DTR15083 06 th January 2016

Thomas Hunter

Senior Quantity Surveyor
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Dear Thomas,

RE: DTR15083 Factual Validation Report for the MOL land at Twickenham Contamination hotspot removal

INTRODUCTION

Dunton Environmental (DE) was instructed in May 2015 by St James to remediate three hotspot locations by a means of material excavation offsite disposal to landfill, validation and backfill at MOL land, London Road Twickenham.

Three contamination hotspots were identified from ground investigation boreholes carried out by RSK which are presented in the RSK technical report. The hotspots included two asbestos (chrysotile cemented sheeted fragments) hotspots (WS214 and WS215) and one elevated lead hotspot (WS216). The hotspot locations are detailed on a plan in Appendix A. The remedial objective was to target and excavate impacted soils for disposal off site at an appropriate licensed facility.

Material from WS214 and WS215 was classified as hazardous waste and WS216 as non hazardous. Waste transfer notes have been included within the appendices.

Verification testing was undertaken to confirm the removal of the hotspots prior to the pits being backfilled. Soil samples tested where compared to a validation criteria provided in the RSK Remediation Method Statement report (Table 4, Pg 13 and table 5, Pg 15).

Methodology

Localised excavations were undertaken in the areas where asbestos containing materials and elevated levels of lead were identified which included WS214, WS215 (asbestos) and WS216 (lead). Each excavation approximately covered a plan area of 3x3m with a depth of 1.00m. A 360 machine excavator was used to remove the material with the supervision of a suitably accredited asbestos surveyor and banks man. Material that was removed was damped down to reduce the risk of asbestos fibres from becoming airborne and any stockpiles were covered up to minimise the spread of contaminants. Photos of the pits are included within the appendices.

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Following the removal of the material, samples were taken of the exposed sides and base of the pits for validation testing to confirm the removal of all impacted soils. 5 no. soil samples were taken from each pit, listed A to E (diagrams included in the appendices), and compared against the validation criteria contained in Table 4 and Table 5 of the RSK RMS report attached in the appendices. Once the testing confirmed the extent of the contamination had been excavated, the pits were backfilled with clean material and reinstated.

Validation

Initially, three samples were taken from locations WS214, WS215 and WS216 on 11th November 2015 at about 0.50m deep to establish the levels of determinants within these localities to be able to provide certificates for material disposal.

The results (report No.15-37610) showed that no asbestos was identified and that levels of lead were high in excavations WS215 and WS216, being above the validation assessment criteria. A 3x3m 0.50m deep trench was dug in these three areas with the material excavated being disposed off site. 5 sample tests were carried out on the exposed sides and bases of the pits to determine whether or not the contamination of lead / asbestos had been removed. No asbestos was detected in WS214 or WS215 so these pits were backfilled with clean material on site.

Lead levels in the side walls and base of pit WS216 all exceeded the validation criteria required. (Report No 15-37858). As a result Pit WS216 was widened by 1.00m and deepened by 0.50m and tested again to further validate on the 20th November 2015 in the same way (Report No. 15-38038). The results showed that the base of the pit had lead levels below the required validation criteria but the side wall levels were still elevated.

The pit was extended outwards 1.00m for a final time and tested on the 27th November 2015 (Report No. 15-38288).Pit face B was unable to be extended and tested due to the site boundary. Lead levels had reduced but they were still above the required criteria in two of the three side walls of the pit. Pit faces were terminated due to the river in the north, surface asbestos in the south and allotments to the west.

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Backfilling

Clean backfill material was put back into pits WS214 and WS215. The testing certificate for this material from the shallow soils within the vicinity is included in the appendices (report No: 15-38667).

Conclusion

No asbestos fibres were recorded in any of the test samples taken from the validation pits although ACM was noted on the surface across the entirety of the site. The testing proved that the upper 1.00m of the material around hotspot WS216 contained elevated levels of lead. The full extent of the hotspot of the further elevated lead values are unknown due to obstructions and boundaries limiting access for excavation.

Dunton are scheduled to do further works in early 2016 to backfill pit WS216 with imported clean material and to possibly pick surface ACM from the site.

Please feel free to contact me should you have any questions.

Yours Sincerely,

Michael Gillman

Technical Assistant

Appendices

A – Drawings

B – Site Photographs

C – Test Certificates

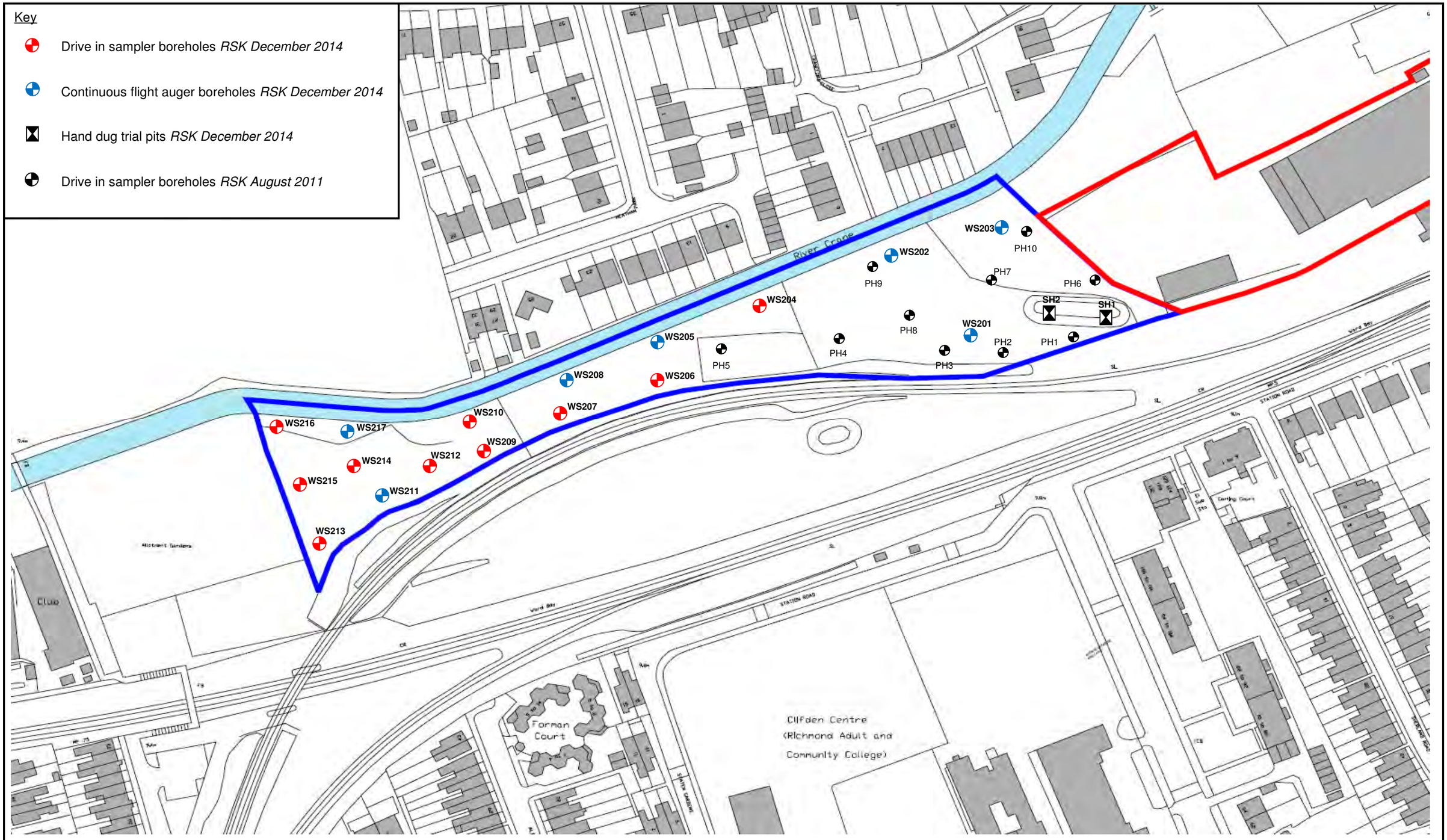
D – Consignment and Controlled Waste Notes

