescott (October 2022).

 Sutcliffe Phase III Remediation and Validation Strategy at Cables Way Prescott (March 2022).

Based on the findings of the ground assessment, no contaminants were present in soil analysed that exceed its threshold values for Commercial/Industrial land use.

Asbestos was identified in soils at WS104 and TP103. As WS104 and TP103 fall under an area of proposed hardstanding, this will break the source pathway receptor linkages hence no formal remediation is required.

Levels beneath proposed areas of hardstanding will be as dictated by the adopted foundation solution.

Based on the quantitative and qualitative assessment of the risk associated with ground gas the site should be classified as Characteristic Situation 2. This classifies the site as having a low to intermediate gas regime identified, which requires low to intermediate level gas protection measures.

1.3 Objectives

Therefore, the aim of this document is to provide evidence that methodologies and protocols have been adhered to as detailed within the Phase III Remediation and Validation Proposals, dated October 2020, thus ensuring risks to identified receptors have been mitigated. This principally relates to the gas membrane installation in all plots.

1.4 Development Proposal

The proposal layout is for the construction of a garden centre with associated infrastructure. A plan detailing the proposed development schematic is presented as Drawing Ref: *201e – Site Plan as Proposed – Garden Centre*

2 Risk Assessment (Pre-Remedial Works)

2.1 Ground Gas Risk Assessment

Based on the results of the gas monitoring and due to elevated CO₂ readings, an CS2 classification is recommended for the site, as such a gas membrane will be required as part of the ground floor design in all the buildings on site.

A full assessment of risks associated with ground gas is presented in Sutcliffe's *"Phase II Interpretative Ground Assessment – October 2022"*.

Thomas Consulting Foundation and ground floor design drawings TC / P8639 / 22 / 200 and TC / P8639 / 22 / 204 confirm that a ground bearing floor slab has been utilised for the development and are provided herein

2.2 Long Term Human Health

Following intrusive site investigation works completed by Sutcliffe Investigations (*reported in October 2022*) analytical results indicated no elevated levels of contamination above critical threshold. Asbestos is noted in samples from WS104 and TP103, however these both fall under areas of proposed hardstanding.

A copy of the analytical certification results and screening spreadsheet are presented as *Appendix A*.

A full assessment of risks to long term human health is presented in Sutcliffe's *"Phase II Geotechnical and Environmental Assessment – October 2022"*.

2.3 Controlled Waters

Exceedances of DWS and EQS screening criteria are not considered significant given the likely depth to groundwater, effects of natural attenuation, lack of nearby groundwater abstractions and the absence of any surface water courses that could be in continuity with ground water beneath the site.

A full assessment of risks to controlled waters is presented in Sutcliffe's *"Phase II Interpretative Ground Assessment –October 2022"*.

3 Remediation Works

3.1 Introduction

Based on the findings of the ground assessment, completed for the site (reported in October 2022), and with the exception of risks to receptors (construction workers & adjacent site users), in addition to risks associated with ground gas, no other source-pathway-receptor linkages have been identified. With regard to ground gas risks, validated protection measures have been installed.

3.2 Remedial Works

Gas Protection Measures

A gas membrane was required for the new development and required to meet an CS2 classification. This required low-level gas protection measures to limit the ingress of gas into buildings.

Validation of the membrane installation was carried out by a qualified Sutcliffe Engineer to ensure the installation was carried out to the correct standard. Photographic logs of the inspections are presented as Appendix C.

Site Variations

Although landscaping was proposed as part of the development, the client has since decided to replace these areas with hardstanding ground. The site therefore does not require any capping layers of topsoil/subsoil due to hardstanding providing a break in the pathway between the source and the receptor.

A photographic log evidencing the hardstanding areas is presented as *Appendix B*.

4 Conclusions

Sutcliffe Investigations can confirm site works have been carried out on site as detailed in this report. A suitable gas membrane has been installed.

Sutcliffe can confirm that the site does not pose a significant risk to identified receptors (site users, construction works, adjacent site users & controlled waters).

Appendix A – Analytical Certificates & Screening Tables (Phase II Ground Investigation Report)

FINAL ANALYTICAL TEST REPORT SUPPLEMENT TO TEST REPORT 21/03368/1

Amendments: Request for Additional Analysis

Envirolab Job Number: 21/03368
Issue Number: 2

Date: 29 April, 2021

Client: Sutcliffe
18-20 Harrington Street
Liverpool
L2 9QA

Project Manager: (Use) D Evans; D Bowen; A Tosh; W Baldwin; J Smith
Project Name: Cables Way Manchester Rd Prescott
Project Ref: 30259LG
Order No: 8564
Date Samples Received: 30/03/21
Date Instructions Received: 31/03/21
Date Analysis Completed: 27/04/21

Prepared by:


Melanie Marshall
Laboratory Coordinator

Approved by:


Sophie France
Client Service Manager

Envirolab Job Number: 21/03368

Client Project Name: Cables Way Manchester Rd Prescott

Client Project Ref: 30259LG

Lab Sample ID	21/03368/1	21/03368/2	21/03368/3	21/03368/4	21/03368/5	21/03368/6	21/03368/7	Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	1	1	1			
Client Sample ID	WS101	WS101	WS104	TP101	TP102	TP103	TP104			
Depth to Top	0.20	0.30	0.40	0.05	0.00	0.45	0.20			
Depth To Bottom	0.60	0.80	0.80	0.40	0.50	0.70	0.50			
Date Sampled	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Solid	Soil - ES	Solid			
Sample Matrix Code	4AE		6AE	2ABE	7	6AE	7			
% Moisture at <40C _A	16.3	-	15.9	10.7	3.9	17.1	6.0	% w/w	0.1	A-T-044
% Stones >10mm _A	1.0	-	<0.1	30.0	<0.1	<0.1	<0.1	% w/w	0.1	A-T-044
pH _D ^{M#}	7.75	-	7.08	10.27	9.54	7.82	10.56	pH	0.01	A-T-031s
Sulphate (water sol 2:1) _D ^{M#}	0.04	-	0.01	0.35	0.02	<0.01	0.21	g/l	0.01	A-T-026s
Sulphate (acid soluble) _D ^{M#}	400	-	830	3800	320	230	1600	mg/kg	200	A-T-028s
Cyanide (total) _A ^{M#}	<1	-	<1	<1	<1	<1	<1	mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC _A	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Sulphide _A	<5	-	<5	10	<5	<5	<5	mg/kg	5	A-T-S2-s
Sulphur (elemental) _D ^{M#}	19	-	25	<5	<5	9	<5	mg/kg	5	A-T-029s
Organic matter _D ^{M#}	8.7	-	21.5	1.6	8.9	8.5	3.1	% w/w	0.1	A-T-032 OM
Arsenic _D ^{M#}	16	-	12	1	3	7	<1	mg/kg	1	A-T-024s
Boron (water soluble) _D	<1.0	-	<1.0	1.9	<1.0	<1.0	1.1	mg/kg	1	A-T-027s
Cadmium _D ^{M#}	14.6	-	2.3	0.8	0.8	5.4	0.9	mg/kg	0.5	A-T-024s
Copper _D ^{M#}	845	-	118	30	75	258	47	mg/kg	1	A-T-024s
Chromium _D ^{M#}	18	-	23	16	14	24	18	mg/kg	1	A-T-024s
Chromium (hexavalent) _D	<1	-	<1	<1	<1	<1	<1	mg/kg	1	A-T-040s
Chromium (trivalent)	18	-	23	16	14	24	18	mg/kg	1	Calc
Lead _D ^{M#}	292	-	63	78	31	121	23	mg/kg	1	A-T-024s
Mercury _D	<0.17	-	<0.17	1.72	3.91	0.75	3.02	mg/kg	0.17	A-T-024s
Nickel _D ^{M#}	18	-	20	11	5	20	12	mg/kg	1	A-T-024s
Selenium _D ^{M#}	<1	-	1	<1	1	1	1	mg/kg	1	A-T-024s
Zinc _D ^{M#}	114	-	69	209	117	142	47	mg/kg	5	A-T-024s

Envirolab Job Number: 21/03368

Client Project Name: Cables Way Manchester Rd Prescott

Client Project Ref: 30259LG

Lab Sample ID	21/03368/1	21/03368/2	21/03368/3	21/03368/4	21/03368/5	21/03368/6	21/03368/7	Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	1	1	1			
Client Sample ID	WS101	WS101	WS104	TP101	TP102	TP103	TP104			
Depth to Top	0.20	0.30	0.40	0.05	0.00	0.45	0.20			
Depth To Bottom	0.60	0.80	0.80	0.40	0.50	0.70	0.50			
Date Sampled	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Solid	Soil - ES	Solid			
Sample Matrix Code	4AE		6AE	2ABE	7	6AE	7			
Asbestos in Soil (inc. matrix)										
Asbestos in soil [#]	NAD	-	Chrysotile	NAD	NAD	Chrysotile	NAD			A-T-045
Asbestos Matrix (microscope) _D	-	-	Loose Fibres	-	-	Loose Fibres	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test? _D	N/A	-	N/A	N/A	N/A	N/A	N/A			A-T-045
Asbestos in Soil Quantification % (Hand Picking & Weighing)										
Asbestos in soil % composition (hand picking and weighing) _D	-	-	0.002	-	-	<0.001	-	% w/w	0.001	A-T-054

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Client Sample ID	WS101	WS101	WS104	TP101	TP102	TP103	TP104			
Depth to Top	0.20	0.30	0.40	0.05	0.00	0.45	0.20			
Depth To Bottom	0.60	0.80	0.80	0.40	0.50	0.70	0.50			
Date Sampled	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Solid	Soil - ES	Solid			
Sample Matrix Code	4AE		6AE	2ABE	7	6AE	7			
PAH-16MS										
Acenaphthene _A ^{M#}	<0.01	-	0.08	0.43	<0.01	<0.01	0.01	mg/kg	0.01	A-T-019s
Acenaphthylene _A ^{M#}	<0.01	-	<0.01	0.02	<0.01	0.01	<0.01	mg/kg	0.01	A-T-019s
Anthracene _A ^{M#}	<0.02	-	0.12	0.56	<0.02	<0.02	0.02	mg/kg	0.02	A-T-019s
Benzo(a)anthracene _A ^{M#}	<0.04	-	0.27	1.21	<0.04	0.08	0.06	mg/kg	0.04	A-T-019s
Benzo(a)pyrene _A ^{M#}	0.06	-	0.31	1.25	<0.04	0.12	0.06	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene _A ^{M#}	<0.05	-	0.27	1.00	<0.05	0.12	0.06	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene _A ^{M#}	<0.05	-	0.19	0.58	<0.05	0.11	<0.05	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene _A ^{M#}	<0.07	-	0.13	0.36	<0.07	<0.07	<0.07	mg/kg	0.07	A-T-019s
Chrysene _A ^{M#}	<0.06	-	0.36	1.11	<0.06	0.13	0.09	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene _A ^{M#}	<0.04	-	<0.04	0.09	<0.04	<0.04	<0.04	mg/kg	0.04	A-T-019s
Fluoranthene _A ^{M#}	<0.08	-	0.59	2.64	<0.08	0.18	0.15	mg/kg	0.08	A-T-019s
Fluorene _A ^{M#}	<0.01	-	0.06	0.32	<0.01	<0.01	0.01	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene _A ^{M#}	0.04	-	0.25	0.74	<0.03	0.14	0.06	mg/kg	0.03	A-T-019s
Naphthalene _A ^{M#}	<0.03	-	0.05	0.20	<0.03	<0.03	<0.03	mg/kg	0.03	A-T-019s
Phenanthrene _A ^{M#}	0.05	-	0.54	2.24	<0.03	0.12	0.11	mg/kg	0.03	A-T-019s
Pyrene _A ^{M#}	<0.07	-	0.55	2.43	<0.07	0.17	0.13	mg/kg	0.07	A-T-019s
Total PAH-16MS _A ^{M#}	0.15	-	3.77	15.2	<0.08	1.18	0.76	mg/kg	0.01	A-T-019s

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Client Sample ID	WS101	WS101	WS104	TP101	TP102	TP103	TP104			
Depth to Top	0.20	0.30	0.40	0.05	0.00	0.45	0.20			
Depth To Bottom	0.60	0.80	0.80	0.40	0.50	0.70	0.50			
Date Sampled	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Solid	Soil - ES	Solid			
Sample Matrix Code	4AE		6AE	2ABE	7	6AE	7			
TPH UKCWG										
Ali >C5-C6 _A [#]	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C6-C8 _A [#]	<0.01	-	<0.01	<0.01	<0.01	0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C8-C10 _A	<1	-	1	<10	<5	<1	1	mg/kg	1	A-T-055s
Ali >C10-C12 _A ^{M#}	<1	-	<1	<10	<5	<1	1	mg/kg	1	A-T-055s
Ali >C12-C16 _A ^{M#}	<1	-	1	<10	<5	5	2	mg/kg	1	A-T-055s
Ali >C16-C21 _A ^{M#}	2	-	1	20	<5	28	4	mg/kg	1	A-T-055s
Ali >C21-C35 _A ^{M#}	12	-	125	216	28	283	50	mg/kg	1	A-T-055s
Ali >C35-C44 _A	1	-	38	193	11	203	19	mg/kg	1	A-T-055s
Total Aliphatics _A	15	-	166	439	40	519	78	mg/kg	1	A-T-055s
Aro >C5-C7 _A [#]	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C7-C8 _A [#]	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C8-C10 _A	1	-	4	14	<5	2	2	mg/kg	1	A-T-055s
Aro >C10-C12 _A	<1	-	2	<10	<5	2	2	mg/kg	1	A-T-055s
Aro >C12-C16 _A	4	-	7	25	<5	17	4	mg/kg	1	A-T-055s
Aro >C16-C21 _A ^{M#}	4	-	13	53	<5	78	7	mg/kg	1	A-T-055s
Aro >C21-C35 _A ^{M#}	7	-	100	142	19	105	29	mg/kg	1	A-T-055s
Aro >C35-C44 _A	2	-	39	145	9	125	10	mg/kg	1	A-T-055s
Total Aromatics _A	18	-	165	387	28	331	54	mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C44) _A	33	-	332	823	68	849	132	mg/kg	1	A-T-055s
BTEX - Benzene _A [#]	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Toluene _A [#]	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene _A [#]	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene _A [#]	0.02	-	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - o Xylene _A [#]	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
MTBE _A [#]	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Forensic Description										
% of total sample Inert >10mm	-	23.52	-	-	-	-	-	% w/w	0.1	Calc-no stones
% of total sample Wood >10mm	-	<0.10	-	-	-	-	-	% w/w	0.1	Calc-no stones
% of total sample Vegetation >10mm	-	<0.10	-	-	-	-	-	% w/w	0.1	Calc-no stones
% of total sample Cloth >10mm	-	<0.10	-	-	-	-	-	% w/w	0.1	Calc-no stones
% of total sample Other Inert Material >10mm	-	<0.10	-	-	-	-	-	% w/w	0.1	Calc-no stones