E – Extracts from RSK Remediation Method Statement

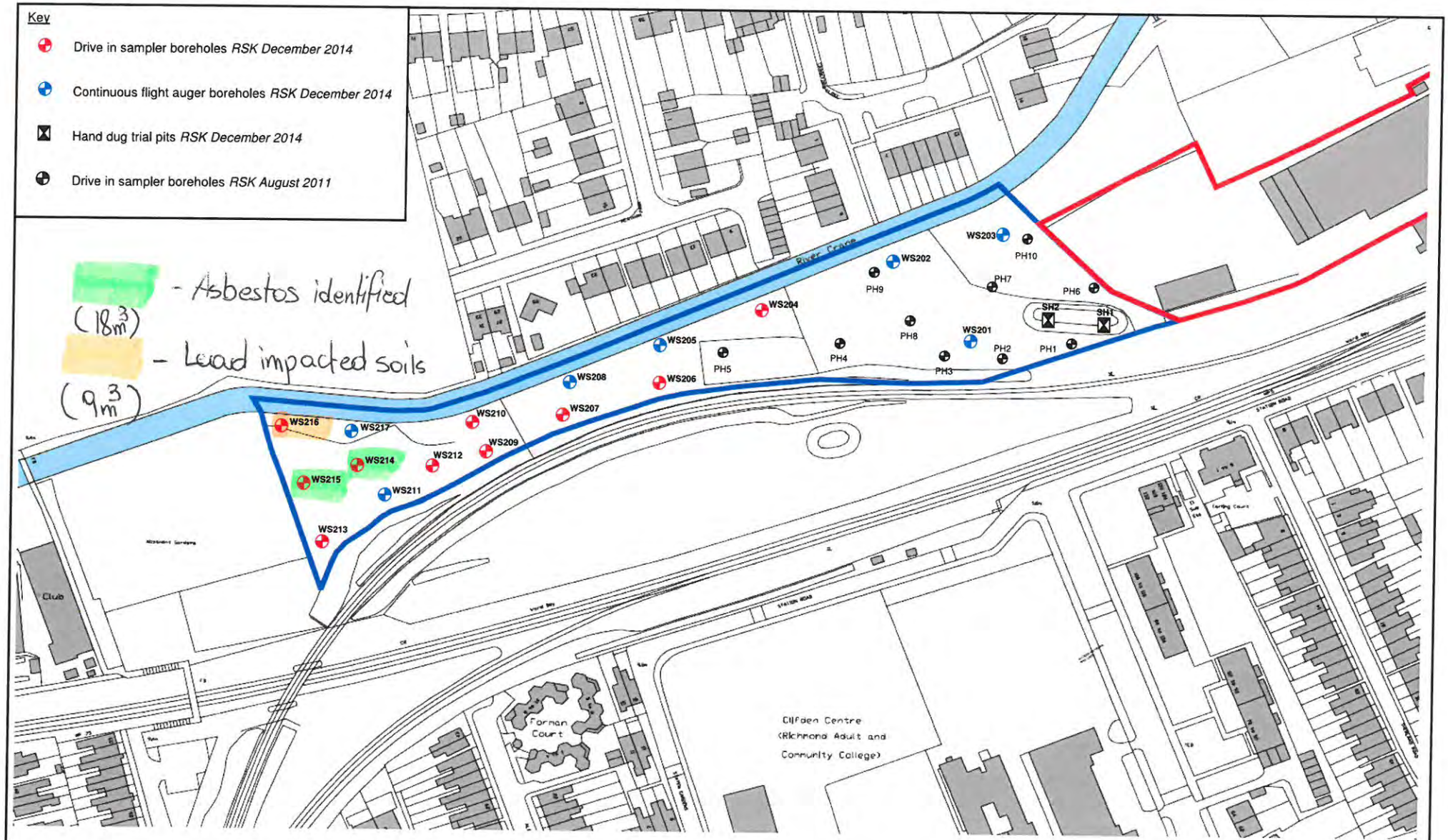
APPENDIX A

Key

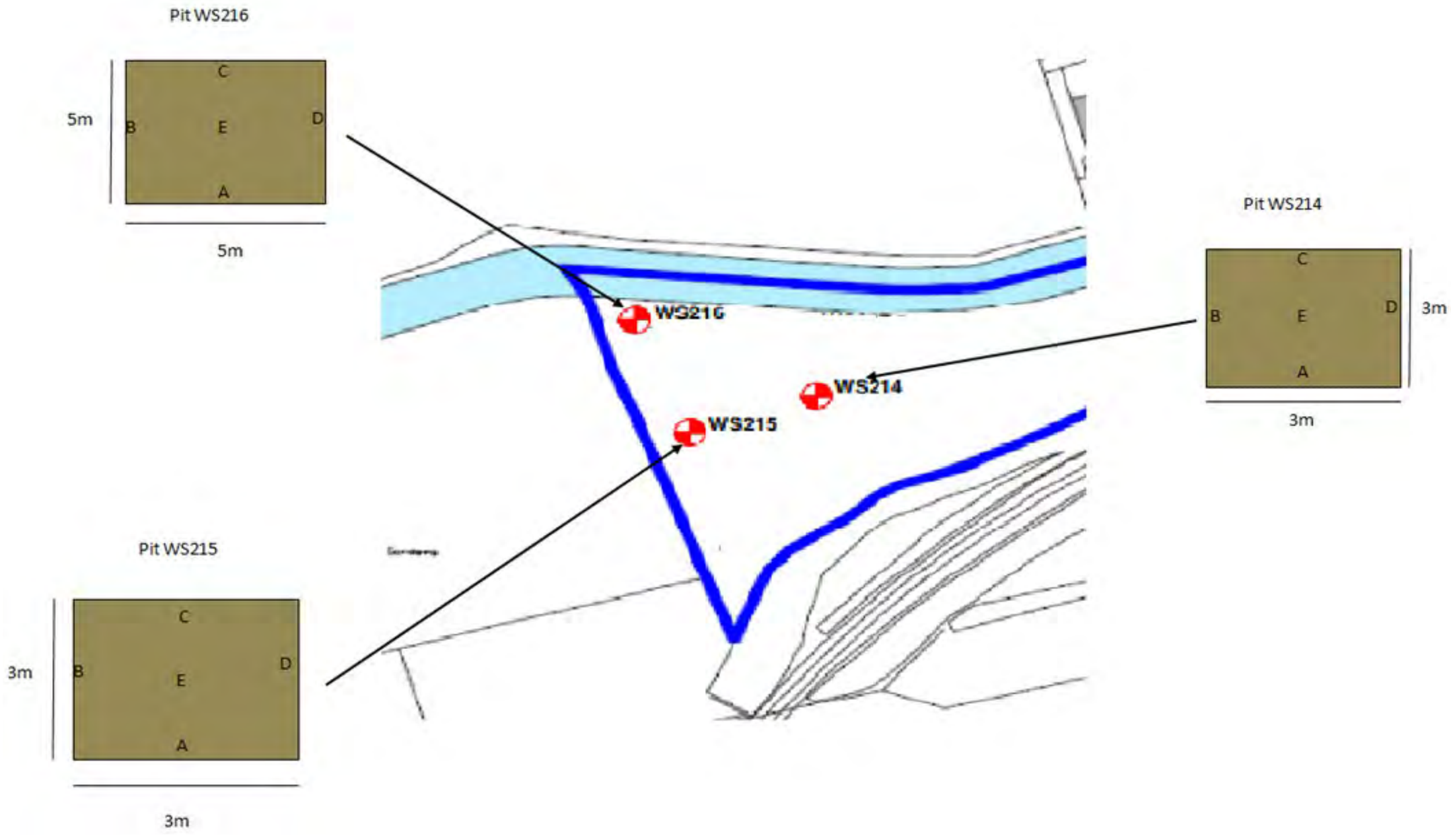
- Drive in sampler boreholes *RSK December 2014*
- Continuous flight auger boreholes *RSK December 2014*
- Hand dug trial pits *RSK December 2014*
- Drive in sampler boreholes *RSK August 2011*



RSK	**Exploratory Hole Location Plan**	Client:	St James	Figure No:	2
		Site:	Twickenham Sorting Office - MOL	Job No:	25024-06
		Scale:	-	Source:	-



RSK	**Exploratory Hole Location Plan**	Client:	St James	Figure No:	2
		Site:	Twickenham Sorting Office - MOL	Job No:	25024-06
		Scale:	-	Source:	-



Dunton ENVIRONMENTAL Restoring Our Environment	**Pit and Sample Location Plan**	**Date: 18/12/15** **Ref: DTR 15083**

APPENDIX B

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QTS Environmental Report No: 15-37610

Site Reference:	Twickenham
Project / Job Ref:	DTR 15083
Order No:	None Supplied
Sample Receipt Date:	12/11/2015
Sample Scheduled Date:	12/11/2015
Report Issue Number:	2
Reporting Date:	17/11/2015

Authorised by:

Russell Jarvis
Director
On behalf of QTS Environmental Ltd

Authorised by:

Kevin Old
Director
On behalf of QTS Environmental Ltd

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Soil Analysis Certificate							
QTS Environmental Report No: 15-37610	**Date Sampled**	11/11/15	11/11/15	11/11/15		
Dunton Environmental Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied		
Site Reference: Twickenham	**TP / BH No**	WS214	WS216	WS215		
Project / Job Ref: DTR 15083	**Additional Refs**	None Supplied	None Supplied	None Supplied		
Order No: None Supplied	**Depth (m)**	None Supplied	None Supplied	None Supplied		
Reporting Date: 17/11/2015	**QTSE Sample No**	177336	177337	177338		

Determinand	Unit	RL	Accreditation					
Asbestos Screen (S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected		
Arsenic (As)	mg/kg	< 2	MCERTS	11	18	12		
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2	< 0.2	< 0.2		
Chromium (Cr)	mg/kg	< 2	MCERTS	14	16	18		
Copper (Cu)	mg/kg	< 4	MCERTS	28	218	30		
Lead (Pb)	mg/kg	< 3	MCERTS	175	1990	347		
Mercury (Hg)	mg/kg	< 1	NONE	< 1	2.4	< 1		
Nickel (Ni)	mg/kg	< 3	MCERTS	16	33	14		
Selenium (Se)	mg/kg	< 3	NONE	< 3	< 3	< 3		
Zinc (Zn)	mg/kg	< 3	MCERTS	131	728	118		

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30^{O}C
Analysis carried out on the dried sample is corrected for the stone content
Subcontracted analysis (S)

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Soil Analysis Certificate - Speciated PAHs							
QTS Environmental Report No: 15-37610	Date Sampled	11/11/15	11/11/15	11/11/15		
Dunton Environmental Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Twickenham	TP / BH No	WS214	WS216	WS215		
Project / Job Ref: DTR 15083	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied		
Reporting Date: 17/11/2015	QTSE Sample No	177336	177337	177338		

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	0.12	< 0.1		
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Phenanthrene	mg/kg	< 0.1	MCERTS	0.12	0.69	0.14		
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Fluoranthene	mg/kg	< 0.1	MCERTS	0.32	1.26	0.29		
Pyrene	mg/kg	< 0.1	MCERTS	0.26	1.04	0.24		
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	0.15	0.58	0.13		
Chrysene	mg/kg	< 0.1	MCERTS	0.17	0.78	0.16		
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	0.20	0.91	0.17		
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	0.33	< 0.1		
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	0.13	0.58	0.14		
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	0.37	< 0.1		
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	0.31	< 0.1		
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	7	< 1.6		

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30^{O}C

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Soil Analysis Certificate - TPH CWG Banded							
QTS Environmental Report No: 15-37610	Date Sampled	11/11/15	11/11/15	11/11/15		
Dunton Environmental Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Twickenham	TP / BH No	WS214	WS216	WS215		
Project / Job Ref: DTR 15083	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied		
Reporting Date: 17/11/2015	QTSE Sample No	177336	177337	177338		

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01		
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05		
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2		
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2		
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	< 3		
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3		
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	< 10	< 10		
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	< 21		
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01		
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05		
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2		
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2		
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	2	< 2		
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	5	< 3		
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	20	< 10		
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	28	< 21		
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	< 42		

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30^{O}C

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Soil Analysis Certificate - BTEX / MTBE							
QTS Environmental Report No: 15-37610	Date Sampled	11/11/15	11/11/15	11/11/15		
Dunton Environmental Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Twickenham	TP / BH No	WS214	WS216	WS215		
Project / Job Ref: DTR 15083	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied		
Reporting Date: 17/11/2015	QTSE Sample No	177336	177337	177338		

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2		
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2		
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2		
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2		
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5		

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30^{O}C

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Soil Analysis Certificate - Sample Descriptions	
QTS Environmental Report No: 15-37610	
Dunton Environmental Ltd	
Site Reference: Twickenham	
Project / Job Ref: DTR 15083	
Order No: None Supplied	
Reporting Date: 17/11/2015	

QTSE Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
& 177336	WS214	None Supplied	None Supplied	11.9	Brown sandy clay with rubble
& 177337	WS216	None Supplied	None Supplied	5.7	Grey gravelly sand with rubble and ash
& 177338	WS215	None Supplied	None Supplied	6.9	Brown gravelly sand with stones

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

Insufficient Sample I/S

& samples received in inappropriate containers for hydrocarbon analysis

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Soil Analysis Certificate - Methodology & Miscellaneous Information
QTS Environmental Report No: 15-37610
Dunton Environmental Ltd
Site Reference: Twickenham
Project / Job Ref: DTR 15083
Order No: None Supplied
Reporting Date: 17/11/2015

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

D Dried
AR As Received

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QTS Environmental Report No: 15-37858

Site Reference:	Twickenham
Project / Job Ref:	DTR15083
Order No:	5531
Sample Receipt Date:	18/11/2015
Sample Scheduled Date:	18/11/2015
Report Issue Number:	2
Reporting Date:	20/11/2015

Authorised by:

Russell Jarvis
Director
On behalf of QTS Environmental Ltd

Authorised by:

Kevin Old
Director
On behalf of QTS Environmental Ltd

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Soil Analysis Certificate							
QTS Environmental Report No: 15-37858	Date Sampled	18/11/15	18/11/15	18/11/15	18/11/15	18/11/15
Dunton Environmental Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Twickenham	TP / BH No	WS214 - A	WS214 - B	WS214 - C	WS214 - D	WS214 - E
Project / Job Ref: DTR15083	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 5531	Depth (m)	0.60	0.60	0.60	0.60	0.60
Reporting Date: 20/11/2015	QTSE Sample No	178516	178517	178518	178519	178520

Determinand	Unit	RL	Accreditation					
Asbestos Screen	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Lead (Pb)	mg/kg	< 3	MCERTS					

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30^{O}C

Analysis carried out on the dried sample is corrected for the stone content

The samples have been examined to identify the presence of asbestiform minerals by polarising light microscopy and dispersion staining technique to In-House Procedures QTSE600 Determination of Asbestos in Bulk Materials; Asbestos in Soils/Sediments (fibre screening and identification)

This report refers to samples as received, and QTS Environmental Ltd, takes no responsibility for the accuracy or competence of sampling by others.

The material description shall be regarded as tentative and is not included in our scope of UKAS Accreditation.

Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation.

Asbestos Analyst: Wioletta Goral

RL: Reporting Limit

Pinch Test: Where pinch test is positive it is reported "Loose Fibres - PT" with type(s).

Subcontracted analysis $^{(S)}$

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Soil Analysis Certificate							
QTS Environmental Report No: 15-37858	Date Sampled	18/11/15	18/11/15	18/11/15	18/11/15	18/11/15
Dunton Environmental Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Twickenham	TP / BH No	WS215 - A	WS215 - B	WS215 - C	WS215 - D	WS215 - E
Project / Job Ref: DTR15083	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 5531	Depth (m)	0.50	0.50	0.50	0.50	0.50
Reporting Date: 20/11/2015	QTSE Sample No	178521	178522	178523	178524	178525

Determinand	Unit	RL	Accreditation					
Asbestos Screen	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Lead (Pb)	mg/kg	< 3	MCERTS					

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30^{O}C

Analysis carried out on the dried sample is corrected for the stone content

The samples have been examined to identify the presence of asbestiform minerals by polarising light microscopy and dispersion staining technique to In-House Procedures QTSE600 Determination of Asbestos in Bulk Materials; Asbestos in Soils/Sediments (fibre screening and identification)

This report refers to samples as received, and QTS Environmental Ltd, takes no responsibility for the accuracy or competence of sampling by others.

The material description shall be regarded as tentative and is not included in our scope of UKAS Accreditation.

Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation.

Asbestos Analyst: Wioletta Goral

RL: Reporting Limit

Pinch Test: Where pinch test is positive it is reported "Loose Fibres - PT" with type(s).

Subcontracted analysis $^{(S)}$

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Soil Analysis Certificate							
QTS Environmental Report No: 15-37858	**Date Sampled**	18/11/15	18/11/15	18/11/15	18/11/15	18/11/15
Dunton Environmental Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Twickenham	**TP / BH No**	WS216 - A	WS216 - B	WS216 - C	WS216 - D	WS216 - E
Project / Job Ref: DTR15083	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 5531	**Depth (m)**	0.40	0.40	0.40	0.40	0.40
Reporting Date: 20/11/2015	**QTSE Sample No**	178526	178527	178528	178529	178530

Determinand	**Unit**	**RL**	**Accreditation**					
Asbestos Screen	N/a	N/a	**ISO17025**					
Lead (Pb)	mg/kg	< 3	**MCERTS**	1970	62000	2740	2860	886

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30^{O}C

Analysis carried out on the dried sample is corrected for the stone content

The samples have been examined to identify the presence of asbestiform minerals by polarising light microscopy and dispersion staining technique to In-House Procedures QTSE600 Determination of Asbestos in Bulk Materials; Asbestos in Soils/Sediments (fibre screening and identification)

This report refers to samples as received, and QTS Environmental Ltd, takes no responsibility for the accuracy or competence of sampling by others.

The material description shall be regarded as tentative and is not included in our scope of UKAS Accreditation.

Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation.

Asbestos Analyst: Wioletta Goral

RL: Reporting Limit

Pinch Test: Where pinch test is positive it is reported "Loose Fibres - PT" with type(s).

Subcontracted analysis $^{(S)}$

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Soil Analysis Certificate - Sample Descriptions	
QTS Environmental Report No: 15-37858	
Dunton Environmental Ltd	
Site Reference: Twickenham	
Project / Job Ref: DTR15083	
Order No: 5531	
Reporting Date: 20/11/2015	

QTSE Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
178526	WS216 - A	None Supplied	0.40	7.6	Brown sandy clay with vegetation
178527	WS216 - B	None Supplied	0.40	10.9	Brown clayey gravel with vegetation
178528	WS216 - C	None Supplied	0.40	15.6	Brown sandy clay
178529	WS216 - D	None Supplied	0.40	6.8	Brown sandy clay with vegetation and rubble
178530	WS216 - E	None Supplied	0.40	12.3	Brown sand with vegetation

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

Insufficient Sample I/S

Unsuitable Sample U/S

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Soil Analysis Certificate - Methodology & Miscellaneous Information
QTS Environmental Report No: 15-37858
Dunton Environmental Ltd
Site Reference: Twickenham
Project / Job Ref: DTR15083
Order No: 5531
Reporting Date: 20/11/2015

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

D Dried
AR As Received

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QTS Environmental Report No: 15-38038

Site Reference:	Twickenham
Project / Job Ref:	DTR 15083
Order No:	None Supplied
Sample Receipt Date:	20/11/2015
Sample Scheduled Date:	23/11/2015
Report Issue Number:	2
Reporting Date:	25/11/2015

Authorised by:

Russell Jarvis
Director
On behalf of QTS Environmental Ltd

Authorised by:

Kevin Old
Director
On behalf of QTS Environmental Ltd

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Soil Analysis Certificate							
QTS Environmental Report No: 15-38038	**Date Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Dunton Environmental Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Twickenham	**TP / BH No**	WS216	WS216	WS216	WS216	WS216
Project / Job Ref: DTR 15083	**Additional Refs**	Deep A	Deep B	Deep C	Deep D	Deep E
Order No: None Supplied	**Depth (m)**	0.70	0.80	0.70	0.80	1.00
Reporting Date: 25/11/2015	**QTSE Sample No**	179350	179351	179352	179353	179354

Determinand	**Unit**	**RL**	**Accreditation**					
Lead (Pb)	mg/kg	< 3	**MCERTS**	31000	445	23600	1130	66

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30^{O}C
Analysis carried out on the dried sample is corrected for the stone content
Subcontracted analysis $^{(S)}$

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Soil Analysis Certificate - Sample Descriptions	
QTS Environmental Report No: 15-38038	
Dunton Environmental Ltd	
Site Reference: Twickenham	
Project / Job Ref: DTR 15083	
Order No: None Supplied	
Reporting Date: 25/11/2015	

QTSE Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
^ 179350	WS216	Deep A	0.70	15.6	Brown sandy clay with brick
^ 179351	WS216	Deep B	0.80	11.4	Brown sandy clay
^ 179352	WS216	Deep C	0.70	14.8	Brown sandy clay with stones
^ 179353	WS216	Deep D	0.80	13.4	Brown sandy clay
^ 179354	WS216	Deep E	1.00	14.1	Brown sandy clay

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

Insufficient Sample I/S

Unsuitable Sample U/S

^ no sampling date provided; unable to confirm if samples are within acceptable holding times

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Soil Analysis Certificate - Methodology & Miscellaneous Information
QTS Environmental Report No: 15-38038
Dunton Environmental Ltd
Site Reference: Twickenham
Project / Job Ref: DTR 15083
Order No: None Supplied
Reporting Date: 25/11/2015

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

D Dried
AR As Received

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QTS Environmental Report No: 15-38288

Site Reference:	Twickenham
Project / Job Ref:	DTR15083
Order No:	None Supplied
Sample Receipt Date:	27/11/2015
Sample Scheduled Date:	30/11/2015
Report Issue Number:	1
Reporting Date:	01/12/2015

Authorised by:

Russell Jarvis
Director
On behalf of QTS Environmental Ltd

Authorised by:

Kevin Old
Director
On behalf of QTS Environmental Ltd

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Soil Analysis Certificate							
QTS Environmental Report No: 15-38288	**Date Sampled**	None Supplied	None Supplied	None Supplied		
Dunton Environmental Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied		
Site Reference: Twickenham	**TP / BH No**	SW216	SW216	SW216		
Project / Job Ref: DTR15083	**Additional Refs**	A	C	D		
Order No: None Supplied	**Depth (m)**	None Supplied	None Supplied	None Supplied		
Reporting Date: 01/12/2015	**QTSE Sample No**	180560	180561	180562		

Determinand	Unit	RL	Accreditation					
Lead (Pb)	mg/kg	< 3	MCERTS	1200	2940	176		

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30^{O}C
Analysis carried out on the dried sample is corrected for the stone content
Subcontracted analysis $^{(S)}$

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Soil Analysis Certificate - Sample Descriptions	
QTS Environmental Report No: 15-38288	
Dunton Environmental Ltd	
Site Reference: Twickenham	
Project / Job Ref: DTR15083	
Order No: None Supplied	
Reporting Date: 01/12/2015	

QTSE Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
^ 180560	SW216	A	None Supplied	9.8	Light brown clayey gravel with vegetation
^ 180561	SW216	C	None Supplied	2.6	Light brown clayey gravel with vegetation
^ 180562	SW216	D	None Supplied	13.2	Light brown clay with vegetation

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

Insufficient Sample I/S

Unsuitable Sample U/S

^ no sampling date provided; unable to confirm if samples are within acceptable holding times

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Soil Analysis Certificate - Methodology & Miscellaneous Information
QTS Environmental Report No: 15-38288
Dunton Environmental Ltd
Site Reference: Twickenham
Project / Job Ref: DTR15083
Order No: None Supplied
Reporting Date: 01/12/2015

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

D Dried
AR As Received

Adrian Jefimiuk
Dunton Environmental Ltd
Unit 1
Tamebridge Industrial Estate
Perry Barr
Aldridge Road
B42 2TX

QTS Environmental Ltd
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN
t: 01622 850410
russell.jarvis@qtsenvironmental.com

QTS Environmental Report No: 15-38667

Site Reference:	Twickenham
Project / Job Ref:	DTR 15083
Order No:	None Supplied
Sample Receipt Date:	11/12/2015
Sample Scheduled Date:	11/12/2015
Report Issue Number:	1
Reporting Date:	11/12/2015

Authorised by:

Russell Jarvis
Associate Director of Client Services
On behalf of QTS Environmental Ltd

Authorised by:

Kevin Old
Associate Director of Laboratory
On behalf of QTS Environmental Ltd

QTS Environmental Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

4480

Soil Analysis Certificate							
QTS Environmental Report No: 15-38667	**Date Sampled**	10/12/15	10/12/15				
Dunton Environmental Ltd	**Time Sampled**	None Supplied	None Supplied				
Site Reference: Twickenham	**TP / BH No**	Backfill for WS214	Backfill for WS215				
Project / Job Ref: DTR 15083	**Additional Refs**	None Supplied	None Supplied				
Order No: None Supplied	**Depth (m)**	None Supplied	None Supplied				
Reporting Date: 11/12/2015	**QTSE Sample No**	182453	182454				

Determinand	Unit	RL	Accreditation					
Asbestos Screen	N/a	N/a	**ISO17025**	Not Detected	Not Detected			
Lead (Pb)	mg/kg	< 3	**MCERTS**	37	134			

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30^{O}C

Analysis carried out on the dried sample is corrected for the stone content

The samples have been examined to identify the presence of asbestiform minerals by polarising light microscopy and dispersion staining technique to In-House Procedures QTSE600 Determination of Asbestos in Bulk Materials; Asbestos in Soils/Sediments (fibre screening and identification)

This report refers to samples as received, and QTS Environmental Ltd, takes no responsibility for the accuracy or competence of sampling by others.

The material description shall be regarded as tentative and is not included in our scope of UKAS Accreditation.

Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation.

Asbestos Analyst: Javeed Malik

RL: Reporting Limit

Pinch Test: Where pinch test is positive it is reported "Loose Fibres - PT" with type(s).

Subcontracted analysis $^{(S)}$

QTS Environmental Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

4480

Soil Analysis Certificate - Sample Descriptions	
QTS Environmental Report No: 15-38667	
Dunton Environmental Ltd	
Site Reference: Twickenham	
Project / Job Ref: DTR 15083	
Order No: None Supplied	
Reporting Date: 11/12/2015	

QTSE Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
182453	Backfill for WS214	None Supplied	None Supplied	31.7	Brown sandy clay with stones
182454	Backfill for WS215	None Supplied	None Supplied	28.1	Brown sandy clay with concrete and vegetation

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

Insufficient Sample I/S

Unsuitable Sample U/S

QTS Environmental Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

4480

Soil Analysis Certificate - Methodology & Miscellaneous Information
QTS Environmental Report No: 15-38667
Dunton Environmental Ltd
Site Reference: Twickenham
Project / Job Ref: DTR 15083
Order No: None Supplied
Reporting Date: 11/12/2015

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

D Dried
AR As Received

APPENDIX D

Dunton ENVIRONMENTAL

CONTROLLED WASTE TRANSFER NOTE No: 311848

REGISTERED WASTE CARRIER:
Dunton Environmental Ltd
Unit 1 Tamebridge Industrial Estate
Aldridge Road, Perry Barr B42 2TX
Waste Carrier Licence No. CB/MP3291BT issued by the Environment Agency

11034

REGISTRATION OF VEHICLE: EJ15 OUN

CUSTOMER (Current holder of the waste)

NAME: ST JAMES (DUNTON'S)

SITE ADDRESS (Place of transfer): MOL PARKLAND, London Road, TWICKENHAM SW1

DESCRIPTION OF WASTE COLLECTED

☑ SOIL & STONES	17 05 04	☐ CONCRETE	17 01 01
☐ BRICKS	17 01 02	☐ MIXED CONCRETE/BRICKS/TILES/CERAMICS	17 01 07
☐ MIXED CONSTRUCTION & DEMO WASTE	17 09 04	☐ BITUMINOUS MIXTURES (TARMAC/ASPHALT)	17 01 07
☐ MIXED METALS	20 03 01	☐ OTHER.....EWC CODE.....	
☐ MIXED GENERAL REFUSE	20 03 01		

CLASSIFICATION

☐ INERT
☐ NON-HAZARDOUS
☑ HAZARDOUS *(if hazardous, the load will require a consignment note also)*

DISPOSAL FACILITY

NAME: IG UNION MILL STREET WOLVERHAMPTON

HOW IS THE WASTE CONTAINED? Loose

SHEETED

IF NOT LOOSE ☐ SACKS ☐ DRUMS ☐ OTHER-DESCRIBE:

SIC Number:

☑ 38.2 Waste treatment & disposal
☐ 39.0 Remediation activities
☐ 41.20/1 Construction of commercial buildings
☐ 41.202/2 Construction of domestic buildings
☐ Other

LOAD VOLUME

☑ 8-Wheeler 9m3 ☐ 6-Wheeler 7m ☐ Grab 8m3 ☐ Arctic 14m3 ☐ Other

DRIVER NAME: * MARK COOK

HAULIER NAME: * Killoughery

TIME OFF SITE:

SIGNATURE: *

CUSTOMER *(Holder of waste collected)*

I confirm that the above is an accurate description transferred and that Dunton Environmental have considered the waste hierarchy (as required by regulation 12 of the waste (England and Wales) Regulations 2011) in deciding the most appropriate option for this waste.

SIGNATURE PRINT NAME ANDY BOURNE

DISPOSAL FACILITY *(For receiving site use only)*

NAME	ADDRESS	
SIGNATURE	PRINT NAME	DATE

No. 311848

S.I.C. Code (2007) : 49.41

GEORGE KILLOUGHERY LTD.