Envirolab Job Number: 21/03368

Client Project Name: Cables Way Manchester Rd Prescott

Client Project Ref: 30259LG

Lab Sample ID	21/03368/1	21/03368/2	21/03368/3	21/03368/4	21/03368/5	21/03368/6	21/03368/7	Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	1	1	1			
Client Sample ID	WS101	WS101	WS104	TP101	TP102	TP103	TP104			
Depth to Top	0.20	0.30	0.40	0.05	0.00	0.45	0.20			
Depth To Bottom	0.60	0.80	0.80	0.40	0.50	0.70	0.50			
Date Sampled	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Solid	Soil - ES	Solid			
Sample Matrix Code	4AE		6AE	2ABE	7	6AE	7			
% of total sample Paper >10mm	-	<0.10	-	-	-	-	-	% w/w	0.1	Calc-no stones
% of total sample Other Degradable Material >10mm	-	<0.10	-	-	-	-	-	% w/w	0.1	Calc-no stones
% of total sample Fine Soil and Gravel <10mm	-	76.48	-	-	-	-	-	% w/w	0.1	Calc-no stones
Total Organic Carbon (Fine Soil) [#]	-	2.04	-	-	-	-	-	% w/w	0.03	Calc-no stones

Envirolab Job Number: 21/03368

Client Project Name: Cables Way Manchester Rd Prescott

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Lab Sample ID	21/03368/8	21/03368/9	21/03368/10	21/03368/11	21/03368/12	21/03368/13		Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	1	1				
Client Sample ID	TP105	TP105	TP106	TP107	TP108	TP108				
Depth to Top	0.55	0.30	0.00	0.00	0.00	0.50				
Depth To Bottom	0.80	0.80	0.20	0.30	0.40	1.00				
Date Sampled	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21				
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Solid	Soil - ES				
Sample Matrix Code	6AE		2AE	2AE	7					
% Moisture at <40C _A	15.9	-	10.7	7.8	3.4	-		% w/w	0.1	A-T-044
% Stones >10mm _A	5.7	-	28.2	53.1	<0.1	-		% w/w	0.1	A-T-044
pH _D ^{M#}	8.53	-	9.18	9.65	9.56	-		pH	0.01	A-T-031s
Sulphate (water sol 2:1) _D ^{M#}	<0.01	-	0.06	0.05	<0.01	-		g/l	0.01	A-T-026s
Sulphate (acid soluble) _D ^{M#}	570	-	720	310	<200	-		mg/kg	200	A-T-028s
Cyanide (total) _A ^{M#}	<1	-	<1	<1	<1	-		mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC _A	<0.2	-	<0.2	<0.2	<0.2	-		mg/kg	0.2	A-T-050s
Sulphide _A	8	-	<5	6	<5	-		mg/kg	5	A-T-S2-s
Sulphur (elemental) _D ^{M#}	<5	-	<5	<5	<5	-		mg/kg	5	A-T-029s
Organic matter _D ^{M#}	10.8	-	2.2	1.0	1.6	-		% w/w	0.1	A-T-032 OM
Arsenic _D ^{M#}	10	-	4	2	<1	-		mg/kg	1	A-T-024s
Boron (water soluble) _D	<1.0	-	<1.0	<1.0	<1.0	-		mg/kg	1	A-T-027s
Cadmium _D ^{M#}	5.8	-	1.2	0.7	<0.5	-		mg/kg	0.5	A-T-024s
Copper _D ^{M#}	407	-	276	47	7	-		mg/kg	1	A-T-024s
Chromium _D ^{M#}	23	-	12	6	7	-		mg/kg	1	A-T-024s
Chromium (hexavalent) _D	<1	-	<1	<1	<1	-		mg/kg	1	A-T-040s
Chromium (trivalent)	23	-	12	6	7	-		mg/kg	1	Calc
Lead _D ^{M#}	238	-	120	25	21	-		mg/kg	1	A-T-024s
Mercury _D	0.72	-	0.94	0.76	4.27	-		mg/kg	0.17	A-T-024s
Nickel _D ^{M#}	24	-	19	6	3	-		mg/kg	1	A-T-024s
Selenium _D ^{M#}	<1	-	<1	<1	1	-		mg/kg	1	A-T-024s
Zinc _D ^{M#}	185	-	82	49	25	-		mg/kg	5	A-T-024s

Envirolab Job Number: 21/03368

Client Project Name: Cables Way Manchester Rd Prescott

Client Project Ref: 30259LG

Lab Sample ID	21/03368/8	21/03368/9	21/03368/10	21/03368/11	21/03368/12	21/03368/13		Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	1	1				
Client Sample ID	TP105	TP105	TP106	TP107	TP108	TP108				
Depth to Top	0.55	0.30	0.00	0.00	0.00	0.50				
Depth To Bottom	0.80	0.80	0.20	0.30	0.40	1.00				
Date Sampled	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21				
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Solid	Soil - ES				
Sample Matrix Code	6AE		2AE	2AE	7					
Asbestos in Soil (inc. matrix)										
Asbestos in soil [#]	NAD	-	NAD	NAD	NAD	-				A-T-045
Asbestos ACM - Suitable for Water Absorption Test? _D	N/A	-	N/A	N/A	N/A	-				A-T-045

Envirolab Job Number: 21/03368

Client Project Name: Cables Way Manchester Rd Prescott

Client Project Ref: 30259LG

Lab Sample ID	21/03368/8	21/03368/9	21/03368/10	21/03368/11	21/03368/12	21/03368/13		Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	1	1				
Client Sample ID	TP105	TP105	TP106	TP107	TP108	TP108				
Depth to Top	0.55	0.30	0.00	0.00	0.00	0.50				
Depth To Bottom	0.80	0.80	0.20	0.30	0.40	1.00				
Date Sampled	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21				
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Solid	Soil - ES				
Sample Matrix Code	6AE		2AE	2AE	7					
PAH-16MS										
Acenaphthene _A ^{M#}	0.45	-	0.02	0.02	<0.01	-		mg/kg	0.01	A-T-019s
Acenaphthylene _A ^{M#}	0.01	-	<0.01	<0.01	<0.01	-		mg/kg	0.01	A-T-019s
Anthracene _A ^{M#}	0.24	-	0.05	0.03	0.02	-		mg/kg	0.02	A-T-019s
Benzo(a)anthracene _A ^{M#}	0.48	-	0.19	0.12	0.07	-		mg/kg	0.04	A-T-019s
Benzo(a)pyrene _A ^{M#}	0.52	-	0.24	0.19	0.06	-		mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene _A ^{M#}	0.49	-	0.20	0.17	0.05	-		mg/kg	0.05	A-T-019s
Benzo(ghi)perylene _A ^{M#}	0.33	-	0.15	0.12	<0.05	-		mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene _A ^{M#}	0.17	-	<0.07	<0.07	<0.07	-		mg/kg	0.07	A-T-019s
Chrysene _A ^{M#}	0.56	-	0.23	0.14	0.08	-		mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene _A ^{M#}	0.07	-	<0.04	<0.04	<0.04	-		mg/kg	0.04	A-T-019s
Fluoranthene _A ^{M#}	1.13	-	0.39	0.20	0.17	-		mg/kg	0.08	A-T-019s
Fluorene _A ^{M#}	0.25	-	<0.01	0.02	<0.01	-		mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene _A ^{M#}	0.41	-	0.18	0.15	0.04	-		mg/kg	0.03	A-T-019s
Naphthalene _A ^{M#}	0.39	-	<0.03	<0.03	<0.03	-		mg/kg	0.03	A-T-019s
Phenanthrene _A ^{M#}	1.07	-	0.18	0.12	0.07	-		mg/kg	0.03	A-T-019s
Pyrene _A ^{M#}	1.01	-	0.39	0.20	0.13	-		mg/kg	0.07	A-T-019s
Total PAH-16MS _A ^{M#}	7.58	-	2.22	1.48	0.69	-		mg/kg	0.01	A-T-019s

Envirolab Job Number: 21/03368

Client Project Name: Cables Way Manchester Rd Prescott

Client Project Ref: 30259LG

Lab Sample ID	21/03368/8	21/03368/9	21/03368/10	21/03368/11	21/03368/12	21/03368/13		Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	1	1				
Client Sample ID	TP105	TP105	TP106	TP107	TP108	TP108				
Depth to Top	0.55	0.30	0.00	0.00	0.00	0.50				
Depth To Bottom	0.80	0.80	0.20	0.30	0.40	1.00				
Date Sampled	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21				
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Solid	Soil - ES				
Sample Matrix Code	6AE		2AE	2AE	7					
TPH UKCWG										
Ali >C5-C6 _A [#]	<0.01	-	<0.01	<0.01	<0.01	-		mg/kg	0.01	A-T-022s
Ali >C6-C8 _A [#]	<0.01	-	<0.01	<0.01	<0.01	-		mg/kg	0.01	A-T-022s
Ali >C8-C10 _A	<1	-	<1	<1	<1	-		mg/kg	1	A-T-055s
Ali >C10-C12 _A ^{M#}	<1	-	<1	<1	<1	-		mg/kg	1	A-T-055s
Ali >C12-C16 _A ^{M#}	2	-	<1	<1	<1	-		mg/kg	1	A-T-055s
Ali >C16-C21 _A ^{M#}	6	-	2	2	<1	-		mg/kg	1	A-T-055s
Ali >C21-C35 _A ^{M#}	158	-	51	45	2	-		mg/kg	1	A-T-055s
Ali >C35-C44 _A	82	-	35	23	<1	-		mg/kg	1	A-T-055s
Total Aliphatics _A	248	-	88	70	2	-		mg/kg	1	A-T-055s
Aro >C5-C7 _A [#]	<0.01	-	<0.01	<0.01	<0.01	-		mg/kg	0.01	A-T-022s
Aro >C7-C8 _A [#]	<0.01	-	<0.01	<0.01	<0.01	-		mg/kg	0.01	A-T-022s
Aro >C8-C10 _A	2	-	2	<1	<1	-		mg/kg	1	A-T-055s
Aro >C10-C12 _A	2	-	<1	<1	<1	-		mg/kg	1	A-T-055s
Aro >C12-C16 _A	7	-	6	2	1	-		mg/kg	1	A-T-055s
Aro >C16-C21 _A ^{M#}	19	-	15	4	<1	-		mg/kg	1	A-T-055s
Aro >C21-C35 _A ^{M#}	163	-	70	23	2	-		mg/kg	1	A-T-055s
Aro >C35-C44 _A	99	-	29	13	<1	-		mg/kg	1	A-T-055s
Total Aromatics _A	292	-	123	43	3	-		mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C44) _A	539	-	211	112	5	-		mg/kg	1	A-T-055s
BTEX - Benzene _A [#]	<0.01	-	<0.01	<0.01	<0.01	-		mg/kg	0.01	A-T-022s
BTEX - Toluene _A [#]	<0.01	-	<0.01	<0.01	<0.01	-		mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene _A [#]	<0.01	-	<0.01	<0.01	<0.01	-		mg/kg	0.01	A-T-022s
BTEX - m & p Xylene _A [#]	<0.01	-	<0.01	<0.01	<0.01	-		mg/kg	0.01	A-T-022s
BTEX - o Xylene _A [#]	<0.01	-	<0.01	<0.01	<0.01	-		mg/kg	0.01	A-T-022s
MTBE _A [#]	<0.01	-	<0.01	<0.01	<0.01	-		mg/kg	0.01	A-T-022s
Forensic Description										
% of total sample Inert >10mm	-	45.56	-	-	-	28.86		% w/w	0.1	Calc-no stones
% of total sample Wood >10mm	-	<0.10	-	-	-	<0.10		% w/w	0.1	Calc-no stones
% of total sample Vegetation >10mm	-	<0.10	-	-	-	<0.10		% w/w	0.1	Calc-no stones
% of total sample Cloth >10mm	-	<0.10	-	-	-	<0.10		% w/w	0.1	Calc-no stones
% of total sample Other Inert Material >10mm	-	<0.10	-	-	-	<0.10		% w/w	0.1	Calc-no stones

Envirolab Job Number: 21/03368

Client Project Name: Cables Way Manchester Rd Prescott

Client Project Ref: 30259LG

Lab Sample ID	21/03368/8	21/03368/9	21/03368/10	21/03368/11	21/03368/12	21/03368/13		Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	1	1				
Client Sample ID	TP105	TP105	TP106	TP107	TP108	TP108				
Depth to Top	0.55	0.30	0.00	0.00	0.00	0.50				
Depth To Bottom	0.80	0.80	0.20	0.30	0.40	1.00				
Date Sampled	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21				
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Solid	Soil - ES				
Sample Matrix Code	6AE		2AE	2AE	7					
% of total sample Paper >10mm	-	<0.10	-	-	-	<0.10		% w/w	0.1	Calc-no stones
% of total sample Other Degradable Material >10mm	-	<0.10	-	-	-	<0.10		% w/w	0.1	Calc-no stones
% of total sample Fine Soil and Gravel <10mm	-	54.44	-	-	-	71.14		% w/w	0.1	Calc-no stones
Total Organic Carbon (Fine Soil) [#]	-	2.65	-	-	-	2.43		% w/w	0.03	Calc-no stones

REPORT NOTES

General

This report shall not be reproduced, except in full, without written approval from Envirolab.