MITCHAM	**PURFLEET**	**SHEPPERTON**
43A Willow Lane	Beacon Hill Ind. Est.	C/o Brett Aggregates
Mitcham	Botany Quarry	Littleton Lane
Surrey	Purfleet, Essex	Shepperton, Surrey
CR4 4NA	RM19 1SR	TW17 0NF
Tel: 020 8648 3737	Tel: 01708 860 601	Tel: 01932 563571

23 T 15 OWN

Name of Person in charge of Vehicle / Driver: Mark Cook

Vehicle Reg. No.: [redacted]

Waste Holder / Delivery Address: Dunton Environmental London rd Twickenham

Time on Site:

Time off Site:

I can confirm that I have fulfilled my duty to apply the waste hierarchy as required by regulation 12 of the Waste (England and Wales) Regulations 2011.

Waiting Time Signature:

Description of Material

- ☐ Subsoils & Stones: 17.05.04
- ☐ Clean Concrete: 17.01.01
- ☐ Tarmac & Asphalt: 17.03.02
- ☐ Mixed Construction & Demolition: 17.09.04
- ☐ Clean Hardcore-Mixed Concrete, Bricks & Tiles: 17.01.07
- ☐ Wood: 17.02.01
- ☐ Plastic: 17.02.03
- ☐ Bricks: 17.01.02
- ☐ Tiles: 17.01.03
- ☐ Paper and Cardboard: 15.01.01

Contaminated

Other: Muck Away EWC Code(s): / Lood

Notes

Gross	
Tare	
Net	
Cubic Metres	

How is the material contained?

Loose ______
Sacks ______
Skip ______
Other ______

SIGNED BY PRODUCER / SITE	PRINT NAME	DATE
A B	ANDY Bourke	23/11/15

CONCRETE AND MUCK AWAY - PLANT HIRE - READY MIX CONCRETE - DEMOLITION - LABOUR HIRE
WASTE MANAGEMENT - SKIP HIRE

Customers ordering vehicles off the public highway do so entirely at their own responsibility

CONTROLLED WASTE TRANSFER NOTE No: 11036 311846

REGISTERED WASTE CARRIER:
Dunton Environmental Ltd
Unit 1 Tamebridge Industrial Estate
Aldridge Road, Perry Barr B42 2TX
Waste Carrier Licence No. CB/MP3291BT issued by the Environment Agency

REGISTRATION OF VEHICLE: EA61 NRV

CUSTOMER (Current holder of the waste)
NAME: ST JAMES (Dunton)

SITE ADDRESS (Place of transfer)
MOL Parkland
London Road
Twickenham

DESCRIPTION OF WASTE COLLECTED

- [x] SOIL & STONES 17 05 04
- [ ] BRICKS 17 01 02
- [ ] MIXED CONSTRUCTION & DEMO WASTE 17 09 04
- [ ] MIXED METALS 20 03 01
- [ ] MIXED GENERAL REFUSE 20 03 01
- [ ] CONCRETE 17 01 01
- [ ] MIXED CONCRETE/BRICKS/TILES/CERAMICS 17 01 07
- [ ] BITUMINOUS MIXTURES (TARMAC/ASPHALT) 17 01 07
- [ ] OTHER.....EWC CODE.....

CLASSIFICATION
- [x] INERT
- [ ] NON-HAZARDOUS
- [ ] HAZARDOUS *(if hazardous, the load will require a consignment note also)*

DISPOSAL FACILITY
NAME: X Bretts Homefarm Shepperton

HOW IS THE WASTE CONTAINED? Loose

8 wheeler

IF NOT LOOSE [ ] SACKS [ ] DRUMS [ ] OTHER-DESCRIBE:

SIC Number:
- [ ] 38.2 Waste treatment & disposal
- [x] 39.0 Remediation activities
- [ ] 41.20/1 Construction of commercial buildings
- [ ] 41.202/2 Construction of domestic buildings
- [ ] Other

LOAD VOLUME
- [x] 8-Wheeler 9m3
- [ ] 6-Wheeler 7m
- [ ] Grab 8m3
- [ ] Arctic 14m3
- [ ] Other

DRIVER NAME: X Mark Cook

HAULIER NAME: Killoughery

TIME OFF SITE:

SIGNATURE: X

CUSTOMER (Holder of waste collected)

I confirm that the above is an accurate description transferred and that Dunton Environmental have considered the waste hierarchy (as required by regulation 12 of the waste (England and Wales) Regulations 2011) in deciding the most appropriate option for this waste.

SIGNATURE A Bourke **PRINT NAME** Andy Bourke

DISPOSAL FACILITY (For receiving site use only)

NAME

SIGNATURE

ADDRESS

PRINT NAME

DATE

CONVEYANCE NOTE / CONTROLLED WASTE TRANSFER NOTE
Reg. Waste Carrier Licence No. CB/KP3095LY

GEORGE KILLOUGHERY LTD.

No. 311846

S.I.C. Code (2007) : 49.41

MITCHAM
43A Willow Lane
Mitcham
Surrey
CR4 4NA
Tel: 020 8648 3737

PURFLEET
Beacon Hill Ind. Est.
Botany Quarry
Purfleet, Essex
RM19 1SR
Tel: 01708 860 601

SHEPPERTON
C/o Brett Aggregates
Littleton Lane
Shepperton, Surrey
TW17 0NF
Tel: 01932 563571

Name of Person in charge of Vehicle / Driver Mark Cook

Waste Holder / Delivery Address Dunton Environmental Ltd London Rd Twickenham

Vehicle Reg. No. EA61 NRV

Time on Site

Time off Site

Waiting Time Signature

I can confirm that I have fulfilled my duty to apply the waste hierarchy as required by regulation 12 of the Waste (England and Wales) Regulations 2011.

Description of Material

- ☐ Subsoils & Stones: 17.05.04
- ☐ Clean Concrete: 17.01.01
- ☐ Tarmac & Asphalt: 17.03.02
- ☐ Mixed Construction & Demolition: 17.09.04
- ☐ Clean Hardcore-Mixed Concrete, Bricks & Tiles: 17.01.07
- ☐ Wood: 17.02.01
- ☐ Plastic: 17.02.03
- ☐ Bricks: 17.01.02
- ☐ Tiles: 17.01.03
- ☐ Paper and Cardboard: 15.01.01

Other Muck away EWC Code(s) Wood

Gross	
Tare	
Net	
Cubic Metres	

How is the material contained?
Loose ____
Sacks ____
Skip ____
Other ____

Notes

SIGNED BY PRODUCER / SITE A

PRINT NAME Andy Bourne

DATE 23/11/15

CONCRETE AND MUCK AWAY - PLANT HIRE - READY MIX CONCRETE - DEMOLITION - LABOUR HIRE
WASTE MANAGEMENT - SKIP HIRE

Customers ordering vehicles off the public highway do so entirely at their own responsibility

Dunton ENVIRONMENTAL

CONTROLLED WASTE TRANSFER NOTE No: 11037

REGISTERED WASTE CARRIER:
Dunton Environmental Ltd
Unit 1 Tamebridge Industrial Estate
Aldridge Road, Perry Barr B42 2TX
Waste Carrier Licence No. CB/MP3291BT issued by the Environment Agency

REGISTRATION OF VEHICLE

CUSTOMER (Current holder of the waste)

NAME: ST James (Dunton

SITE ADDRESS (Place of transfer)
Mol Parkland
London Road
Twickenham SW1

DESCRIPTION OF WASTE COLLECTED

☑ SOIL & STONES	17 05 04	☐ CONCRETE	17 01 01
☐ BRICKS	17 01 02	☐ MIXED CONCRETE/BRICKS/TILES/CERAMICS	17 01 07
☐ MIXED CONSTRUCTION & DEMO WASTE	17 09 04	☐ BITUMINOUS MIXTURES (TARMAC/ASPHALT)	17 01 07
☐ MIXED METALS	20 03 01	☐ OTHER.....EWC CODE.....	
☐ MIXED GENERAL REFUSE	20 03 01		

CLASSIFICATION

- ☐ INERT
- ☐ NON-HAZARDOUS
- ☑ HAZARDOUS *(if hazardous, the load will require a consignment note also)*

DISPOSAL FACILITY

NAME:
✗ Wolverhampton

HOW IS THE WASTE CONTAINED? Loose

8 wheeler

IF NOT LOOSE ☐ SACKS ☐ DRUMS ☐ OTHER-DESCRIBE:

SIC Number:

- ☑ 38.2 Waste treatment & disposal
- ☐ 39.0 Remediation activities
- ☐ 41.20/1 Construction of commercial buildings
- ☐ 41.202/2 Construction of domestic buildings
- ☐ Other

LOAD VOLUME

☑ 8-Wheeler 9m3 ☐ 6-Wheeler 7m ☐ Grab 8m3 ☐ Arctic 14m3 ☐ Other

DRIVER NAME:
✗ Mark Cook

HAULIER NAME:
✗

TIME OFF SITE:

SIGNATURE:
✗ M Cook

CUSTOMER *(Holder of waste collected)*

I confirm that the above is an accurate description transferred and that Dunton Environmental have considered the waste hierarchy (as required by regulation 12 of the waste (England and Wales) Regulations 2011) in deciding the most appropriate option for this waste.

SIGNATURE A Bourne **PRINT NAME** Andy Bourne

CILITY *(For receiving site use only)*

	ADDRESS	
	PRINT NAME	DATE

CONVEYANCE NOTE / CONTROLLED WASTE TRANSFER NOTE
Reg. Waste Carrier Licence No. CB/KP3095LY

No. 295605

GEORGE KILLOUGHERY LTD.

S.I.C. Code (2007) : 49.41

MITCHAM
43A Willow Lane
Mitcham
Surrey
CR4 4NA
Tel: 020 8648 3737

PURFLEET
Beacon Hill Ind. Est.
Botany Quarry
Purfleet, Essex
RM19 1SR
Tel: 01708 860 601

SHEPPERTON
C/o Brett Aggregates
Littleton Lane
Shepperton, Surrey
TW17 0NF
Tel: 01932 563571

Name of Person in charge of Vehicle / Driver Mark Cook

Vehicle Reg. No. EU63 EVK

Waste Holder / Delivery Address Dunton Environmental, London Rd, Twickenham

Time on Site

Time off Site

I can confirm that I have fulfilled my duty to apply the waste hierarchy as required by regulation 12 of the Waste (England and Wales) Regulations 2011.

Waiting Time Signature

Description of Material

- ☐ Subsoils & Stones: 17.05.04
- ☐ Clean Concrete: 17.01.01
- ☐ Tarmac & Asphalt: 17.03.02
- ☐ Mixed Construction & Demolition: 17.09.04
- ☐ Clean Hardcore-Mixed Concrete, Bricks & Tiles: 17.01.07
- ☐ Wood: 17.02.01
- ☐ Plastic: 17.02.03
- ☐ Bricks: 17.01.02
- ☐ Tiles: 17.01.03
- ☐ Paper and Cardboard: 15.01.01

Other Muck Away (Cont.) EWC Code(s) Load

Notes

Gross	
Tare	
Net	
Cubic Metres	

How is the material contained?

Loose _____
Sacks _____
Skip _____
Other _____

SIGNED BY PRODUCER / SITE	**PRINT NAME**	**DATE**
	Andy Bourne	24/11/15

CONCRETE AND MUCK AWAY - PLANT HIRE - READY MIX CONCRETE - DEMOLITION - LABOUR HIRE
WASTE MANAGEMENT - SKIP HIRE

Customers ordering vehicles off the public highway do so entirely at their own responsibility

CONVEYANCE NOTE / CONTROLLED WASTE TRANSFER NOTE
Reg. Waste Carrier Licence No. CB/KP3095LY

No. 295615

GEORGE KILLOUGHERY LTD.

S.I.C. Code (2007) : 49.41

MITCHAM
43A Willow Lane
Mitcham
Surrey
CR4 4NA
Tel: 020 8648 3737

PURFLEET
Beacon Hill Ind. Est.
Botany Quarry
Purfleet, Essex
RM19 1SR
Tel: 01708 860 601

SHEPPERTON
C/o Brett Aggregates
Littleton Lane
Shepperton, Surrey
TW17 0NF
Tel: 01932 563571

Name of Person in charge of Vehicle / Driver Mark Cook

Waste Holder / Delivery Address Denton Environmental, London rd, Twickenham

Vehicle Reg. No. EU63 EWK

Time on Site

Time off Site

Waiting Time Signature

I can confirm that I have fulfilled my duty to apply the waste hierarchy as required by regulation 12 of the Waste (England and Wales) Regulations 2011.

Description of Material

- ☐ Subsoils & Stones: 17.05.04
- ☐ Clean Concrete: 17.01.01
- ☐ Tarmac & Asphalt: 17.03.02
- ☐ Mixed Construction & Demolition: 17.09.04
- ☐ Clean Hardcore-Mixed Concrete, Bricks & Tiles: 17.01.07
- ☐ Wood: 17.02.01
- ☐ Plastic: 17.02.03
- ☐ Bricks: 17.01.02
- ☐ Tiles: 17.01.03
- ☐ Paper and Cardboard: 15.01.01

Other Contaminated Muck

Notes EWC Code(s) Road

Gross	
Tare	
Net	
Cubic Metres	

How is the material contained?

Loose _____
Sacks _____
Skip _____
Other _____

SIGNED BY PRODUCER / SITE	**PRINT NAME**	**DATE**
A	Andy Bourne	26/11/15

CONCRETE AND MUCK AWAY - PLANT HIRE - READY MIX CONCRETE - DEMOLITION - LABOUR HIRE
WASTE MANAGEMENT - SKIP HIRE

Customers ordering vehicles off the public highway do so entirely at their own responsibility

Dunton ENVIRONMENTAL

CONTROLLED WASTE TRANSFER NOTE No: 11038

REGISTERED WASTE CARRIER:
Dunton Environmental Ltd
Unit 1 Tamebridge Industrial Estate
Aldridge Road, Perry Barr B42 2TX
Waste Carrier Licence No. CB/MP3291BT issued by the Environment Agency

REGISTRATION OF VEHICLE

CUSTOMER (Current holder of the waste)
NAME: St James (Dunton)

SITE ADDRESS (Place of transfer)
MOL Parkland
London Rd
Twickenham Sw1

DESCRIPTION OF WASTE COLLECTED

- [x] SOIL & STONES 17 05 04
- [ ] BRICKS 17 01 02
- [ ] MIXED CONSTRUCTION & DEMO WASTE 17 09 04
- [ ] MIXED METALS 20 03 01
- [ ] MIXED GENERAL REFUSE 20 03 01
- [ ] CONCRETE 17 01 01
- [ ] MIXED CONCRETE/BRICKS/TILES/CERAMICS 17 01 07
- [ ] BITUMINOUS MIXTURES (TARMAC/ASPHALT) 17 01 07
- [ ] OTHER.....EWC CODE.....

CLASSIFICATION

- [ ] INERT
- [ ] NON-HAZARDOUS
- [x] HAZARDOUS *(if hazardous, the load will require a consignment note also)*

DISPOSAL FACILITY
NAME: Wolverhampton

HOW IS THE WASTE CONTAINED?
8 wheeler (Loose)

IF NOT LOOSE [ ] SACKS [ ] DRUMS [ ] OTHER-DESCRIBE:

LOAD VOLUME
[x] 8-Wheeler 9m3 [ ] 6-Wheeler 7m [ ] Grab 8m3 [ ] Arctic 14m3 [ ] Other

SIC Number:
[x] 38.2 Waste treatment & disposal
[ ] 39.0 Remediation activities
[ ] 41.20/1 Construction of commercial buildings
[ ] 41.202/2 Construction of domestic buildings
[ ] Other

DRIVER NAME: Mark Cook

TIME OFF SITE:

SIGNATURE:

HAULIER NAME: ICL Loughers

CUSTOMER (Holder of waste collected)
I confirm that the above is an accurate description transferred and that Dunton Environmental have considered the waste hierarchy (as required by regulation 12 of the waste (England and Wales) Regulations 2011) in deciding the most appropriate option for this waste.
SIGNATURE

PRINT NAME Andy Bourke

DISPOSAL FACILITY (For receiving site use only)
NAME

SIGNATURE

ADDRESS

PRINT NAME

DATE

The Hazardous Waste Regulations 2005: Consignment Note

DTC/15/0893

Dunton ENVIRONMENTAL
Restoring Our Environment

PART A Notification details

1 Consignment note code: DTR.50/8301

2 The waste described below is to be removed from (name, address, postcode, telephone, e-mail, facsimile):
Twickenham, London Rd, TW1 1EE

3 Premises code (where applicable): ORD348

4 The waste will be taken to (name, address and postcode):
Horseley Fields, Wolverhampton WV1 3DN

5 The waste producer was (if different from 2) (name, address, postcode, telephone, e-mail, facsimile):
Twickenham, London Rd, TW1 1EE

PART B Description of the waste

If continuation sheet used, tick here ☐

1 The process giving rise to the waste(s) was: Excavation

2 SIC for the process giving rise to the waste: 38.21/

3 WASTE DETAILS (where more than one waste type is collected all of the information given below must be completed for each EWC identified)

Description of waste	List of wastes (EWC code)(6 digits)	Quantity (kg)	The chemical/biological components in the waste and their concentrations are: Component	Concentration (% or mg/kg)	Physical form (gas, liquid, solid, powder, sludge or mixed)	Hazard code(s)	Container type, number and size
Soil & Stone	170503	1Load	Lead	1990mg/kg	Solid	HP14	Tipper

The information given below is to be completed for each EWC identified

EWC code	UN identification number(s)	Proper shipping name(s)	UN class(es)	Packing group(s)	Special handling requirements

PART C Carrier's certificate

(If more than one carrier is used, please attach schedule for subsequent carriers. If schedule of carriers is attached tick here. ☐)

I certify that I today collected the consignment and that the details in A2, A4 and B3 are correct and I have been advised of any specific handling requirements.

Where this note comprises part of a multiple collection the round number and collection number are: /

1 Carrier name: Killoughery

On behalf of (name, address, postcode, telephone, e-mail, facsimile):
Dunton Environmental Ltd
BH22 8TX

x2 Carrier registration no./reason for exemption:
Mr Cook

x3 Vehicle registration no. (or mode of transport, if not road):

x Signature

Date Time

PART D Consignor's certificate

I certify that the information in A, B and C has been completed and is correct, that the carrier is registered or exempt and was advised of the appropriate precautionary measures. All of the waste is packaged and labelled correctly and the carrier has been advised of any special handling requirements.

I confirm that I have fulfilled my duty to apply the waste hierarchy as required by Regulation 12 of the Waste (England and Wales) Regulations 2011.

x1 Consignor name: Andy Bourne

x On behalf of (name, address, postcode, telephone, e-mail, facsimile):

x Signature

x Date Time

PART E Consignee's certificate (where more than one waste type is collected all of the information given below must be completed for each EWC)

Individual EWC code(s) received	Quantity of each EWC code received (kg)	EWC code accepted/rejected	Waste management operation (R or D code)

1 I received this waste at the address given in A4 on: Date Time

2 Vehicle registration no. (or mode of transport if not road):

3 Where waste is rejected please provide details:

Name:

On behalf of (name, address, postcode, telephone, e-mail, facsimile):

I certify that waste permit/exempt waste operation number:

authorises the management of the waste described in B at the address given in A4.

Where the consignment forms part of a multiple collection, as identified in Part C, I certify that the total number of consignments forming the collection are:

Signature

Date Time

Dunton ENVIRONMENTAL
Restoring Our Environment

CONTROLLED WASTE TRANSFER

NOTE No: 12765

REGISTERED WASTE CARRIER:
Dunton Environmental Ltd
Unit 1 Tamebridge Industrial Estate
Aldridge Road, Perry Barr B42 2TX
Waste Carrier Licence No. CB/MP3291BT issued by the Environment Agency

REGISTRATION OF VEHICLE
EJ15 OUN

CUSTOMER (Current holder of the waste)

NAME: DUNTON

SITE ADDRESS (Place of transfer) TWICKENHAM

DESCRIPTION OF WASTE COLLECTED

☐ SOIL & STONES	17 05 04	☐ CONCRETE	17 01 01
☐ BRICKS	17 01 02	☐ MIXED CONCRETE/BRICKS/TILES/CERAMICS	17 01 07
☐ MIXED CONSTRUCTION & DEMO WASTE	17 09 04	☐ BITUMINOUS MIXTURES (TARMAC/ASPHALT)	17 01 07
☐ MIXED METALS	20 03 01	☐ OTHER.....EWC CODE.....	
☐ MIXED GENERAL REFUSE	20 03 01	170503	

CLASSIFICATION

- ☐ INERT
- ☐ NON-HAZARDOUS
- ☒ HAZARDOUS *(if hazardous, the load will require a consignment note also)*

DISPOSAL FACILITY

NAME: W'TON HUB WV1 3DW

HOW IS THE WASTE CONTAINED? (Loose)

IF NOT LOOSE ☐ SACKS ☐ DRUMS ☐ OTHER-DESCRIBE:

SIC Number:

- ☐ 38.2 Waste treatment & disposal
- ☐ 39.0 Remediation activities
- ☐ 41.20/1 Construction of commercial buildings
- ☐ 41.202/2 Construction of domestic buildings
- ☐ Other

LOAD VOLUME

☒ 8-Wheeler 9m3 ☐ 6-Wheeler 7m ☐ Grab 8m3 ☐ Arctic 14m3 ☐ Other

DRIVER NAME: X

HAULIER NAME: KILLOUGHERY

TIME OFF SITE:

SIGNATURE: X

CUSTOMER *(Holder of waste collected)*

I confirm that the above is an accurate description transferred and that Dunton Environmental have considered the waste hierarchy (as required by regulation 12 of the waste (England and Wales) Regulations 2011) in deciding the most appropriate option for this waste.

SIGNATURE [signature] **PRINT NAME** P. ACKERMAN

DISPOSAL FACILITY *(For receiving site use only)*

NAME	ADDRESS	
DUNTON	W'TON	
SIGNATURE	**PRINT NAME**	**DATE**
[signature]	D. BOLAS	23/11/15

CONVEYANCE NOTE / CONTROLLED WASTE TRANSFER NOTE
Reg. Waste Carrier Licence No. CB/KP3095LY

No. 296170

S.I.C. Code (2007) : 49.41

GEORGE KILLOUGHERY LTD.

MITCHAM
43A Willow Lane
Mitcham
Surrey
CR4 4NA
Tel: 020 8648 3737

PURFLEET
Beacon Hill Ind. Est.
Botany Quarry
Purfleet, Essex
RM19 1SR
Tel: 01708 860 601

SHEPPERTON
C/o Brett Aggregates
Littleton Lane
Shepperton, Surrey
TW17 0NF
Tel: 01932 563571

Name of Person in charge of Vehicle / Driver PAUL ACKERMAN	**Vehicle Reg. No.** EJ15 AUN
Waste Holder / Delivery Address DUNTON ENVIRONMENTAL 16 UNION MILL ST WOLVERHAMPTON	**Time on Site**
	Time off Site
I can confirm that I have fulfilled my duty to apply the waste hierarchy as required by regulation 12 of the Waste (England and Wales) Regulations 2011.	**Waiting Time Signature**

Description of Material

- [ ] Subsoils & Stones: 17.05.04
- [ ] Clean Concrete: 17.01.01
- [ ] Tarmac & Asphalt: 17.03.02
- [ ] Mixed Construction & Demolition: 17.09.04
- [ ] Clean Hardcore-Mixed Concrete, Bricks & Tiles: 17.01.07
- [ ] Wood: 17.02.01
- [ ] Plastic: 17.02.03
- [ ] Bricks: 17.01.02
- [ ] Tiles: 17.01.03
- [ ] Paper and Cardboard: 15.01.01

Other MUCK AWAY EWC Code(s) _____

Notes

Gross	
Tare	
Net	
Cubic Metres	

How is the material contained?

Loose _____
Sacks _____
Skip _____
Other _____

SIGNED BY PRODUCER / SITE	**PRINT NAME**	**DATE**
	D BOND	25/11/15

CONCRETE AND MUCK AWAY - PLANT HIRE - READY MIX CONCRETE - DEMOLITION - LABOUR HIRE
WASTE MANAGEMENT - SKIP HIRE
Customers ordering vehicles off the public highway do so entirely at their own responsibility

The Hazardous Waste Regulations 2005: Consignment Note

Dunton ENVIRONMENTAL
Restoring Our Environment

PART A Notification details

1 Consignment note code: DTR150/83002

2 The waste described below is to be removed from (name, address, postcode, telephone, e-mail, facsimile):
TWICKENHAM LONDON ROAD TW1 1EE

3 Premises code (where applicable): ORD348

4 The waste will be taken to (name, address and postcode):
HORSELEY FIELDS, WOLVERHAMPTON WV1 3DW

5 The waste producer was (if different from 2) (name, address, postcode, telephone, e-mail, facsimile):
TWICKENHAM, LONDON RD TW1 1EE

PART B Description of the waste

If continuation sheet used, tick here ☐

1 The process giving rise to the waste(s) was: EXCAVATION

2 SIC for the process giving rise to the waste: 38.22/

3 WASTE DETAILS (where more than one waste type is collected all of the information given below must be completed for each EWC identified)

Description of waste	List of wastes (EWC code)(6 digits)	Quantity (kg)	The chemical/biological components in the waste and their concentrations are: Component	Concentration (% or mg/kg)	Physical form (gas, liquid, solid, powder, sludge or mixed)	Hazard code(s)	Container type, number and size
SOIL/STONE	170503	LOAD	LEAD	1990 MG/KG	SOLID	HP14	TIPPER

The information given below is to be completed for each EWC identified

EWC code	UN identification number(s)	Proper shipping name(s)	UN class(es)	Packing group(s)	Special handling requirements

PART C Carrier's certificate

(If more than one carrier is used, please attach schedule for subsequent carriers. If schedule of carriers is attached tick here. ☐)

I certify that I today collected the consignment and that the details in A2, A4 and B3 are correct and I have been advised of any specific handling requirements.