The results reported herein relate only to the material supplied to the laboratory.

The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.

Analytical results reflect the quality of the sample at the time of analysis only.

Opinions and interpretations expressed are outside the scope of our accreditation.

If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.

A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:

All results are reported as dry weight (<40°C).

For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts.

All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:

Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:

Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:

Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.

Stones etc. are not removed from the sample prior to analysis.

Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:

1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample.

Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.

Secondary Matrix Codes:

A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal,

E = contains roots/twigs.

Key:

IS indicates Insufficient Sample for analysis.

US indicates Unsuitable Sample for analysis.

NDP indicates No Determination Possible.

NAD indicates No Asbestos Detected.

N/A indicates Not Applicable.

Superscript # indicates method accredited to ISO 17025.

Superscript "M" indicates method accredited to MCERTS.

Subscript "A" indicates analysis performed on the sample as received.

Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve

Please contact us if you need any further information.

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Sutcliffe, 18-20 Harrington Street, Liverpool, L2 9QA

Project No: 21/03368

Project: Cables Way Manchester Rd Prescott

Date Received: 31/03/2021 (am)

Clients Project No: 30259LG

Cool Box Temperatures (°C): 18.7, 19.1, 18.8

Lab Sample ID	21/03368/1	21/03368/3	21/03368/4	21/03368/6	21/03368/8	21/03368/10	21/03368/11
Client Sample No	1	1	1	1	1	1	1
Client Sample ID/Depth	WS101 0.20-0.60m	WS104 0.40-0.80m	TP101 0.05-0.40m	TP103 0.45-0.70m	TP105 0.55-0.80m	TP106 0.00-0.20m	TP107 0.00-0.30m
Date Sampled	29/03/21	29/03/21	29/03/21	29/03/21	29/03/21	29/03/21	29/03/21
Deviation Code							
F	✓	✓	✓	✓	✓	✓	✓

Key

F Maximum holding time exceeded between sampling date and analysis for analytes listed below

HOLDING TIME EXCEEDANCES

Lab Sample ID	21/03368/1	21/03368/3	21/03368/4	21/03368/6	21/03368/8	21/03368/10	21/03368/11
Client Sample No	1	1	1	1	1	1	1
Client Sample ID/Depth	WS101 0.20-0.60m	WS104 0.40-0.80m	TP101 0.05-0.40m	TP103 0.45-0.70m	TP105 0.55-0.80m	TP106 0.00-0.20m	TP107 0.00-0.30m
Date Sampled	29/03/21	29/03/21	29/03/21	29/03/21	29/03/21	29/03/21	29/03/21
Sulphide	✓	✓	✓	✓	✓	✓	✓

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

FINAL ANALYTICAL TEST REPORT SUPPLEMENT TO TEST REPORT 21/03535/1

Amendments: Request for Additional Analysis

Envirolab Job Number: 21/03535
Issue Number: 2

Date: 29 April, 2021

Client: Sutcliffe
18-20 Harrington Street
Liverpool
L2 9QA

Project Manager: (Use) D Evans; D Bowen; A Tosh; W Baldwin; J Smith
Project Name: Cables Way, Prescott
Project Ref: 30259
Order No: 8567
Date Samples Received: 01/04/21
Date Instructions Received: 06/04/21
Date Analysis Completed: 28/04/21

Prepared by:


Melanie Marshall
Laboratory Coordinator

Approved by:


Sophie France
Client Service Manager

Envirolab Job Number: 21/03535

Client Project Name: Cables Way, Prescott

Client Project Ref: 30259

Lab Sample ID	21/03535/1	21/03535/2	21/03535/3	21/03535/4	21/03535/5	21/03535/6	21/03535/7	Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	1	1	1			
Client Sample ID	WS105	WS105	WS106	WS106	WS107	WS108	WS109			
Depth to Top	0.20	0.50	0.20	0.50	0.20	0.20	0.20			
Depth To Bottom	0.60	1.00	0.60	1.00	0.60	0.60	0.60			
Date Sampled	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21			
Sample Type	Soil - ES	Soil	Soil - ES	Soil	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6AE	6AE	6AE	6AE	6AE	2ABE	4AE			
% Moisture at <40C _A	11.0	-	11.8	-	10.4	9.1	17.5	% w/w	0.1	A-T-044
% Stones >10mm _A	22.1	<0.1	13.1	<0.1	<0.1	31.0	16.4	% w/w	0.1	A-T-044
pH _D ^{M#}	8.53	-	7.22	-	9.93	9.00	8.45	pH	0.01	A-T-031s
Sulphate (water sol 2:1) _D ^{M#}	0.05	-	<0.01	-	0.04	0.06	0.02	g/l	0.01	A-T-026s
Sulphate (acid soluble) _D ^{M#}	650	-	<200	-	1100	610	790	mg/kg	200	A-T-028s
Cyanide (total) _A ^{M#}	<1	-	<1	-	<1	<1	<1	mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC _A	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Sulphide _A	<5	-	7	-	<5	<5	10	mg/kg	5	A-T-S2-s
Sulphur (elemental) _D ^{M#}	20	-	<5	-	<5	<5	<5	mg/kg	5	A-T-029s
Organic matter _D ^{M#}	3.3	-	2.9	-	2.5	2.2	4.8	% w/w	0.1	A-T-032 OM
Arsenic _D ^{M#}	4	-	<1	-	2	8	4	mg/kg	1	A-T-024s
Boron (water soluble) _D	<1.0	-	<1.0	-	<1.0	<1.0	<1.0	mg/kg	1	A-T-027s
Cadmium _D ^{M#}	1.8	-	1.7	-	1.2	1.7	0.8	mg/kg	0.5	A-T-024s
Copper _D ^{M#}	108	-	103	-	107	414	75	mg/kg	1	A-T-024s
Chromium _D ^{M#}	17	-	20	-	18	20	13	mg/kg	1	A-T-024s
Chromium (hexavalent) _D	<1	-	<1	-	<1	<1	<1	mg/kg	1	A-T-040s
Chromium (trivalent)	17	-	20	-	18	20	13	mg/kg	1	Calc
Lead _D ^{M#}	80	-	29	-	66	97	140	mg/kg	1	A-T-024s
Mercury _D	1.66	-	<0.17	-	0.63	0.39	0.40	mg/kg	0.17	A-T-024s
Nickel _D ^{M#}	15	-	33	-	22	19	12	mg/kg	1	A-T-024s
Selenium _D ^{M#}	<1	-	<1	-	<1	<1	<1	mg/kg	1	A-T-024s
Zinc _D ^{M#}	61	-	87	-	119	96	122	mg/kg	5	A-T-024s
Leachate Prep NRA (10:1) _A	-	-	*	-	*	*	-			A-T-001
pH (leachable) _A [#]	-	-	7.30	-	6.57	8.44	-	pH	0.01	A-T-031w
Sulphate (leachable) _A [#]	-	-	4.41	-	8.29	4.29	-	mg/l	1	A-T-026w
Cyanide (total) (leachable) _A [#]	-	-	<0.005	-	<0.005	<0.005	-	mg/l	0.005	A-T-042wTCN
Phenols (total by HPLC) (leachable) _A	-	-	<0.01	-	<0.01	<0.01	-	mg/l	0.01	A-T-050w
Sulphide (leachable) _A	-	-	<0.1	-	<0.1	<0.1	-	mg/l	0.1	A-T-S2-w
DOC (leachable) _A [#]	-	-	2.2	-	11.4	2.2	-	mg/l	0.2	A-T-032w
Arsenic (leachable) _A [#]	-	-	<1	-	<1	19	-	µg/l	1	A-T-025w
Boron (leachable) _A [#]	-	-	<10	-	<10	33	-	µg/l	10	A-T-025w
Cadmium (leachable) _A [#]	-	-	<1	-	<1	<1	-	µg/l	1	A-T-025w
Copper (leachable) _A [#]	-	-	8	-	3	33	-	µg/l	1	A-T-025w

Envirolab Job Number: 21/03535

Client Project Name: Cables Way, Prescott

Client Project Ref: 30259

Lab Sample ID	21/03535/1	21/03535/2	21/03535/3	21/03535/4	21/03535/5	21/03535/6	21/03535/7	Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	1	1	1			
Client Sample ID	WS105	WS105	WS106	WS106	WS107	WS108	WS109			
Depth to Top	0.20	0.50	0.20	0.50	0.20	0.20	0.20			
Depth To Bottom	0.60	1.00	0.60	1.00	0.60	0.60	0.60			
Date Sampled	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21			
Sample Type	Soil - ES	Soil	Soil - ES	Soil	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6AE	6AE	6AE	6AE	6AE	2ABE	4AE			
Chromium (leachable) _A [#]	-	-	<1	-	<1	5	-	µg/l	1	A-T-025w
Chromium (hexavalent) (leachable) _A	-	-	<0.10	-	<0.10	<0.10	-	mg/l	0.05	A-T-040w
Chromium (trivalent) (10:1 leachable)	-	-	<0.10	-	<0.10	<0.10	-	mg/l	0.05	Calc
Lead (leachable) _A [#]	-	-	1	-	2	14	-	µg/l	1	A-T-025w
Mercury (leachable) _A [#]	-	-	<0.1	-	<0.1	<0.1	-	µg/l	0.1	A-T-025w
Nickel (leachable) _A [#]	-	-	<1	-	2	<1	-	µg/l	1	A-T-025w
Selenium (leachable) _A [#]	-	-	<1	-	<1	<1	-	µg/l	1	A-T-025w
Sulphur (elemental/free) (leachable) _A	-	-	<0.1	-	<0.1	<0.1	-	mg/l	0.1	A-T-029w
Zinc (leachable) _A [#]	-	-	6	-	4	9	-	µg/l	1	A-T-025w
TPH total (>C6-C40) (leachable) _A	-	-	<80	-	254	<80	-	µg/l	80	A-T-007w

Envirolab Job Number: 21/03535

Client Project Name: Cables Way, Prescott

Client Project Ref: 30259

Lab Sample ID	21/03535/1	21/03535/2	21/03535/3	21/03535/4	21/03535/5	21/03535/6	21/03535/7	Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	1	1	1			
Client Sample ID	WS105	WS105	WS106	WS106	WS107	WS108	WS109			
Depth to Top	0.20	0.50	0.20	0.50	0.20	0.20	0.20			
Depth To Bottom	0.60	1.00	0.60	1.00	0.60	0.60	0.60			
Date Sampled	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21			
Sample Type	Soil - ES	Soil	Soil - ES	Soil	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6AE	6AE	6AE	6AE	6AE	2ABE	4AE			
Asbestos in Soil (inc. matrix)										
Asbestos in soil [#]	NAD	-	NAD	-	Chrysotile	NAD	NAD			A-T-045
Asbestos Matrix (microscope) _D	-	-	-	-	Loose Fibres	-	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test? _D	N/A	-	N/A	-	N/A	N/A	N/A			A-T-045
Asbestos in Soil Quantification % (Hand Picking & Weighing)										
Asbestos in soil % composition (hand picking and weighing) _D	-	-	-	-	0.006	-	-	% w/w	0.001	A-T-054

Envirolab Job Number: 21/03535

Client Project Name: Cables Way, Prescott

Client Project Ref: 30259

Lab Sample ID	21/03535/1	21/03535/2	21/03535/3	21/03535/4	21/03535/5	21/03535/6	21/03535/7	Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	1	1	1			
Client Sample ID	WS105	WS105	WS106	WS106	WS107	WS108	WS109			
Depth to Top	0.20	0.50	0.20	0.50	0.20	0.20	0.20			
Depth To Bottom	0.60	1.00	0.60	1.00	0.60	0.60	0.60			
Date Sampled	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21			
Sample Type	Soil - ES	Soil	Soil - ES	Soil	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6AE	6AE	6AE	6AE	6AE	2ABE	4AE			
PAH-16MS										
Acenaphthene _A ^{M#}	0.04	-	<0.01	-	0.38	0.04	0.07	mg/kg	0.01	A-T-019s
Acenaphthylene _A ^{M#}	<0.01	-	<0.01	-	<0.01	<0.01	0.02	mg/kg	0.01	A-T-019s
Anthracene _A ^{M#}	0.06	-	<0.02	-	0.63	0.09	0.16	mg/kg	0.02	A-T-019s
Benzo(a)anthracene _A ^{M#}	0.17	-	<0.04	-	2.01	0.40	0.81	mg/kg	0.04	A-T-019s
Benzo(a)pyrene _A ^{M#}	0.26	-	<0.04	-	2.09	0.51	0.89	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene _A ^{M#}	0.23	-	<0.05	-	2.08	0.52	0.87	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene _A ^{M#}	0.15	-	<0.05	-	1.05	0.27	0.44	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene _A ^{M#}	0.10	-	<0.07	-	0.79	0.19	0.36	mg/kg	0.07	A-T-019s
Chrysene _A ^{M#}	0.23	-	<0.06	-	2.22	0.47	0.90	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene _A ^{M#}	<0.04	-	<0.04	-	0.20	0.05	0.09	mg/kg	0.04	A-T-019s
Fluoranthene _A ^{M#}	0.41	-	<0.08	-	4.61	0.80	1.58	mg/kg	0.08	A-T-019s
Fluorene _A ^{M#}	0.03	-	<0.01	-	0.27	0.02	0.05	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene _A ^{M#}	0.16	-	<0.03	-	1.13	0.30	0.49	mg/kg	0.03	A-T-019s
Naphthalene _A ^{M#}	<0.03	-	<0.03	-	0.26	<0.03	<0.03	mg/kg	0.03	A-T-019s
Phenanthrene _A ^{M#}	0.24	-	<0.03	-	2.57	0.32	0.64	mg/kg	0.03	A-T-019s
Pyrene _A ^{M#}	0.39	-	<0.07	-	4.92	0.80	1.55	mg/kg	0.07	A-T-019s
Total PAH-16MS _A ^{M#}	2.47	-	<0.08	-	25.2	4.78	8.92	mg/kg	0.01	A-T-019s

Envirolab Job Number: 21/03535

Client Project Name: Cables Way, Prescott

Client Project Ref: 30259

Lab Sample ID	21/03535/1	21/03535/2	21/03535/3	21/03535/4	21/03535/5	21/03535/6	21/03535/7	Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	1	1	1			
Client Sample ID	WS105	WS105	WS106	WS106	WS107	WS108	WS109			
Depth to Top	0.20	0.50	0.20	0.50	0.20	0.20	0.20			
Depth To Bottom	0.60	1.00	0.60	1.00	0.60	0.60	0.60			
Date Sampled	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21			
Sample Type	Soil - ES	Soil	Soil - ES	Soil	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6AE	6AE	6AE	6AE	6AE	2ABE	4AE			
PAH-16MS (leachable)										
Acenaphthene (leachable) _A	-	-	<0.01	-	<0.01	0.06	-	µg/l	0.01	A-T-019w
Acenaphthylene (leachable) _A	-	-	<0.01	-	<0.01	<0.01	-	µg/l	0.01	A-T-019w
Anthracene (leachable) _A	-	-	<0.01	-	<0.01	<0.01	-	µg/l	0.01	A-T-019w
Benzo(a)anthracene (leachable) _A	-	-	<0.01	-	<0.01	<0.01	-	µg/l	0.01	A-T-019w
Benzo(a)pyrene (leachable) _A	-	-	<0.01	-	<0.01	<0.01	-	µg/l	0.01	A-T-019w
Benzo(b)fluoranthene (leachable) _A	-	-	<0.01	-	<0.01	<0.01	-	µg/l	0.01	A-T-019w
Benzo(ghi)perylene (leachable) _A	-	-	<0.01	-	<0.01	<0.01	-	µg/l	0.01	A-T-019w
Benzo(k)fluoranthene (leachable) _A	-	-	<0.01	-	<0.01	<0.01	-	µg/l	0.01	A-T-019w
Chrysene (leachable) _A	-	-	<0.01	-	<0.01	<0.01	-	µg/l	0.01	A-T-019w
Dibenzo(ah)anthracene (leachable) _A	-	-	<0.01	-	<0.01	<0.01	-	µg/l	0.01	A-T-019w
Fluoranthene (leachable) _A	-	-	<0.01	-	<0.01	<0.01	-	µg/l	0.01	A-T-019w
Fluorene (leachable) _A	-	-	<0.01	-	<0.01	<0.01	-	µg/l	0.01	A-T-019w
Indeno(123-cd)pyrene (leachable) _A	-	-	<0.01	-	<0.01	<0.01	-	µg/l	0.01	A-T-019w
Naphthalene (leachable) _A	-	-	0.10	-	0.05	0.15	-	µg/l	0.01	A-T-019w
Phenanthrene (leachable) _A	-	-	<0.01	-	<0.01	<0.01	-	µg/l	0.01	A-T-019w
Pyrene (leachable) _A	-	-	<0.01	-	<0.01	<0.01	-	µg/l	0.01	A-T-019w
Total PAH-16MS (leachable) _A	-	-	0.10	-	0.05	0.21	-	µg/l	0.01	A-T-019w

Envirolab Job Number: 21/03535

Client Project Name: Cables Way, Prescott

Client Project Ref: 30259

Lab Sample ID	21/03535/1	21/03535/2	21/03535/3	21/03535/4	21/03535/5	21/03535/6	21/03535/7	Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	1	1	1			
Client Sample ID	WS105	WS105	WS106	WS106	WS107	WS108	WS109			
Depth to Top	0.20	0.50	0.20	0.50	0.20	0.20	0.20			
Depth To Bottom	0.60	1.00	0.60	1.00	0.60	0.60	0.60			
Date Sampled	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21			
Sample Type	Soil - ES	Soil	Soil - ES	Soil	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6AE	6AE	6AE	6AE	6AE	2ABE	4AE			
TPH UKCWG										
Ali >C5-C6 _A [#]	<0.01	-	<0.01	-	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C6-C8 _A [#]	<0.01	-	<0.01	-	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C8-C10 _A	<1	-	<1	-	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C10-C12 _A ^{M#}	<1	-	<1	-	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C12-C16 _A ^{M#}	<1	-	<1	-	8	<1	1	mg/kg	1	A-T-055s
Ali >C16-C21 _A ^{M#}	4	-	<1	-	18	3	3	mg/kg	1	A-T-055s
Ali >C21-C35 _A ^{M#}	29	-	<1	-	94	23	37	mg/kg	1	A-T-055s
Ali >C35-C44 _A	24	-	<1	-	119	15	34	mg/kg	1	A-T-055s
Total Aliphatics _A	57	-	<1	-	239	42	76	mg/kg	1	A-T-055s
Aro >C5-C7 _A [#]	<0.01	-	<0.01	-	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C7-C8 _A [#]	<0.01	-	<0.01	-	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C8-C10 _A	<1	-	<1	-	2	<1	1	mg/kg	1	A-T-055s
Aro >C10-C12 _A	2	-	<1	-	2	<1	<1	mg/kg	1	A-T-055s
Aro >C12-C16 _A	46	-	<1	-	10	6	3	mg/kg	1	A-T-055s
Aro >C16-C21 _A ^{M#}	184	-	<1	-	25	9	11	mg/kg	1	A-T-055s
Aro >C21-C35 _A ^{M#}	296	-	<1	-	68	21	43	mg/kg	1	A-T-055s
Aro >C35-C44 _A	19	-	<1	-	66	6	22	mg/kg	1	A-T-055s
Total Aromatics _A	546	-	<1	-	173	44	80	mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C44) _A	603	-	<1	-	412	86	156	mg/kg	1	A-T-055s
BTEX - Benzene _A [#]	<0.01	-	<0.01	-	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Toluene _A [#]	<0.01	-	<0.01	-	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene _A [#]	<0.01	-	<0.01	-	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene _A [#]	<0.01	-	<0.01	-	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - o Xylene _A [#]	<0.01	-	<0.01	-	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
MTBE _A [#]	<0.01	-	<0.01	-	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Forensic Description										
% of total sample Inert >10mm	-	27.28	-	15.68	-	24.28	27.90	% w/w	0.1	Calc-no stones
% of total sample Wood >10mm	-	<0.10	-	<0.10	-	<0.10	<0.10	% w/w	0.1	Calc-no stones
% of total sample Vegetation >10mm	-	<0.10	-	<0.10	-	<0.10	<0.10	% w/w	0.1	Calc-no stones
% of total sample Cloth >10mm	-	<0.10	-	<0.10	-	<0.10	<0.10	% w/w	0.1	Calc-no stones
% of total sample Other Inert Material >10mm	-	<0.10	-	<0.10	-	<0.10	<0.10	% w/w	0.1	Calc-no stones

Envirolab Job Number: 21/03535

Client Project Name: Cables Way, Prescott

Client Project Ref: 30259

Lab Sample ID	21/03535/1	21/03535/2	21/03535/3	21/03535/4	21/03535/5	21/03535/6	21/03535/7	Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	1	1	1			
Client Sample ID	WS105	WS105	WS106	WS106	WS107	WS108	WS109			
Depth to Top	0.20	0.50	0.20	0.50	0.20	0.20	0.20			
Depth To Bottom	0.60	1.00	0.60	1.00	0.60	0.60	0.60			
Date Sampled	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21			
Sample Type	Soil - ES	Soil	Soil - ES	Soil	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6AE	6AE	6AE	6AE	6AE	2ABE	4AE			
% of total sample Paper >10mm	-	<0.10	-	<0.10	-	<0.10	<0.10	% w/w	0.1	Calc-no stones
% of total sample Other Degradable Material >10mm	-	<0.10	-	<0.10	-	<0.10	<0.10	% w/w	0.1	Calc-no stones
% of total sample Fine Soil and Gravel <10mm	-	72.72	-	84.32	-	75.72	72.10	% w/w	0.1	Calc-no stones
Total Organic Carbon (Fine Soil) [#]	-	0.88	-	0.70	-	1.25	1.20	% w/w	0.03	Calc-no stones

REPORT NOTES

General

This report shall not be reproduced, except in full, without written approval from Envirolab.

The results reported herein relate only to the material supplied to the laboratory.

The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.

Analytical results reflect the quality of the sample at the time of analysis only.

Opinions and interpretations expressed are outside the scope of our accreditation.

If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.

A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:

All results are reported as dry weight (<40°C).

For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts

All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:

Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:

Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:

Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.

Stones etc. are not removed from the sample prior to analysis.

Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:

1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample.

Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.

Secondary Matrix Codes:

A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal,

E = contains roots/twigs.

Key:

IS indicates Insufficient Sample for analysis.

US indicates Unsuitable Sample for analysis.

NDP indicates No Determination Possible.

NAD indicates No Asbestos Detected.

N/A indicates Not Applicable.

Superscript # indicates method accredited to ISO 17025.

Superscript "M" indicates method accredited to MCERTS.

Subscript "A" indicates analysis performed on the sample as received.

Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve

Please contact us if you need any further information.

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Sutcliffe, 18-20 Harrington Street, Liverpool, L2 9QA

Project No: 21/03535

Project: Cables Way, Prescott

Date Received: 06/04/2021 (am)

Clients Project No: 30259

Cool Box Temperatures (°C): 10.3

Lab Sample ID	21/03535/1	21/03535/3	21/03535/5	21/03535/6	21/03535/7
Client Sample No	1	1	1	1	1
Client Sample ID/Depth	WS105 0.20-0.60m	WS106 0.20-0.60m	WS107 0.20-0.60m	WS108 0.20-0.60m	WS109 0.20-0.60m
Date Sampled	31/03/21	31/03/21	31/03/21	31/03/21	31/03/21
Deviation Code					
F	✓	✓	✓	✓	✓

Key

F Maximum holding time exceeded between sampling date and analysis for analytes listed below

HOLDING TIME EXCEEDANCES

Lab Sample ID	21/03535/1	21/03535/3	21/03535/5	21/03535/6	21/03535/7
Client Sample No	1	1	1	1	1
Client Sample ID/Depth	WS105 0.20-0.60m	WS106 0.20-0.60m	WS107 0.20-0.60m	WS108 0.20-0.60m	WS109 0.20-0.60m
Date Sampled	31/03/21	31/03/21	31/03/21	31/03/21	31/03/21
Cyanide (total)	✓	✓	✓	✓	✓
Sulphide	✓	✓	✓	✓	✓

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.



Job Number:	30259
Job Name:	Cables Way, Prescot
Proposed Land Use:	Commercial / Industrial
S.O.M.	6

	Below Limit of Detection
	Above Threshold
n/t	Not Tested
NAD	No Asbestos Detected