Where this note comprises part of a multiple collection the round number and collection number are: /

1 Carrier name: KILLOUGHERY

On behalf of (name, address, postcode, telephone, e-mail, facsimile):
DUNTON ENVIRONMENTAL
BL42 2TX

2 Carrier registration no./reason for exemption:
M COCK

3 Vehicle registration no. (or mode of transport, if not road):

Signature

Date 24/11/2015 Time 1600

PART D Consignor's certificate

I certify that the information in A, B and C has been completed and is correct, that the carrier is registered or exempt and was advised of the appropriate precautionary measures. All of the waste is packaged and labelled correctly and the carrier has been advised of any special handling requirements.

I confirm that I have fulfilled my duty to apply the waste hierarchy as required by Regulation 12 of the Waste (England and Wales) Regulations 2011.

1 Consignor name:

On behalf of (name, address, postcode, telephone, e-mail, facsimile):
UNION MILL STREET
WOLVERHAMPTON WV1 3DW

Signature

Date 24/11/2015 Time 1600

PART E Consignee's certificate (where more than one waste type is collected all of the information given below must be completed for each EWC)

Individual EWC code(s) received	Quantity of each EWC code received (kg)	EWC code accepted/rejected	Waste management operation (R or D code)
170503	25.30	ACC	TREAT
	13.08		
	12.22		

1 I received this waste at the address given in A4 on: Date 25/11/2015 Time 1010

2 Vehicle registration no. (or mode of transport if not road):
EJ15 OUN

3 Where waste is rejected please provide details:

I certify that waste permit/exempt waste operation number:
EPB/GB 37 39 RT

authorises the management of the waste described in B at the address given in A4.

Where the consignment forms part of a multiple collection, as identified in Part C, I certify that the total number of consignments forming the collection are:

Name: DUNTON

On behalf of (name, address, postcode, telephone, e-mail, facsimile):
W'TON HUB
WV1 3DW

Signature

Date 25/11/2015 Time 1010

The Hazardous Waste Regulations 2005: Consignment Note

Dunton ENVIRONMENTAL
Restoring Our Environment

PART A Notification details

1 Consignment note code: DTR150/8300 2

2 The waste described below is to be removed from (name, address, postcode, telephone, e-mail, facsimile):
TWICKENHAM LONDON ROAD TW1 1EE

3 Premises code (where applicable): 0R038

4 The waste will be taken to (name, address and postcode):
HORSELEY FIELDS, WOLVERHAMPTON WV1 3DW

5 The waste producer was (if different from 2) (name, address, postcode, telephone, e-mail, facsimile):
TWICKENHAM, LONDON E0 TW1 1EE

PART B Description of the waste

If continuation sheet used, tick here ☐

1 The process giving rise to the waste(s) was: EXCAVATION

2 SIC for the process giving rise to the waste: 38.22/

3 WASTE DETAILS (where more than one waste type is collected all of the information given below must be completed for each EWC identified)

Description of waste	List of wastes (EWC code)(6 digits)	Quantity (kg)	The chemical/biological components in the waste and their concentrations are:		Physical form (gas, liquid, solid, powder, sludge or mixed)	Hazard code(s)	Container type, number and size
			Component	Concentration (% or mg/kg)			
SOIL + STONE	170503	LOAD	LEAD	1990 MG/KG	SOLID	HP4	TIPPER

The information given below is to be completed for each EWC identified

EWC code	UN identification number(s)	Proper shipping name(s)	UN class(es)	Packing group(s)	Special handling requirements

PART C Carrier's certificate

(If more than one carrier is used, please attach schedule for subsequent carriers. If schedule of carriers is attached tick here. ☐)

I certify that I today collected the consignment and that the details in A2, A4 and B3 are correct and I have been advised of any specific handling requirements.

Where this note comprises part of a multiple collection the round number and collection number are: /

1 Carrier name: KILLOUGHERY

On behalf of (name, address, postcode, telephone, e-mail, facsimile):
DUNTON ENVIRONMENTAL
BL2 2TA

2 Carrier registration no./reason for exemption:
M. COCK

3 Vehicle registration no. (or mode of transport, if not road):

Signature

Date 24/12/15 Time 1600

PART D Consignor's certificate

I certify that the information in A, B and C has been completed and is correct, that the carrier is registered or exempt and was advised of the appropriate precautionary measures. All of the waste is packaged and labelled correctly and the carrier has been advised of any special handling requirements.

I confirm that I have fulfilled my duty to apply the waste hierarchy as required by Regulation 12 of the Waste (England and Wales) Regulations 2011.

1 Consignor name:

On behalf of (name, address, postcode, telephone, e-mail, facsimile):
UNION MILL STREET
WOLVERHAMPTON WV1 3DW

Signature

Date 24/12/15 Time 1600

PART E Consignee's certificate (where more than one waste type is collected all of the information given below must be completed for each EWC)

Individual EWC code(s) received	Quantity of each EWC code received (kg)	EWC code accepted/rejected	Waste management operation (R or D code)
170503	25.30	ACC	TREAT
	13.08		
	12.22		

1 I received this waste at the address given in A4 on: Date 25/12/15 Time 1010

2 Vehicle registration no. (or mode of transport if not road):
E515 OUN

3 Where waste is rejected please provide details:

I certify that waste permit/exempt waste operation number:
EPR/CB 3739 ET
authorises the management of the waste described in B at the address given in A4.

Where the consignment forms part of a multiple collection, as identified in Part C, I certify that the total number of consignments forming the collection are:

Name: DUNTON

On behalf of (name, address, postcode, telephone, e-mail, facsimile):
W'TON HUB
WV1 3DW

Signature

Date 25/12/15 Time 1010

Dunton ENVIRONMENTAL
Restoring Our Environment

CONTROLLED WASTE TRANSFER NOTE No: 11733

REGISTERED WASTE CARRIER:
Dunton Environmental Ltd
Unit 1 Tamebridge Industrial Estate
Aldridge Road, Perry Barr B42 2TX
Waste Carrier Licence No. CB/MP3291BT issued by the Environment Agency

REGISTRATION OF VEHICLE

CUSTOMER (Current holder of the waste)

NAME: DUNTON ENVIRONMENTAL

SITE ADDRESS (Place of transfer) TWICKENHAM LONDON ROAD TW1 1EE

DESCRIPTION OF WASTE COLLECTED

☐ SOIL & STONES	17 05 04	☐ CONCRETE	17 01 01
☐ BRICKS	17 01 02	☐ MIXED CONCRETE/BRICKS/TILES/CERAMICS	17 01 07
☐ MIXED CONSTRUCTION & DEMO WASTE	17 09 04	☐ BITUMINOUS MIXTURES (TARMAC/ASPHALT)	17 01 07
☐ MIXED METALS	20 03 01	☐ OTHER.....EWC CODE.....	
☐ MIXED GENERAL REFUSE	20 03 01	17 05 03	

CLASSIFICATION

- ☐ INERT
- ☐ NON-HAZARDOUS
- ☑ HAZARDOUS *(if hazardous, the load will require a consignment note also)*

DISPOSAL FACILITY

NAME: W'TON WASTE HUB WV1 3QW

HOW IS THE WASTE CONTAINED? (Loose)

IF NOT LOOSE ☐ SACKS ☐ DRUMS ☐ OTHER-DESCRIBE:

SIC Number:

- ☑ 38.2 Waste treatment & disposal
- ☐ 39.0 Remediation activities
- ☐ 41.20/1 Construction of commercial buildings
- ☐ 41.202/2 Construction of domestic buildings
- ☐ Other

LOAD VOLUME

☑ 8-Wheeler 9m3 ☐ 6-Wheeler 7m ☐ Grab 8m3 ☐ Arctic 14m3 ☐ Other

DRIVER NAME: x P. ACKERMAN

HAULIER NAME: KILLOUGHERY

TIME OFF SITE:

SIGNATURE: x

CUSTOMER *(Holder of waste collected)*

I confirm that the above is an accurate description transferred and that Dunton Environmental have considered the waste hierarchy (as required by regulation 12 of the waste (England and Wales) Regulations 2011) in deciding the most appropriate option for this waste.

SIGNATURE **PRINT NAME**

DISPOSAL FACILITY *(For receiving site use only)*

NAME	ADDRESS	
DUNTON	W'TON	
SIGNATURE	**PRINT NAME**	**DATE**
	D BOLAS	24/11/15

Reg. Waste Carrier Licence No. CB/KP3095LY

No. 296169

S.I.C. Code (2007) : 49.41

GEORGE KILLOUGHERY LTD.

MITCHAM
43A Willow Lane
Mitcham
Surrey
CR4 4NA
Tel: 020 8648 3737

PURFLEET
Beacon Hill Ind. Est.
Botany Quarry
Purfleet, Essex
RM19 1SR
Tel: 01708 860 601

SHEPPERTON
C/o Brett Aggregates
Littleton Lane
Shepperton, Surrey
TW17 0NF
Tel: 01932 563571

Name of Person in charge of Vehicle / Driver PAUL ACKERMAN	**Vehicle Reg. No.** EJ15 OUW
Waste Holder / Delivery Address DUNTON ENVIRONMENTAL 16 UNION MILL ST LUTTERWORTH	**Time on Site**
	Time off Site
I can confirm that I have fulfilled my duty to apply the waste hierarchy as required by regulation 12 of the Waste (England and Wales) Regulations 2011.	**Waiting Time Signature**

Description of Material

- ☐ Subsoils & Stones: 17.05.04
- ☐ Clean Concrete: 17.01.01
- ☐ Tarmac & Asphalt: 17.03.02
- ☐ Mixed Construction & Demolition: 17.09.04
- ☐ Clean Hardcore-Mixed Concrete, Bricks & Tiles: 17.01.07
- ☐ Wood: 17.02.01
- ☐ Plastic: 17.02.03
- ☐ Bricks: 17.01.02
- ☐ Tiles: 17.01.03
- ☐ Paper and Cardboard: 15.01.01

Other MUCK AWAY EWC Code(s) _____

Notes

Gross	
Tare	
Net	
Cubic Metres	

How is the material contained?

Loose _____
Sacks _____
Skip _____
Other _____

SIGNED BY PRODUCER / SITE	**PRINT NAME**	**DATE**
	D BALAS	24/11/15

CONCRETE AND MUCK AWAY - PLANT HIRE - READY MIX CONCRETE - DEMOLITION - LABOUR HIRE
WASTE MANAGEMENT - SKIP HIRE

Customers ordering vehicles off the public highway do so entirely at their own responsibility

The Hazardous Waste Regulations 2005: Consignment Note

DTC/15/0893

Dunton ENVIRONMENTAL
Restoring Our Environment

PART A Notification details

1 Consignment note code: DTR150/8300 1

2 The waste described below is to be removed from (name, address, postcode, telephone, e-mail, facsimile):
Twickenham, London Rd, TW1 1EE

3 Premises code (where applicable): ORD348

4 The waste will be taken to (name, address and postcode):
Horseley Fields, Wolverhampton
WV1 3DW

5 The waste producer was (if different from 2) (name, address, postcode, telephone, e-mail, facsimile):
Twickenham, London Rd, TW1 1EE

PART B Description of the waste

If continuation sheet used, tick here ☐

1 The process giving rise to the waste(s) was: Excavation

2 SIC for the process giving rise to the waste: 38.22/

3 WASTE DETAILS (where more than one waste type is collected all of the information given below must be completed for each EWC identified)

Description of waste	List of wastes (EWC code)(6 digits)	Quantity (kg)	The chemical/biological components in the waste and their concentrations are:		Physical form (gas, liquid, solid, powder, sludge or mixed)	Hazard code(s)	Container type, number and size
			Component	Concentration (% or mg/kg)			
Soil & Stone	170503	1Load	Lead	1990mg/kg	Solid	HP14	Tipper

The information given below is to be completed for each EWC identified

EWC code	UN identification number(s)	Proper shipping name(s)	UN class(es)	Packing group(s)	Special handling requirements

PART C Carrier's certificate

(If more than one carrier is used, please attach schedule for subsequent carriers. If schedule of carriers is attached tick here. ☐)

I certify that I today collected the consignment and that the details in A2, A4 and B3 are correct and I have been advised of any specific handling requirements.