		Sample ID	WS101	WS104	TP101	TP102	TP103	TP104	TP105	TP106	TP107	TP108	WS105	WS106	WS107	WS108	WS109
Depth Top		0.20	0.40	0.05	0.00	0.45	0.20	0.55	0.00	0.00	0.00	0.00	0.20	0.20	0.20	0.20	0.20
Depth Bottom		0.60	0.80	0.40	0.50	0.70	0.50	0.80	0.20	0.30	0.40	0.60	0.60	0.60	0.60	0.60	0.60
Date Sampled		29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	29-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21	31-Mar-21
Contaminant	Units	Threshold															
Arsenic (Total)	mg/kg	640	16	12	1	3	7	<1	10	4	2	<1	4	<1	2	8	4
Boron (Soluble)	mg/kg	240000	<1.0	<1.0	1.9	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cadmium (Total)	mg/kg	190	14.6	2.3	0.8	0.8	5.4	0.9	5.8	1.2	0.7	<0.5	1.8	1.7	1.2	1.7	0.8
Chromium III	mg/kg	8600	18	23	16	14	24	18	23	12	6	7	17	20	18	20	13
Chromium VI	mg/kg	33	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Copper (Total)	mg/kg	68000	845	118	30	75	258	47	407	276	47	7	108	103	107	414	75
Lead (Total)	mg/kg	2330	292	63	78	31	121	23	238	120	25	21	80	29	66	97	140
Mercury (Total)	mg/kg	1100	<0.17	<0.17	1.72	3.91	0.75	3.02	0.72	0.94	0.76	4.27	1.66	<0.17	0.63	0.39	0.4
Nickel (Total)	mg/kg	980	18	20	11	5	20	12	24	19	6	3	15	33	22	19	12
Selenium (Total)	mg/kg	12000	<1	1	<1	1	1	1	<1	<1	<1	1	<1	<1	<1	<1	<1
Zinc (Total)	mg/kg	730000	114	69	209	117	142	47	185	82	49	25	61	87	119	96	122
Cyanide (Total)	mg/kg	34	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols (Total)	mg/kg	3200	<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	<0.2	<0.2
Organic matter	%	N/A	8.7	21.5	1.6	8.9	8.5	3.1	10.8	2.2	1	1.6	3.3	2.9	2.5	2.2	4.8
Sulphate (Acid Soluble)	mg/kg	N/A	400	830	3800	320	230	1600	570	720	310	<200	650	<200	1100	610	790
Sulphate as Water Soluble	g/l	N/A	0.04	0.01	0.35	0.02	<0.01	0.21	<0.01	0.06	0.05	<0.01	0.05	<0.01	0.04	0.06	0.02
Sulphide	mg/kg	N/A	<5	<5	10	<5	<5	8	<5	6	<5	<5	7	<5	<5	<5	10
pH	pH units	N/A	7.75	7.08	10.27	9.54	7.82	10.56	8.53	9.18	9.65	9.56	8.53	7.22	9.93	9	8.45
Sulphur (Elemental)	mg/kg	N/A	19	25	<5	<5	9	<5	<5	<5	<5	<5	20	<5	<5	<5	<5
Asbestos																	
Asbestos in soil	N/A	N/A	NAD	Chrysotile	NAD	NAD	Chrysotile	NAD	NAD	NAD	NAD	NAD	NAD	NAD	Chrysotile	NAD	NAD
Asbestos Matrix (microscope)	N/A	N/A	-	Loose Fibres	-	-	Loose Fibres	-	-	-	-	-	-	-	Loose Fibres	-	-
ACM - Suitable for Water Absorption Test?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Asbestos in soil % composition	% w/w	0.001	n/t	0.002	n/t	n/t	<0.001	n/t	n/t	n/t	n/t	n/t	n/t	n/t	0.006	n/t	n/t
TPH Suite																	
TPH (Total)	mg/kg	N/A	33	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Total Aliphatic	mg/kg	N/A	15	166	439	40	519	78	248	88	70	2	57	<1	239	42	76
>C5 to C8 aliphatic	mg/kg	12000	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
>C6 to C8 aliphatic	mg/kg	40000	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
>C8 to C10 aliphatic	mg/kg	11000	<1	1	<10	<0.1	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
>C10 to C12 aliphatic	mg/kg	47000	<1	<1	<10	<5	<1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
>C12 to C16 aliphatic	mg/kg	90000	<1	1	<10	<5	5	2	2	<1	<1	<1	<1	<1	8	<1	1
>C16 to C35 aliphatic	mg/kg	1800000	14	126	236	n/t	311	54	164	53	47	2	33	<1	112	26	40
>C35 to C44 aliphatic	mg/kg	1800000	1	38	193	11	203	19	82	35	23	<1	24	<1	119	15	34
Total Aromatic	mg/kg	N/A	18	165	387	28	331	54	292	123	43	3	546	<1	173	44	80
>C5 to C7 aromatic(Benzene)	mg/kg	86000	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
>C7 to C8 aromatic(Toluene)	mg/kg	180000	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
>C8 to C10 aromatic	mg/kg	17000	1	4	14	<5	2	2	2	2	<1	<1	<1	<1	2	<1	1
>C10 to C12 aromatic	mg/kg	34000	<1	7	25	<5	17	4	7	<5	<1	<1	<1	<1	2	<1	<1
>C12 to C16 aromatic	mg/kg	38000	4	13	53	<5	78	7	19	6	2	1	46	<1	10	6	3
>C16 to C21 aromatic	mg/kg	28000	4	100	142	19	105	29	163	15	4	<5	184	<1	25	9	11
>C21 to C35 aromatic	mg/kg	28000	7	39	145	9	125	10	99	70	23	2	296	<1	68	21	43
>C35 to C44 aromatic	mg/kg	28000	2	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
Aliphatic + Aromatic EC >44-70	mg/kg	N/A	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
BTEX Suite																	
benzene	mg/kg	90	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
toluene	mg/kg	180000	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
ethylbenzene	mg/kg	27000	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
m&P Xylene	mg/kg	30000	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
O-Xylene	mg/kg	33000	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
PAH Suite																	
naphthalene	mg/kg	1100	<0.03	0.05	0.2	<0.03	<0.03	<0.03	0.39	<0.03	<0.03	<0.03	<0.03	<0.03	0.26	<0.03	<0.03
acenaphthylene	mg/kg	100000	<0.01	<0.01	0.02	<0.01	0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02
acenaphthene	mg/kg	100000	<0.01	0.08	0.43	<0.01	<0.01	0.01	0.45	0.02	0.02	<0.01	0.04	<0.01	0.38	0.04	0.07
fluorene	mg/kg	71000	<0.01	0.06	0.32	<0.01	<0.01	0.01	0.25	<0.01	0.02	<0.01	0.03	<0.01	0.27	0.02	0.05
phenanthrene	mg/kg	23000	0.05	0.54	2.24	<0.03	0.12	0.11	1.07	0.18	0.12	0.07	0.24	<0.03	2.57	0.32	0.64
anthracene	mg/kg	540000	<0.02	0.12	0.56	<0.02	<0.02	0.02	0.24	0.05	0.03	0.02	0.06	<0.02	0.63	0.09	0.16
fluoranthene	mg/kg	23000	<0.08	0.59	2.64	<0.08	0.18	0.15	1.13	0.39	0.2	0.17	0.41	<0.08	4.61	0.8	1.58
pyrene	mg/kg	54000	<0.07	0.55	2.43	<0.07	0.17	0.13	1.01	0.39	0.2	0.13	0.39	<0.07	4.92	0.8	1.55
benzo(a)anthracene	mg/kg	180	<0.04	0.27	1.21	<0.04	0.08	0.06	0.48	0.19	0.12	0.07	0.17	<0.04	2.01	0.4	0.81
chrysene	mg/kg	350	<0.06	0.36	1.11	<0.06	0.13	0.09	0.56	0.23	0.14	0.08	0.23	<0.06	2.22	0.47	0.9
benzo(b)fluoranthene	mg/kg	45	<0.05	0.27	1	<0.05	0.12	0.06	0.49	0.2	0.17	0.05	0.23	<0.05	2.08	0.52	0.87
benzo(k)fluoranthene	mg/kg	1200	<0.07	0.13	0.36	<0.07	<0.07	<0.07	0.17	<0.07	<0.07	0.1	<0.07	<0.07	0.79	0.19	0.36
benzo(a)pyrene	mg/kg	35	0.06	0.31	1.25	<0.04	0.12	0.06	0.52	0.24	0.19	0.06	0.26	<0.04	2.09	0.51	0.89
dibenzo(ah)anthracene	mg/kg	3.6	<0.04	<0.04	0.09	<0.04	<0.04	<0.04	0.07	<0.04	<0.04	<0.04	<0.04	<0.04	0.2	0.05	0.09
benzo(ghi)perylene	mg/kg	4000	<0.05	0.19	0.58	<0.05	0.11	<0.05	0.33	0.15	0.12	<0.05	0.15	<0.05	1.05	0.27	0.44
indeno(123cd)pyrene	mg/kg	510	0.04	0.25	0.74	<0.03	0.14	0.06	0.41	0.18	0.15	0.04	0.16	<0.03	1.13	0.3	0.49

Appendix B – Photographic Log of Hardstanding Areas

Photographic Log – Cables Way Site Area 2 – Hardstanding Areas



Photo 1 – Showing completed hardstanding in the north east corner of the site (formerly proposed as soft landscaping).

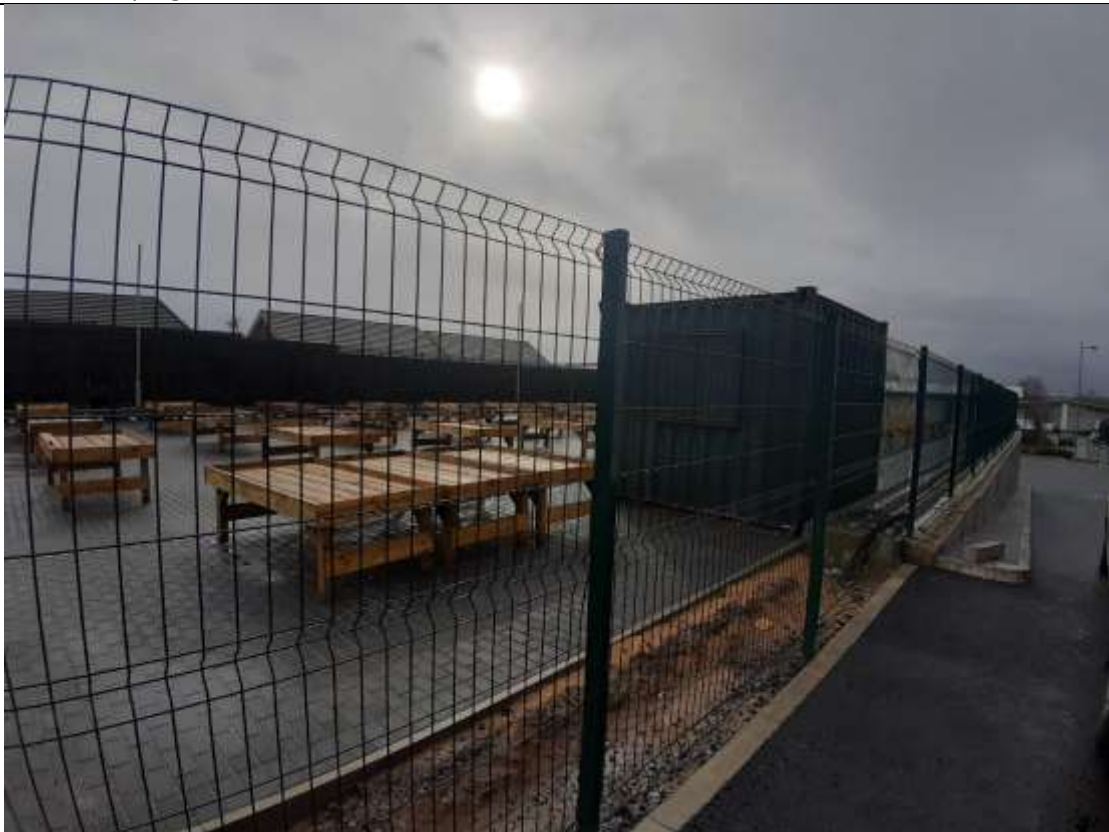


Photo 2 – Showing completed hardstanding in the south west corner of the site (formerly proposed as soft landscaping)



Photo 3 – Showing completed hardstanding in the south west corner of the site (formerly proposed as soft landscaping)



Photo 4 – Showing the northern boundary of the site which is due to be covered by hardstanding.

Appendix C – Photographic Log of Gas Membrane Inspections



Visual Inspection of Gas Protection Measures

Site Name: Cables Way, Prescott	Gas characteristic situation: CS2
Job Number: 30259LG	Type of development and building/block checked: Commercial
Date: 20/10, 25/10, 28/10 & 19/12	Building description: Commercial / Industrial (Garden Centre)
Visit by: MW	Foundation type: Ground Bearing Slab
Weather at time of inspection: Cloudy	Gas protection type: Passive

No.	Item	Comments (see notes)
1 Gas membrane		
1.1	Condition if sub-grade and underside of gas membrane	Good Condition - No Visible Damage
1.2	Gas membrane type	Juta GP-1
1.3	Gas membrane condition	Good Condition - No Visible Damage
1.4	Joining tape product	Double Sided Butyl Tape / Single Sided Joining Tape
1.5	Lapping design	Laps and joints sealed
1.6	Laps. Welds and joints seals	Joints and laps sufficiently sealed
1.7	Service entries seals	Service entires suitably sealed
2 Passive venting		
2.1	Sub-floor void	N/A
2.2	External wall airbricks	N/A
2.3	Internal sleeper walls	N/A
2.4	External vent trenches/ducts	N/A
3 Active venting		
3.1	System details	N/A
Additional Notes:		

Notes: inspection checklist

1.1	Underside of gas membrane	Check that the sub grade does not contain rough/uneven surfaces, is appropriately clean and that there are no hard/sharp objects. That protective sand blinding or geotextile (if specified) is present and meets the design criteria.
1.2	Gas membrane type	Manufacturer and product specification, gauge, colour, brand/name, material batch/roll numbers, storage arrangements (protected from dirt/damage?)
1.3	Gas membrane condition	Open punctures, tears, rips, stretching? Excessive footprints/evidence of traffic? Presence of debris? Repairs? Signs of weakness such as raised or sunken indentations? Protection plan in place to restrict access to lain gas membrane?
1.4	Joining tape product	Product type, brand, thickness, material, width, colour? Use of double sided tape?
1.5	Lapping design	Joints lapped and sealed in accordance with manufacturer's requirements/specification? Minimum overlap insured? Sections taped twice?
1.6	Laps and joints sealed	Welds complete? Appropriate joining/double sided tape used?
1.7	Service entries sealed	Top hats seal arrangements fixed around service entries? Use of Jubilee clips?
2.1	Sub-floor void	Is a check possible? Void former? Gravel (type/specification)? Height of void space? Is it clear?
2.2	External wall airbricks	Numbers, size, positions as design drawing?
2.3	Internal sleeper walls	Ventilation holes (honeycomb brickwork/pipe crossings?) – size, spacing, location in accordance with design?
2.4	External vent trenches/ducts	Located and constructed in accordance with design drawings? If open-topped gravel – gravel type/presence of fines? If pipe or other vent, check position and construction for functionality and absence of blockages. Ability of void former to withstand bearing of the superstructure?
3.1	Active venting	Type of air supply: mechanical, natural, combined? Location/condition/number of fans and vents? Location and size of inlets? Provision of air-cleaning devices and air heaters? Supply and exhaust ductwork? Alarm provision/installation? Gas monitoring system in under-floor void?

Photographs

No.	Description

The gas protection measures inspected:	a Are acceptable and comply with the specification

Name: MICHAEL WIGGINS

Signature: 

Date: 22/03/2023

Photographic Log – Site Area 2 Gas membrane – 20th, 25th and 28th October



Photo 1 – General condition of membrane on first stage of inspection.



Photo 2 – Membrane sealed to gable column on first stage of inspection.



Photo 3 – Sealed membrane DPC section on first stage of inspection.

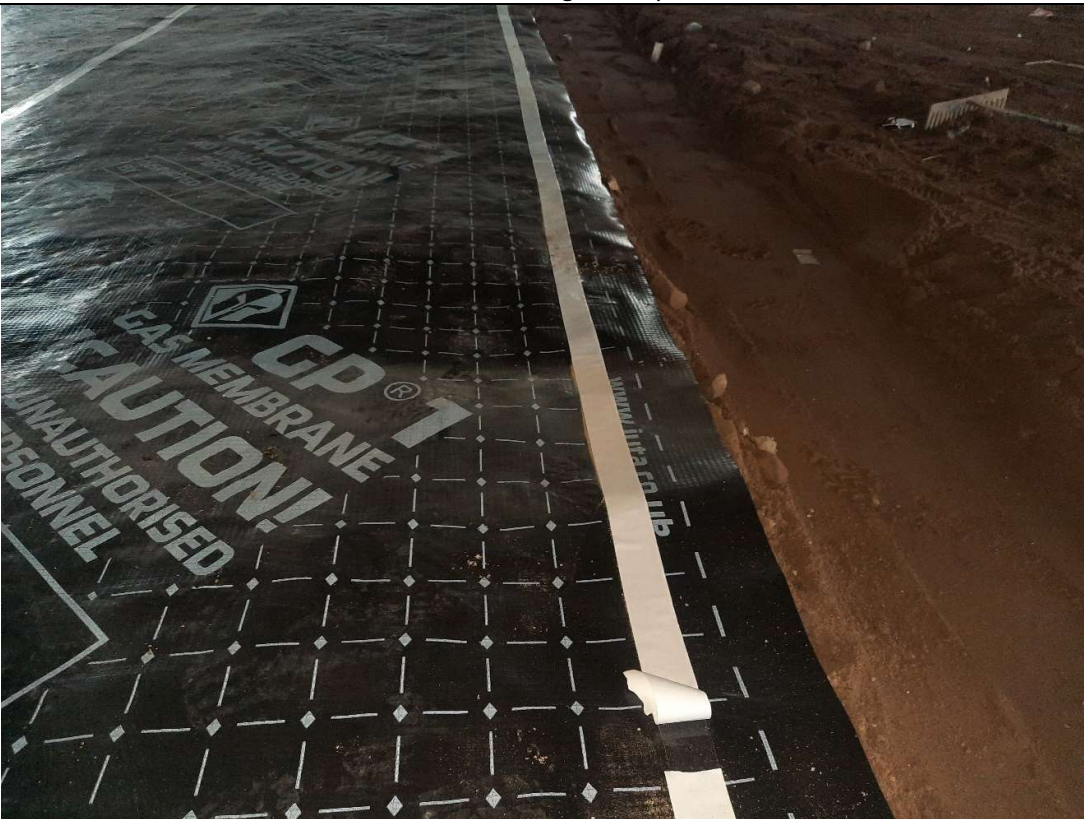


Photo 4 – Evidence of double sided butyl tape used along membrane joints on first stage of inspection.



Photo 5 – General condition of membrane on 2nd stage of inspection.



Photo 6 – General condition of membrane on 2nd stage of inspection.



Photo 7 – Membrane joint sealed with butyl tape and jointing tape on 2nd stage of inspection.



Photo 8 – Sealed DPC membrane section on 2nd stage of inspection.



Photo 9 – Sealed DPC membrane section on 3rd stage of inspection.



Photo 10 – General condition of membrane on 3rd stage of inspection.

Photographic Log – Site Area 2 Gas Membrane – 19/12/2022



Photo 1 – General condition of the Juta GP-1 gas membrane.



Photo 2 – Sealed column sections and DPC sections of gas membrane.



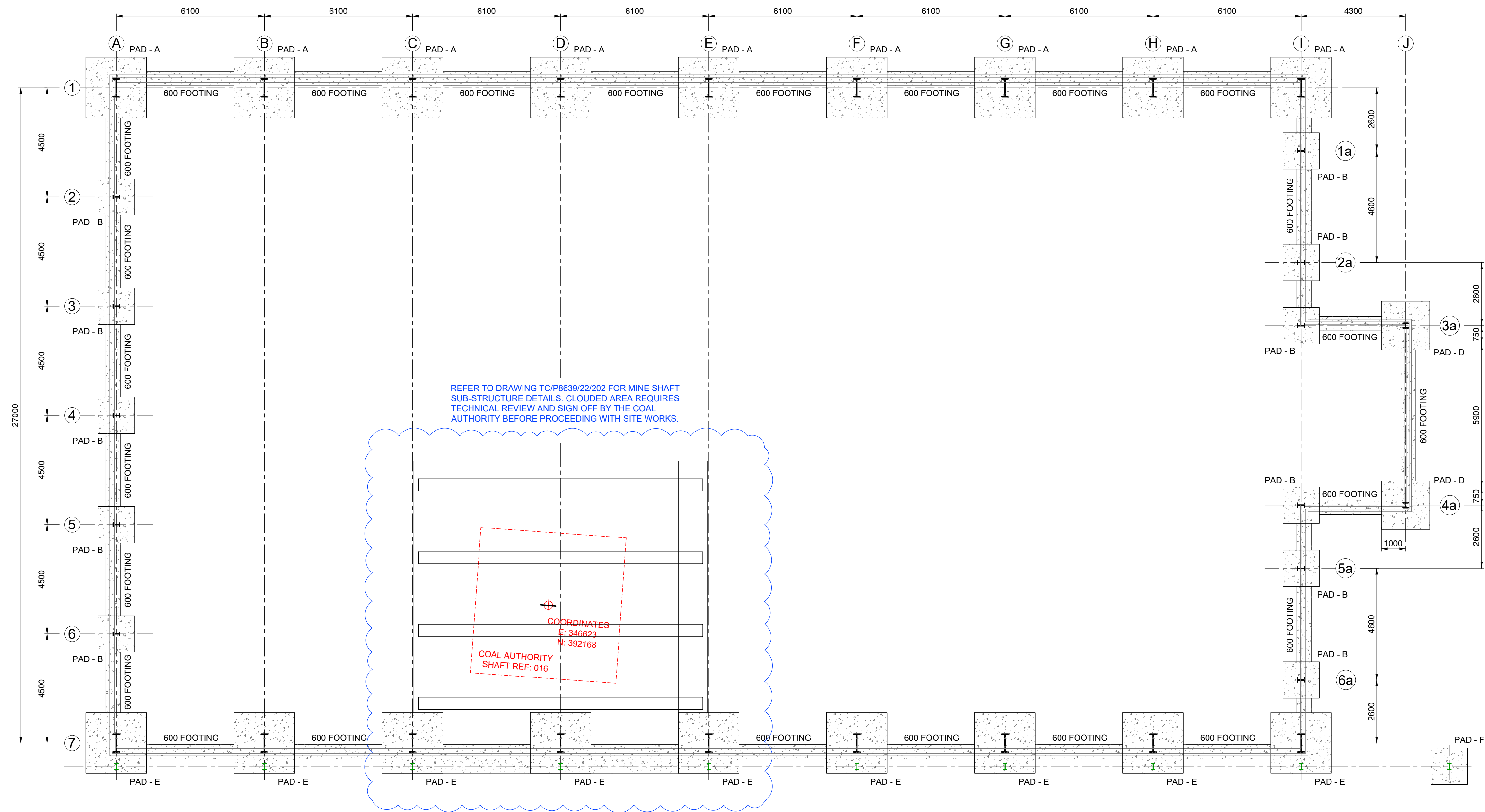
Photo 3 – Sufficient joint overlap and tape application on gas membrane.



Photo 4 – General condition of the gas membrane

Drawing Ref: – 201e – Site Plan as Proposed – Garden Centre

Drawing Ref: – TC / P8639 / 22 / 200



FOUNDATION ARRANGEMENT
(1:100)

PAD SPECIFICATION

PAD - A
2.4x2.4x1.0m with 2 LAYERS OF A393
MESH IN THE BOTTOM @ 50mm COVER.

PAD - B
1.5x1.5x1.0m with 2 LAYERS OF A393
MESH IN THE BOTTOM @ 50mm COVER.

PAD - C
N/A

PAD - D
2.0x2.0x0.50m with 2 LAYERS OF A393
MESH IN THE BOTTOM @ 50mm COVER.

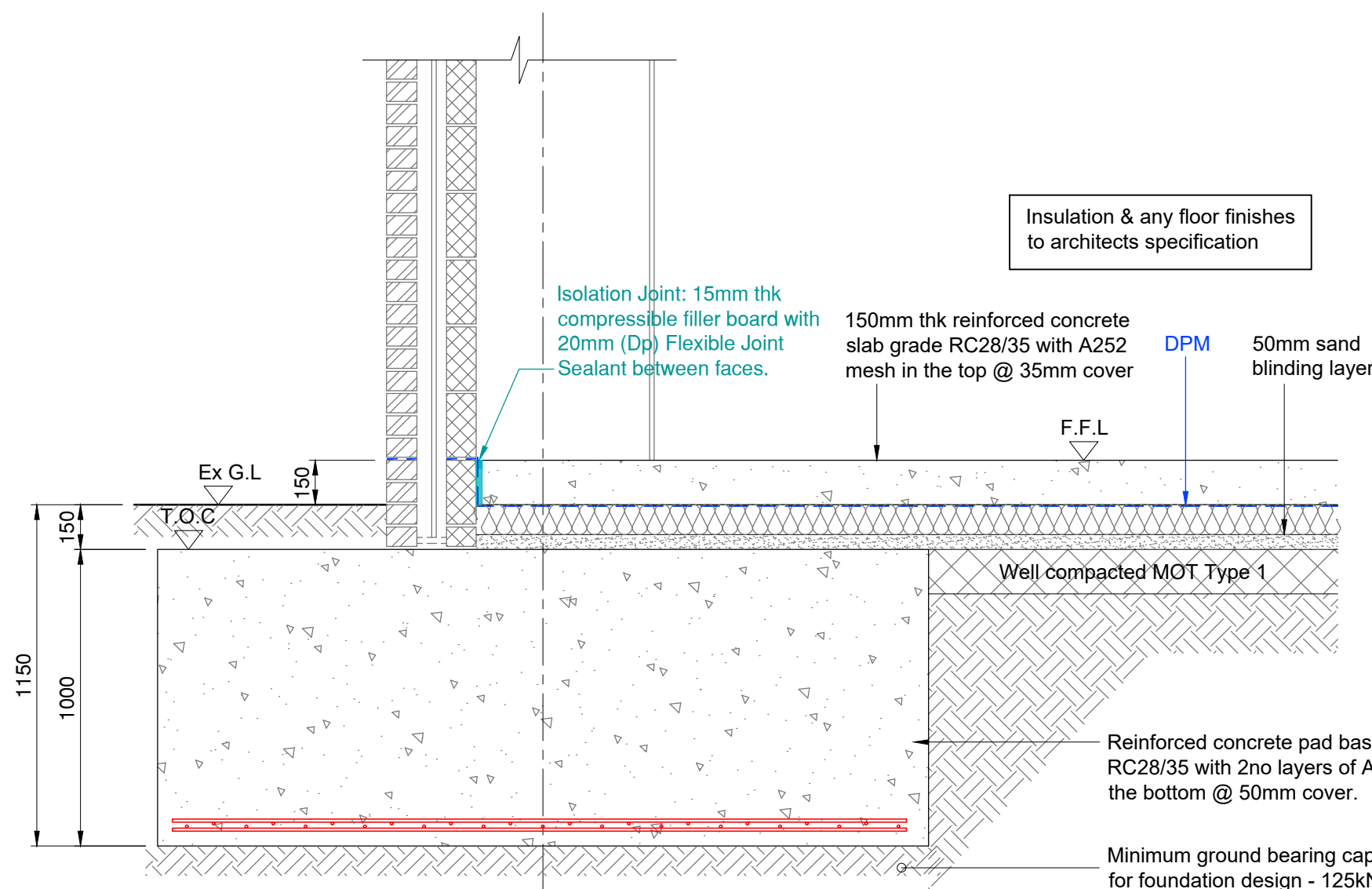
PAD - E
2.5x2.5x1.0m with 2 LAYERS OF A393
MESH IN THE BOTTOM @ 50mm COVER.

PAD - F
1.75x1.75x1.0m with 1 LAYER OF A393
MESH IN THE BOTTOM @ 50mm COVER.