Where this note comprises part of a multiple collection the round number and collection number are: /

1 Carrier name: Killoughery

On behalf of (name, address, postcode, telephone, e-mail, facsimile):
Dunton Environmental Ltd
B42 2TX

x2 Carrier registration no./reason for exemption:
M. Cook

x3 Vehicle registration no. (or mode of transport if not road):

x Signature

Date 23/11/15 Time 1502

PART D Consignor's certificate

I certify that the information in A, B and C has been completed and is correct, that the carrier is registered or exempt and was advised of the appropriate precautionary measures. All of the waste is packaged and labelled correctly and the carrier has been advised of any special handling requirements.

I confirm that I have fulfilled my duty to apply the waste hierarchy as required by Regulation 12 of the Waste (England and Wales) Regulations 2011.

x1 Consignor name: Andy Bourke

xOn behalf of (name, address, postcode, telephone, e-mail, facsimile):
16 Union Mill Street
Wolverhampton

x Signature

x Date 23/11/15 Time 1507

PART E Consignee's certificate (where more than one waste type is collected all of the information given below must be completed for each EWC)

Individual EWC code(s) received	Quantity of each EWC code received (kg)	EWC code accepted/rejected	Waste management operation (R or D code)
170503	27.26	ACC	TREATMENT
	13.04		
	14.22		

1 I received this waste at the address given in A4 on: Date 24/11/2015 Time 1020

2 Vehicle registration no. (or mode of transport if not road):

3 Where waste is rejected please provide details:

I certify that waste permit/exempt waste operation number:
EPB/EB 37 39 RT
authorises the management of the waste described in B at the address given in A4.

Where the consignment forms part of a multiple collection, as identified in Part C, I certify that the total number of consignments forming the collection are:

Name: DUNTON
On behalf of (name, address, postcode, telephone, e-mail, facsimile):
W'TON HUB
WV1 3DW

Signature

Date 24/11/2015 Time 1020

Dunton ENVIRONMENTAL
Restoring Our Environment

CONTROLLED WASTE TRANSFER NOTE No: 12811

REGISTERED WASTE CARRIER:
Dunton Environmental Ltd
Unit 1 Tamebridge Industrial Estate
Aldridge Road, Perry Barr B42 2TX
Waste Carrier Licence No. CB/MP3291BT issued by the Environment Agency

REGISTRATION OF VEHICLE
[redacted] EJ15 OUN

CUSTOMER (Current holder of the waste)

NAME: DUNTON

SITE ADDRESS (Place of transfer) LONDON RD TWICKENHAM TW1 1EE

DESCRIPTION OF WASTE COLLECTED

☐ SOIL & STONES	17 05 04	☐ CONCRETE	17 01 01
☐ BRICKS	17 01 02	☐ MIXED CONCRETE/BRICKS/TILES/CERAMICS	17 01 07
☐ MIXED CONSTRUCTION & DEMO WASTE	17 09 04	☐ BITUMINOUS MIXTURES (TARMAC/ASPHALT)	17 01 07
☐ MIXED METALS	20 03 01	☐ OTHER.....EWC CODE.....	
☐ MIXED GENERAL REFUSE	20 03 01	170503	

CLASSIFICATION
- ☐ INERT
- ☐ NON-HAZARDOUS
- ☐ HAZARDOUS *(if hazardous, the load will require a consignment note also)*

DISPOSAL FACILITY
NAME: WTON HUB WV1 3DW

HOW IS THE WASTE CONTAINED? Loose

IF NOT LOOSE ☐ SACKS ☐ DRUMS ☐ OTHER-DESCRIBE:

SIC Number:
- ☐ 38.2 Waste treatment & disposal
- ☐ 39.0 Remediation activities
- ☐ 41.20/1 Construction of commercial buildings
- ☐ 41.202/2 Construction of domestic buildings
- ☐ Other

LOAD VOLUME
☐ 8-Wheeler 9m3 ☐ 6-Wheeler 7m ☐ Grab 8m3 ☐ Arctic 14m3 ☐ Other

DRIVER NAME: x

HAULIER NAME: KILLOUGHERY

TIME OFF SITE:

SIGNATURE: x

CUSTOMER *(Holder of waste collected)*

I confirm that the above is an accurate description transferred and that Dunton Environmental have considered the waste hierarchy (as required by regulation 12 of the waste (England and Wales) Regulations 2011) in deciding the most appropriate option for this waste.

SIGNATURE [signature] **PRINT NAME** [illegible]

DISPOSAL FACILITY *(For receiving site use only)*

NAME DUNTON **ADDRESS** WTON

SIGNATURE [signature] **PRINT NAME** D Bains **DATE** 27/11/15

The Hazardous Waste Regulations 2005: Consignment Note

Dunton ENVIRONMENTAL
Restoring Our Environment

PART A Notification details

1 Consignment note code: DTR150/83003

2 The waste described below is to be removed from (name, address, postcode, telephone, e-mail, facsimile):

LONDON ROAD
TWICKENHAM TW1 1EE

3 Premises code (where applicable): OR0348

4 The waste will be taken to (name, address and postcode):

HORSELEY FIELDS, W'TON
WV1 3ON

5 The waste producer was (if different from 2) (name, address, postcode, telephone, e-mail, facsimile):

LONDON RD TWICKENHAM TW1 1EE

PART B Description of the waste

If continuation sheet used, tick here ☐

1 The process giving rise to the waste(s) was:

2 SIC for the process giving rise to the waste: 38.22/

3 WASTE DETAILS (where more than one waste type is collected all of the information given below must be completed for each EWC identified)

Description of waste	List of wastes (EWC code)(6 digits)	Quantity (kg)	The chemical/biological components in the waste and their concentrations are:		Physical form (gas, liquid, solid, powder, sludge or mixed)	Hazard code(s)	Container type, number and size
			Component	Concentration (% or mg/kg)			
SOIL + STONE	170503	LOAD	LEAD	1990MG/KG	SOLID	HP14	TIPPER

The information given below is to be completed for each EWC identified

EWC code	UN identification number(s)	Proper shipping name(s)	UN class(es)	Packing group(s)	Special handling requirements

PART C Carrier's certificate

(If more than one carrier is used, please attach schedule for subsequent carriers. If schedule of carriers is attached tick here. ☐)

I certify that I today collected the consignment and that the details in A2, A4 and B3 are correct and I have been advised of any specific handling requirements.

Where this note comprises part of a multiple collection the round number and collection number are: /

1 Carrier name: KILLOUGHERY

On behalf of (name, address, postcode, telephone, e-mail, facsimile):

DUNTON ENVIRONMENTAL
BL2 2TX

2 Carrier registration no./reason for exemption:

M COOK

3 Vehicle registration no. (or mode of transport, if not road):

Signature

Date Time

PART D Consignor's certificate

I certify that the information in A, B and C has been completed and is correct, that the carrier is registered or exempt and was advised of the appropriate precautionary measures. All of the waste is packaged and labelled correctly and the carrier has been advised of any special handling requirements.

I confirm that I have fulfilled my duty to apply the waste hierarchy as required by Regulation 12 of the Waste (England and Wales) Regulations 2011.

1 Consignor name:

On behalf of (name, address, postcode, telephone, e-mail, facsimile):

UNION MILL STREET
W'TON WV1 3ON

Signature

Date Time

PART E Consignee's certificate (where more than one waste type is collected all of the information given below must be completed for each EWC)

Individual EWC code(s) received	Quantity of each EWC code received (kg)	EWC code accepted/rejected	Waste management operation (R or D code)
170503	27.52	ACC	TREAT
	13.06 14.46		

1 I received this waste at the address given in A4 on: Date 27/1/2015 Time 1030

2 Vehicle registration no. (or mode of transport if not road):

ED15OUN

3 Where waste is rejected please provide details:

I certify that waste permit/exempt waste operation number:

EPB/EB 37 39 RT

authorises the management of the waste described in B at the address given in A4.

Where the consignment forms part of a multiple collection, as identified in Part C, I certify that the total number of consignments forming the collection are:

Name: DUNTON

On behalf of (name, address, postcode, telephone, e-mail, facsimile):

W'TON HUB
WV1 3ON

Signature

Date 27/1/2015 Time 1030

The Hazardous Waste Regulations 2005: Consignment Note

Dunton ENVIRONMENTAL
Restoring Our Environment

PART A Notification details

1 Consignment note code: DTR150/83003

2 The waste described below is to be removed from (name, address, postcode, telephone, e-mail, facsimile):

LONDON ROAD
TWICKENHAM TW1 1EE

3 Premises code (where applicable): OKD348

4 The waste will be taken to (name, address and postcode):

HOGGELY FIELDS, WTON
WV1 3ON

5 The waste producer was (if different from 2) (name, address, postcode, telephone, e-mail, facsimile):

LONDON RD TWICKENHAM TW1 1EE

PART B Description of the waste

If continuation sheet used, tick here ☐

1 The process giving rise to the waste(s) was:

2 SIC for the process giving rise to the waste: 38.22/

3 WASTE DETAILS (where more than one waste type is collected all of the information given below must be completed for each EWC identified)

Description of waste	List of wastes (EWC code)(6 digits)	Quantity (kg)	The chemical/biological components in the waste and their concentrations are:		Physical form (gas, liquid, solid, powder, sludge or mixed)	Hazard code(s)	Container type, number and size
			Component	Concentration (% or mg/kg)			
SOIL + STONE	170503	1.2	LEAD	1990mg/kg	SOLID	HP14	1 SKIP

The information given below is to be completed for each EWC identified

EWC code	UN identification number(s)	Proper shipping name(s)	UN class(es)	Packing group(s)	Special handling requirements

PART C Carrier's certificate

(If more than one carrier is used, please attach schedule for subsequent carriers. If schedule of carriers is attached tick here. ☐)

I certify that I today collected the consignment and that the details in A2, A4 and B3 are correct and I have been advised of any specific handling requirements.

Where this note comprises part of a multiple collection the round number and collection number are: /

1 Carrier name: KILLOUGHERY

On behalf of (name, address, postcode, telephone, e-mail, facsimile):

DUNTON ENVIRONMENTAL
BL2 2TA

2 Carrier registration no./reason for exemption:

M COOK

3 Vehicle registration no. (or mode of transport, if not road):

Signature

Date | Time

PART D Consignor's certificate

I certify that the information in A, B and C has been completed and is correct, that the carrier is registered or exempt and was advised of the appropriate precautionary measures. All of the waste is packaged and labelled correctly and the carrier has been advised of any special handling requirements.

I confirm that I have fulfilled my duty to apply the waste hierarchy as required by Regulation 12 of the Waste (England and Wales) Regulations 2011.

1 Consignor name:

On behalf of (name, address, postcode, telephone, e-mail, facsimile):

UNION MILL STREET
W'TON WV1 3ON

Signature

Date | Time

PART E Consignee's certificate (where more than one waste type is collected all of the information given below must be completed for each EWC)

Individual EWC code(s) received	Quantity of each EWC code received (kg)	EWC code accepted/rejected	Waste management operation (R or D code)
170503	27.52	ACC	TREAT
	13.06		
	14.46		

1 I received this waste at the address given in A4 on: Date 27/1/2015 Time 1030

2 Vehicle registration no. (or mode of transport if not road):

(T) 150UN

3 Where waste is rejected please provide details:

Name: DUNTONS

On behalf of (name, address, postcode, telephone, e-mail, facsimile):

W'TON HUB
WV1 3ON

I certify that waste permit/exempt waste operation number:

EPR/EB3739RT

authorises the management of the waste described in B at the address given in A4.

Where the consignment forms part of a multiple collection, as identified in Part C, I certify that the total number of consignments forming the collection are:

Signature

Date 27/1/2015 Time 1030

APPENDIX E

4 REMEDIAL STRATEGY

4.1 Introduction

This Remediation Method Statement has been designed to break or remove the potential pollutant linkages identified on site from preceding investigation works. Essentially these comprise:

- Risks to end users of the site attributable to the presence of localised asbestos containing materials and elevated concentrations of Lead; and
- Risk to groundworkers and adjacent site users during redevelopment works.