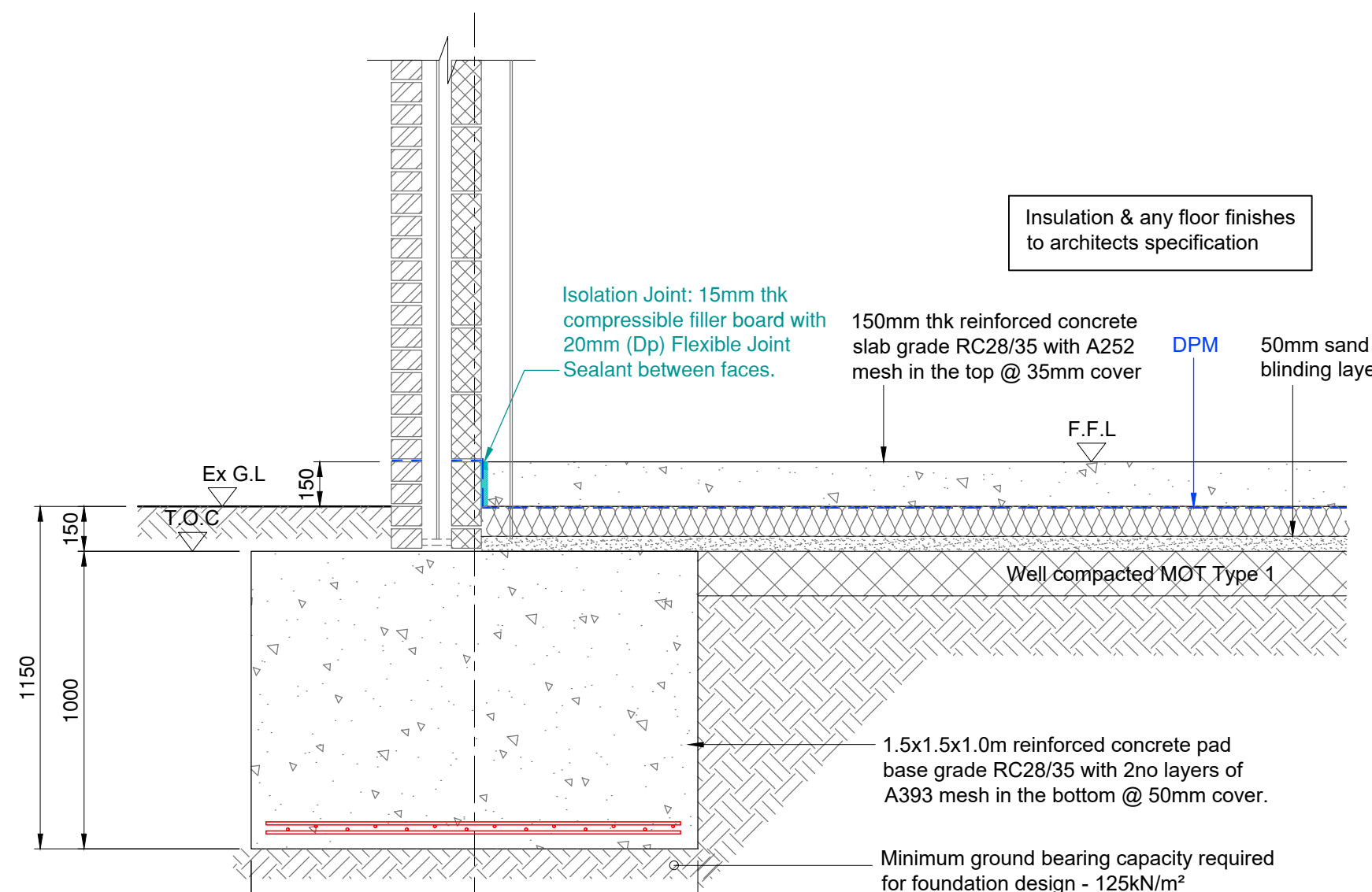
DO NOT SCALE THIS DRAWING		A1
GENERAL NOTES:		
1. Before construction commences, the setting out Engineer shall ensure that all setting out information is mutually compatible with all the drawings and documents provided by the designers. Where information is apparently contradictory or ambiguous, the design Engineer and/or the Architect is to be informed immediately. Thomas Consulting will accept no liability for setting out errors where work is constructed to incorrect information.		
2. All drawings and documents are to be read in conjunction with one another, are mutually compatible and shall be read as such. All documents shall be checked to ensure that they are compatible by the contractor before construction commences. In the event of apparent ambiguity or contradiction the engineer and/or architect shall be notified immediately. Thomas Consulting accept no liability in the event of not being so notified and where construction work has commenced.		
3. In accordance with CDM regulations 2015 this drawing has been prepared with due attention to identifying any unusual design hazards that may exist. Unusual design hazards are hazards that a reasonably competent contractor, experienced in this type of work may not be expected to identify. In dealing with unusual design hazards we have adopted the "ERIC" principle and where possible eliminated (E) the hazard at design stage, if it has not been possible to eliminate the hazard we have endeavoured to reduce (R) it. Where it has not been possible to eliminate these hazards, the hazard is noted on the drawing with appropriate information (I) in order that the hazard can be controlled (C) during construction. It is the contractor's responsibility to fully acquaint themselves with all construction drawings before commencing construction and if in doubt about any matter to ask for clarification from the designer.		
4. All drawings issued electronically for this scheme are provided for the sole purpose of assisting the design, procurement or construction of the structures for which Thomas Consulting have been appointed as Design Engineers/Consultants. They may not be used for any other purpose, nor may they be amended, copied, redistributed or issued to third parties without the written agreement of Thomas Consulting. All drawings remain under copyright to, and the intellectual property of, Thomas Consulting. Upon completion of the project, all drawings are to be deleted from your computer systems and all other electronic copies destroyed. Where electronic copies of final drawings are to be issued, these will be provided in a digital only format by Thomas Consulting (no other copies may be retained). By opening and using this drawing, it is assumed that you agree to abide by these Terms and Conditions.		
5. Unless expressly agreed with a director of Thomas Consulting Ltd, for the purposes of the CDM regulations 2015 Thomas Consulting are not the Principal Designer. The client has been advised that they are required to appoint a Principal Designer. For further information see http://www.hse.gov.uk/ .		

GAS PROTECTION MEASURES

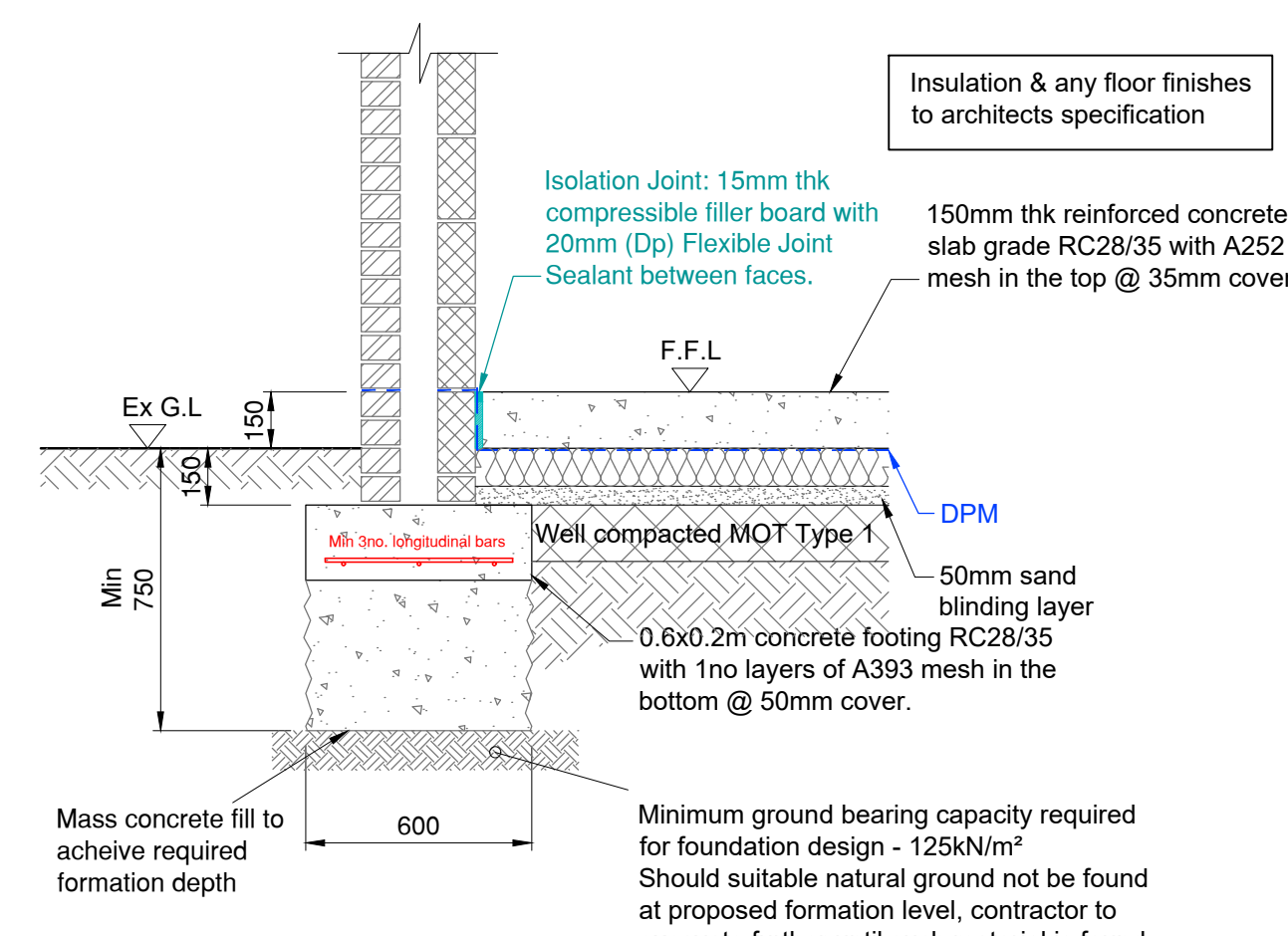
Site classified as Characteristic Situation 2
Gas Resistant Membrane System & Radon
protective measures are required across the site.
Specification, installation and validation by
suitability experienced persons.



PRIMARY COLUMN FOUNDATION SECTION
(1:20)



GABLE POST FOUNDATION SECTION
(1:20)



TYPICAL PERIMETER WALL
FOUNDATION SECTION
(1:20)

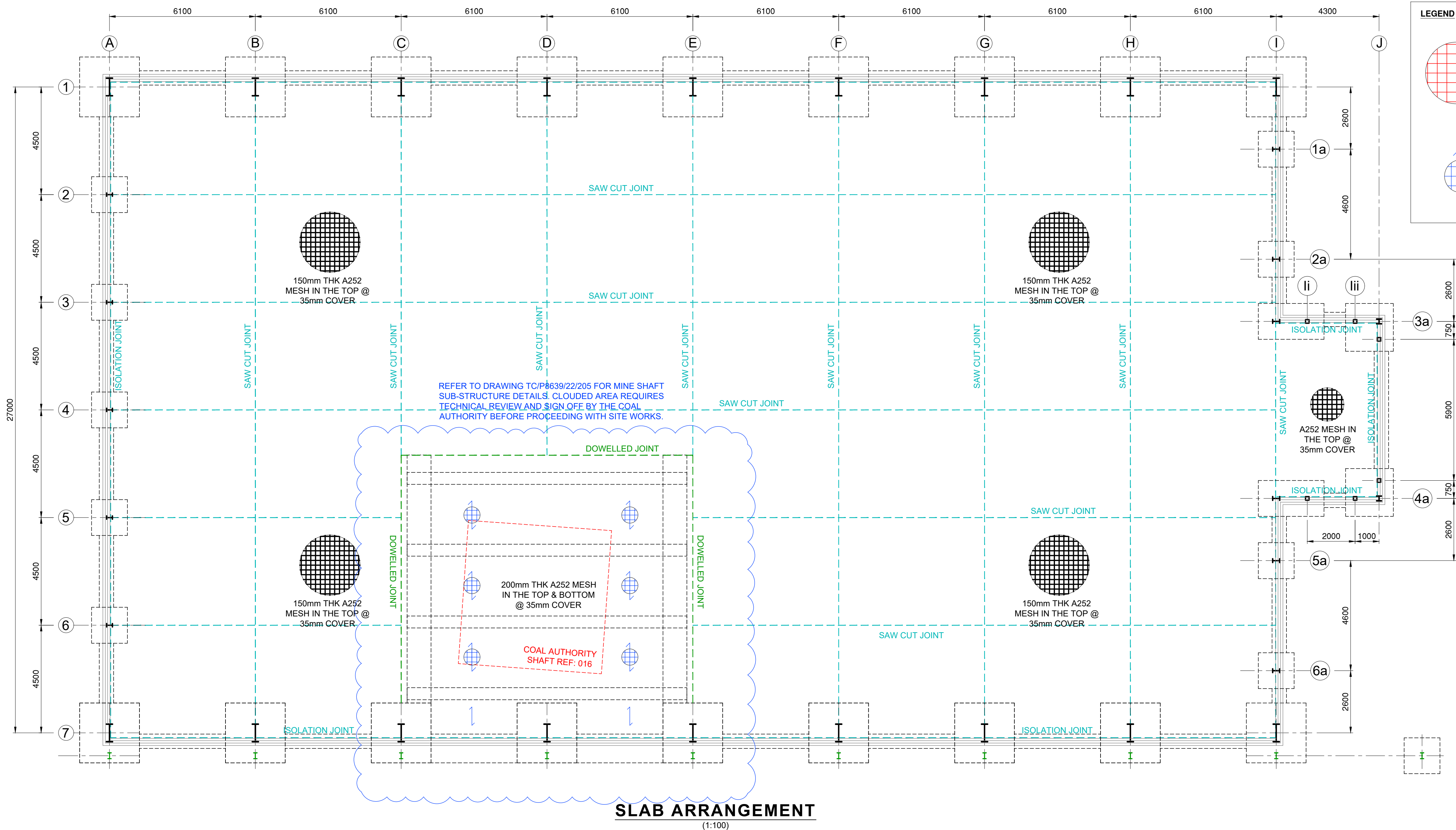
IN ADDITION TO THE HAZARDS/RISKS ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, PLEASE NOTE THE FOLLOWING SIGNIFICANT RESIDUAL RISKS:	
ITEM	HAZARD IDENTIFICATION

REVISIONS				
REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
A	10.6.22	Entrance Canopy pads amended	S.W	-

DRAWING STATUS:	
CONSTRUCTION ISSUE	

THOMAS CONSULTING STRUCTURAL & CIVIL DESIGN ENGINEERS Offices in Chorley , Manchester & Shrewsbury Tel: 01772 299040 e-mail: info@thomasconsulting.co.uk	
CLIENT: BEESLEY & FILDES LTD	
PROJECT: NEW GARDEN CENTRE MANCHESTER ROAD, PRESCOT	
DRAWING TITLE: PROPOSED FOUNDATION ARRANGEMENT & DETAILS	
DATE CREATED: MAY 2022	QA CATEGORY: 2
DRAWING SCALE: AS SHOWN	REV:
DRAWN BY: S.W	
CHECKED BY: P.B	
TC / P8639 / 22 / 200	
A	

Drawing Ref: – TC / P8639 / 22 / 204



LEGEND

INDICATES NEW 150mm THK GRADE RC35 GROUND BEARING CONCRETE SLAB WITH A252 MESH IN THE TOP AT 35mm COVER TO ALL BARS.

NATURAL GROUND TO BE PREPARED BY CLEARING OF DELETERIOUS MATERIAL, PROOF ROLLING, INSTALL MINIMUM 200mm WELL COMPACTED MOT TYPE 1 SUB-BASE AND 50mm BLINDING LAYER

INDICATES NEW 200mm THK GRADE RC35 SUSPENDED CONCRETE SLAB WITH A252 MESH IN THE TOP & BOTTOM AT 35mm COVER TO ALL BARS.