4.2 Remedial objectives

The objectives of the remediation are to produce a site that is suitable for its intended purposes whilst providing a safe working environment with respect to site workers and adjacent users. This will involve the following measures:

- Targeted excavation of impacted soils (identified contamination hotspots) for disposal off-site at an appropriate licensed facility;
- The placement of a 300mm clean cover layer along the 1.0m wide landscaped strip to be created along the flanks of the footpath; and
- Adoption of safe working procedures with respect to the identified presence of asbestos containing materials.

4.3 Implementation plan

4.3.1 Introduction

The overall remediation strategy for the site may be divided into the enabling phase, i.e. those works required to produce a suitable development platform, and the subsequent construction phase. The sequence of works required under both phases is outlined in the following sections.

4.3.2 Enabling phase

4.3.2.1 Removal of identified Asbestos impacted soils

Localised excavation of soils identified to contain asbestos containing materials should be conducted before further disturbance of the ground. This will require localised excavation in the vicinity of WS214 and WS215. In each instance excavation works should cover a plan area of 3m by 3m extending at least 0.2m beyond the depth at which asbestos containing materials were confirmed (0.60mbgl and 0.50mbgl respectively).

Excavation works should be conducted under the supervision of a suitably accredited asbestos surveyor or similar. Soils to be excavated should be suitably damped down before being disturbed, and ideally removed off site without delay or temporary

stockpiling which, depending upon the weather and soil moisture, may require covering if temporary stockpiling is necessary. The full control measures to be implemented during these works should be detailed within the contractors working method statements.

Where these works are conducted during dry weather, air monitoring should be undertaken for the duration of the excavation works with an appropriate number of monitoring points targeting the works face and site boundaries. Copies of the monitoring records should be made available for inclusions within the site verification report.

Whilst these excavation works will effectively remove soils proven to contain asbestos containing materials, similar occurrence may and are likely to occur in the surrounding materials and therefore adjacent excavation works should be conducted under a careful watching brief.

Following excavation of the soils, the exposed sides and base of the excavation should be validated by means of analytical testing to confirm the removal of all impacted soils. A minimum of five soil samples should be analysed for comparison against the validation criteria contained in **Table 4**.

Where validation testing confirms the extent of the excavation works to be appropriate, backfilling of the resultant void should be conducted using certified clean soils complying with the validation criteria contained in **Table 4**.

4.3.2.2 Removal of identified Lead impacted soils

Localised excavation of soils identified to contain elevated concentrations of Lead should be conducted before further disturbance of the ground. This will require localised excavation in the vicinity of WS216 at a depth of 0.2m. In this area, excavation works should cover a plan area of 3m by 3m extending at least 0.2m beyond the depth at which contamination was encountered.

Soils to be excavated should ideally be removed off site without delay or temporary stockpiling which, depending upon the weather and soil moisture, may require covering if temporary stockpiling is necessary. The full control measures to be implemented during these works should be detailed within the contractors working method statements.

Following excavation of the soils, the exposed sides and base of the excavation should be validated by means of analytical testing to confirm the removal of all impacted soils. A minimum of five soil samples should be analysed for comparison against the validation criteria contained in **Table 4**.

Where validation testing confirms the extent of the excavation works to be appropriate, backfilling of the resultant void should be conducted using certified clean soils complying with the validation criteria contained in **Tables 4** and **5**.

4.3.3 Construction phase

The principal objectives of the remedial strategy for the construction phase is to break pathways via which end users of the site may be exposed to contaminants within the shallow made ground deposits identified on site.

In addition, the strategy aims to provide a suitable growing medium in areas of soft landscaping to be created along the flanks of the proposed footpath.

4.3.3.1 Placement of clean cover soils

Where it is proposed to create a 1.0m wide maintained grass strip along either side of the proposed footpath (with a fence beyond preventing access to the adjoining areas) it will be necessary to place a 300mm clean cover horizon to break potential pollutant linkages.

Where ground levels are to remain unaltered, construction of the clean cover horizon will generally require made ground deposits to be removed to the corresponding depths (i.e. 300mm) and replaced with suitably clean and certified soils. As a minimum, the cover layer should include for at least 150mm of certified clean topsoil.

Made ground excavated during the construction of the clean cover horizon should be removed off-site to a suitably licensed or exempt facility.

4.3.4 Validation of clean cover soils

The requirements for the validation of cover systems are outlined in NHBC Standards Chapter 4.1 'Land Quality – Managing Ground Conditions'. The two main aspects to consider when validating cover systems are:

a) Confirmation that the designed thickness of the material has been placed
b) Confirmation that the materials comprising the cover system are themselves not contaminated, i.e. suitable for residential use

To assess the thickness of the cover layer, it will be necessary to dig through the cover layer at selected locations to verify the required thickness of topsoil and subsoil.

In addition, the topsoil and subsoil (whether imported or site derived during earthworks or the subsequent construction phase) will be chemically validated by the collection and analysis of representative soil samples. The frequency of testing for any site-derived or imported materials stockpiled for re-use should be a minimum of one sample for every 50m^3 for the following parameters:

- Metals: arsenic, cadmium, chromium, copper, nickel, lead, mercury, selenium and zinc and pH;
- Speciated TPH CWG (split into aliphatic and aromatic carbon bands) with BTEX compounds;
- Speciated 16 No. PAH; and
- Asbestos in soil with ID.

It is acceptable to test stockpiled topsoil/subsoil intended for use in gardens and soft landscaped areas before placement, however the cover layer thickness will still require validation at a later date.

The groundworks contractor shall provide details of the provenance of any imported soil and evidence of compliance (i.e. chemical testing certificates representative of the type and volume of material) to the Environmental Consultant whose written approval will be required **before** importation and use of the material.

4.3.5 Validation assessment criteria (VAC)

To assess human health risks via the soil ingestion, dermal contact and inhalation, results of validation sampling will be compared directly with the validation criteria detailed in **Table 4** below. The validation criteria are a combination of RSK derived GAC's suitable for a communal soft landscaping end land use, and recently published DEFRA C4SL. Assessment criteria suitable for 6% soil organic matter (SOM) have been selected since topsoil and subsoil are likely to be high in organic content. Should lower SOM be present, the RSK GAC appendix within **Appendix B** provides alternative criteria for 1% and 2% SOM.

The Category 4 Screening Levels (C4SLs) have recently been issued by DEFRA in March 2014 and are intended for use as a technical tool for defining which land is suitable for use and is definitely not contaminated land and therefore requires no further assessment with respect to Part 2a. C4SLs provide a more pragmatic approach than SGVs/GACs, yet are still strongly precautionary, and have been developed using the CLEA model, which is the same framework used for the development of the SGVs/GACs.

C4SL's have been derived using a newly termed 'Low Level of Toxicological Concern (LLTC)' which represents an intake of low concern that remains suitably protective of health, instead of the minimal risk Health Criteria Values (HCV) which have been used in the development of the SGV/GACs. The C4SLs also take into account a number of updated exposure parameters which have been selected following several stakeholder engagement workshops.

There is some debate within industry as to the applicability of C4SL's within the planning scenario, however RSK is of the opinion that they provide very pragmatic yet still strongly precautionary targets which demonstrate the site is suitable for use, therefore it is considered appropriate to use them, where available, as validation criteria.

The RSK GAC appendix which details the generation of the GAC's is presented as **Appendix B**. The proposed screening criteria for the site are shown in the following table.

Table 4: Validation Assessment Criteria

Compound	Validation Assessment Criteria (VAC) 6% SOM (mg/kg)	Justification
Metals		
Arsenic	**37**	C4SL
Cadmium	**26**	C4SL
Chromium (III) - oxide	3,000	RSK GAC
Chromium (VI)	**21**	C4SL
Copper	6,200	RSK GAC
Lead	**310**	C4SL
Elemental Mercury (Hg0)	1.0	RSK GAC
Inorganic Mercury (Hg2+)	240	RSK GAC
Methyl Mercury (Hg4+)	14	RSK GAC

Compound	Validation Assessment Criteria (VAC) 6% SOM (mg/kg)	Justification
Nickel	130	RSK GAC
Selenium	600	RSK GAC
Zinc	41,000	RSK GAC
BTEX Compounds		
Benzene	**0.87**	C4SL
Toluene	2,700	RSK GAC
Ethylbenzene	840	RSK GAC
Xylene - m	300	RSK GAC
Xylene - o	320	RSK GAC
Xylene - p	290	RSK GAC
Total xylene	300	RSK GAC
Semi-volatile organic compounds (Polycyclic Aromatic Hydrocarbons)		
Acenaphthene	3,900	RSK GAC
Acenaphthylene	3,900	RSK GAC
Anthracene	23,000	RSK GAC
Benzo(a)anthracene	6.2	RSK GAC
Benzo(b)fluoranthene	7.4	RSK GAC
Benzo(g,h,i)perylene	48	RSK GAC
Benzo(k)fluoranthene	10	RSK GAC
Chrysene	10	RSK GAC
Dibenzo(a,h)anthracene	0.93	RSK GAC
Fluoranthene	1,000	RSK GAC
Fluorene	2,900	RSK GAC
Indeno(1,2,3-cd)pyrene	4.4	RSK GAC
Phenanthrene	970	RSK GAC
Pyrene	2,400	RSK GAC
Benzo(a)pyrene	**5.3**	C4SL
Naphthalene	9.2	RSK GAC
Total Petroleum Hydrocarbons		
Aliphatic hydrocarbons EC_5–EC_6	110	RSK GAC
Aliphatic hydrocarbons >EC_6–EC_8	370	RSK GAC
Aliphatic hydrocarbons >EC_8–EC_{10}	110	RSK GAC
Aliphatic hydrocarbons >EC_{10}–EC_{12}	540	RSK GAC
Aliphatic hydrocarbons >EC_{12}–EC_{16}	3,000	RSK GAC
Aliphatic hydrocarbons >EC_{16}–EC_{35}	77,000	RSK GAC
Aromatic hydrocarbons >EC_8–EC_9	1,400	RSK GAC
Aromatic hydrocarbons >EC_9–EC_{10}	190	RSK GAC
Aromatic hydrocarbons >EC_{10}–EC_{12}	870	RSK GAC
Aromatic hydrocarbons >EC_{12}–EC_{16}	1,700	RSK GAC

Compound	Validation Assessment Criteria (VAC) 6% SOM (mg/kg)	Justification
Aromatic hydrocarbons >EC_{16}–EC_{21}	1,300	RSK GAC
Aromatic hydrocarbons >EC_{21}–EC_{35}	1,300	RSK GAC
Other		
Asbestos	Not observed in asbestos in soil with ID analysis	Laboratory analysis LOD
Highlighted cells indicate where C4SL values are being used for validation.		

In addition, where deeper tree/shrub pits are dug, the following validation criteria protective of phytotoxic risks presented within **Table 5** should be used as a supplement to the VAC above.

Table 5: Phytotoxic Validation Assessment Criteria

Determinant	Generic assessment criteria (mg/kg)			
	pH 5.0 < 5.5	pH 5.5 < 6.0	pH 6.0 < 7.0	pH >7.0
Zinc	200	200	200	300
Copper	80	100	135	200
Nickel	50	60	75	110
Note: Only compounds within BS3882:2007 and BS8601:2013 for topsoil and subsoil specification have been included. There are additional criteria regarding the suitability of a subsoil and topsoil which should be referred to in these documents.				

4.3.6 Inspection and testing

Responsibility for the correct implementation of the remediation strategy lies with the Principal Contractor (PC). However, the remedial works shall be monitored, inspected and validated by the Environmental Consultant's experienced Geoenvironmental Engineers with part time attendance on-site dependent on the operations being undertaken.

During periods of part time supervision, it will be the PC's responsibility to provide adequate notice (at least three days) of any key activities that will require the attendance of the Environmental Consultant.

Validation testing shall be conducted as specified in the relevant sections. Laboratory analysis shall be carried out at an MCERTS and UKAS-accredited laboratory.

4.3.7 Discovery strategy

Whilst the investigations undertaken to date have been thorough, it remains possible that previously unexpected soil conditions may be encountered during the enabling and construction process (e.g. the presence of discrete/visually identifiable asbestos, soils exhibiting strong odours, former structures of brickwork).

Where unexpected ground conditions or potentially suspect materials are encountered, the following course of action should be adhered to:

- The contractor shall immediately inform the Environmental Consultant who shall then carry out an inspection as soon as is reasonably practical;
- Following the inspection, the Environmental Consultant shall advise the Client of any requirements for additional investigations or possible modifications to the remediation works; and
- The Regulatory Authorities shall be consulted if any substantially different conditions are encountered or modifications to the remedial works are required.

Should disturbance of the made ground result in the identification of suspected asbestos containing materials, any exposed materials/soils should be damped down and covered over with plastic sheeting and advice be sought from a suitably accredited asbestos surveyor or similar.