DO NOT SCALE THIS DRAWING

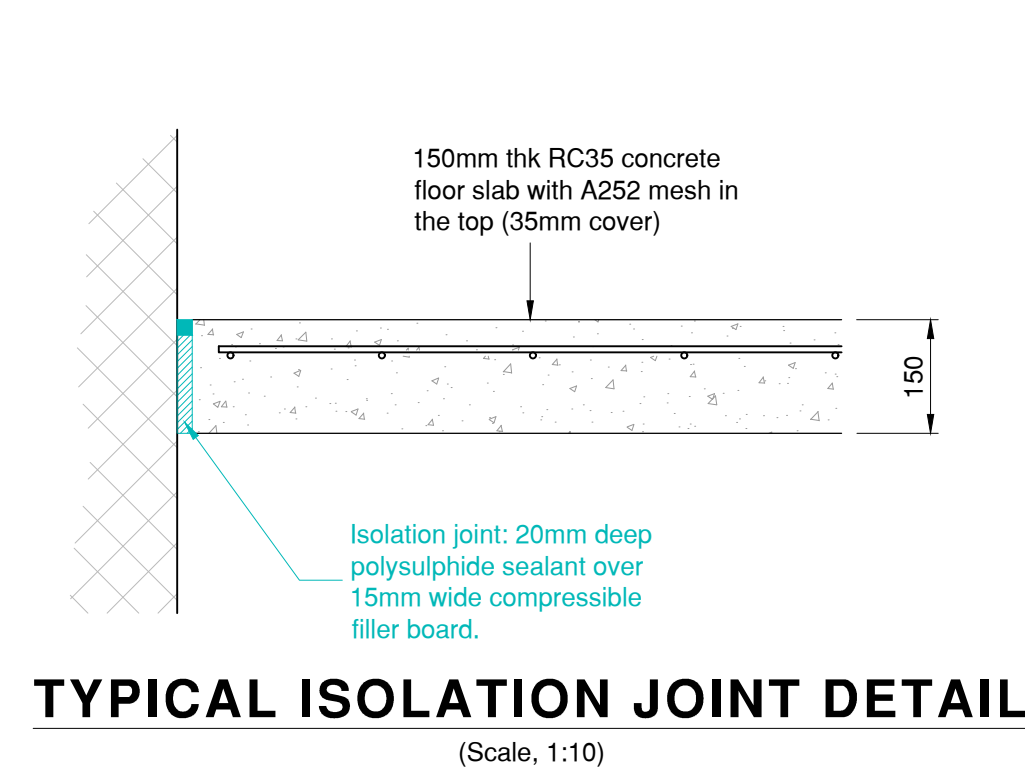
A1

GENERAL NOTES:

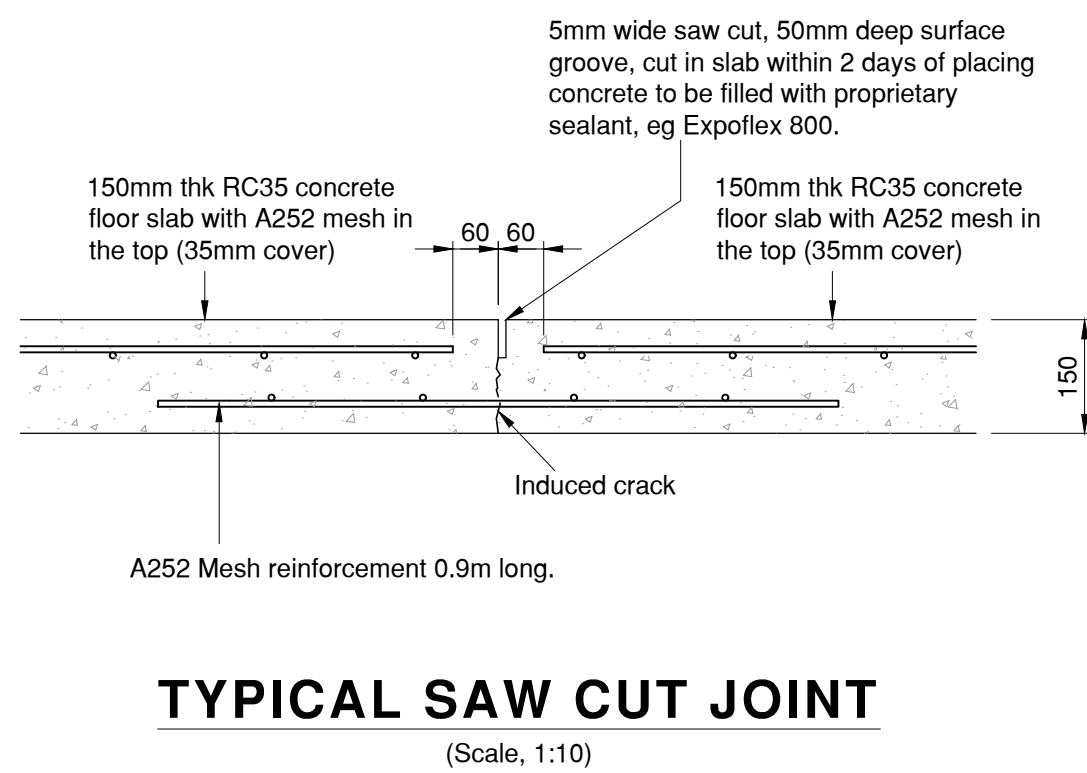
- Before construction commences, the setting out Engineer shall ensure that all setting out information is mutually compatible with all the drawings and documents provided by the designers. Where information is apparently contradictory or ambiguous, the design Engineer and/or the Architect is to be informed immediately. Thomas Consulting will accept no liability for setting out errors where work is constructed to incorrect information.
- All drawings and documents are to be read in conjunction with one another, are mutually compatible and shall be read as such. All documents shall be checked to ensure that they are compatible by the contractor before construction commences. In the event of apparent ambiguity or contradiction the engineer and/or architect shall be notified immediately. Thomas Consulting accept no liability in the event of not being so notified and where construction work has commenced.
- In accordance with CDM regulations 2015 this drawing has been prepared with due attention to identifying any unusual design hazards that may exist. Unusual design hazards are hazards that a reasonably competent contractor, experienced in this type of work may not be expected to identify. In dealing with unusual design hazards we have adopted the "ERIC" principle and where possible eliminated (E) the hazard at design stage, if it has not been possible to eliminate the hazard we have endeavoured to reduce (R) it. Where it has not been possible to eliminate these hazards, the hazard is noted on the drawing with appropriate information (I) in order that the hazard can be controlled (C) during construction. It is the contractor's responsibility to fully acquaint themselves with all construction drawings before commencing construction and if in doubt about any matter to ask for clarification from the designer.
- All drawings issued electronically for this scheme are provided for the sole purpose of assisting the design, procurement or construction of the structures for which Thomas Consulting have been appointed as Design Engineers/Consultants. They may not be used for any other purpose, nor may they be amended, copied, redistributed or issued to third parties without the written agreement of Thomas Consulting. All drawings remain under copyright to, and the intellectual property of, Thomas Consulting. Upon completion of the project, all drawings are to be deleted from your computer systems and all other electronic copies destroyed. Where electronic copies of final drawings are to be issued, these will be provided in a digital only format by Thomas Consulting (no other copies may be retained). By opening and using this drawing, it is assumed that you agree to abide by these Terms and Conditions.
- Unless expressly agreed with a director of Thomas Consulting Ltd, for the purposes of the CDM regulations 2015 Thomas Consulting are not the Principal Designer. The client has been advised that they are required to appoint a Principal Designer. For further information see <http://www.hse.gov.uk/>.

GAS PROTECTION MEASURES

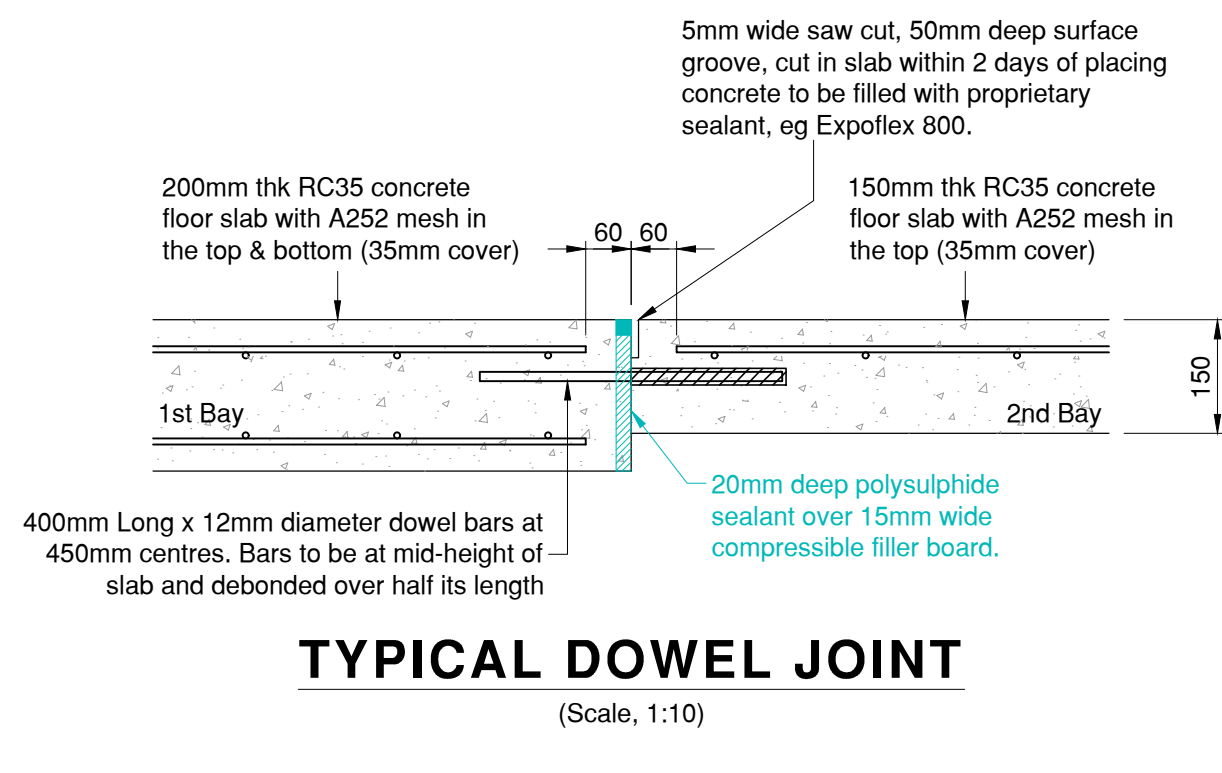
Site classified as Characteristic Situation 2
Gas Resistant Membrane System & Radon
protective measures are required across the site.
Specification, installation and validation by
suitability experienced persons.



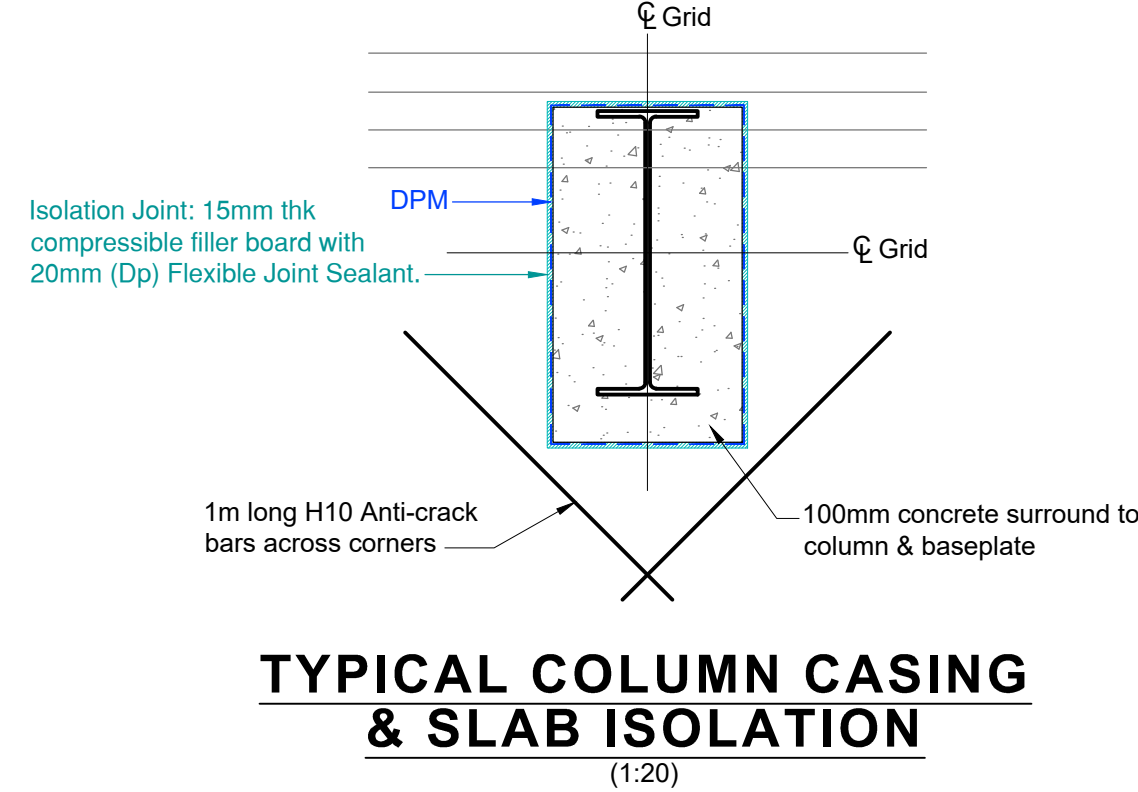
TYPICAL ISOLATION JOINT DETAIL
(Scale, 1:10)



TYPICAL SAW CUT JOINT
(Scale, 1:10)



TYPICAL DOWEL JOINT
(Scale, 1:10)



TYPICAL COLUMN CASING & SLAB ISOLATION
(1:20)

IN ADDITION TO THE HAZARDS/RISKS ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, PLEASE NOTE THE FOLLOWING SIGNIFICANT RESIDUAL RISKS:				
ITEM	HAZARD IDENTIFICATION			
FOR COAL AUTHORITY APPROVAL				
REVISIONS				
REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY

DRAWING STATUS:

THOMAS CONSULTING
STRUCTURAL & CIVIL DESIGN ENGINEERS

Offices in **Chorley**, **Lancaster** & **Shrewsbury**
Tel: 01772 299040
e-mail: info@thomasconsulting.co.uk

CLIENT:	BEESLEY & FILDES LTD			
PROJECT:	NEW GARDEN CENTRE MANCHESTER ROAD, PRESCOT			
DRAWING TITLE:	PROPOSED SLAB ARRANGEMENT & DETAILS			
DATE CREATED: JULY 2022	DRAWING SCALE: AS SHOWN	DRAWN BY: S.W	CHECKED BY: P.B	QA CATEGORY: 2
DRAWING REF:	TC / P8639 / 22 / 204			REV: