

Southcott HomesThomas Telford House, Sun Valley Business Park
Winnall Close
Winchester
SO23 0LB1st September 2021

Our Ref.: 18935/RMSLR/Add

Dear Andy

Re: Orchard Nursery RMS Validation – Additional

Following previous works and discussion as detailed in our communication 18935/RMSLR/RMSV dated 8th June 2021 it was noted that a wall or other structural feature was present in the sub-surface (over 0.30m below ground level) in an area of the site to the north paralleling the site boundary. Associated fill materials evidenced elevated levels of Lead which could present a risk to human health receptors at the site.

Additional Works and Findings

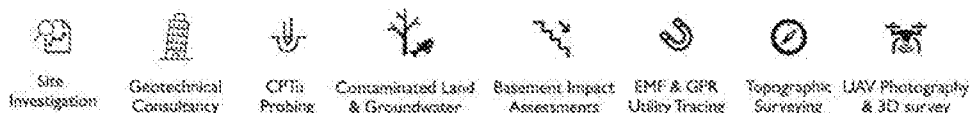
Following comments from the regulator, appraisal and discussion, it was agreed that further works to investigate the true extent of the discovered feature should be undertaken in line with current guidance. It should be noted that the feature had previously only been estimated in extent and depth from current ground levels during the initial inspection.

Additional investigation undertaken on 16th August 2021 has since revealed that the wall does not in fact extend into the rear garden or along the side access. It is therefore unknown what this brick feature noted previously may actually represent.

However, the lack of any associated oily materials in the original Main Investigation (Soils Ref: 16612/GIR Dated November 2017) analytical results and site observation during the works of the 27th May (as reported previously in Soils Limited Ref: 18935/RMSLR/RMSV dated 8th June 2021 to which reference must be made) suggests it is highly unlikely to be the “tank” noted in previous reports and discussions with the regulator.

If it is either an infilled former tank, a wall with associated fill materials or simply a potential structural feature associated with the structural integrity of a roadway formerly used to historically access a property to the east of the site, associated areas to the west will not be at risk as they will lie below the site access road and at least 600mm of associated hard cover. As such no pathway will be present to human receptors even if the feature(s) continue in that direction.

During additional excavations to the northeast of the north easternmost site residence it was discovered that there was no evidence of a wall extending along the access and into the back garden. However, there was the remains of a road or track crossing the site parallel to the adjacent northern site alongside the “Industrial Park” site boundary between the site access road and the rear of the garden.



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The feature of concern was a track/road, as confirmed by observation of the most recent trial pit and comprised approximately 0.30m granular topsoil over roughly 0.20m of lean mix concrete based by a geotextile membrane overlying a soil comprising mainly clayey hardcore and bricks. A photograph of the “Road/Track” structure (forwarded to the regulator) is included in Appendix 1 (Photograph 1) for reference.

It should be noted that geotextile is already present in this location – the black fibrous material below the yellowish white lean mix concrete in Photograph 1 – though the exact reasoning for this historical emplacement remains uncertain at this time and may have been environmental, geotechnical or both. Underlying soil comprised mainly granular material including bricks and hardcore with some clay and sand but no clear signs of obviously deleterious, fibrous or odorous constituents on examination.

The overlying material comprised 0.30-0.40m of “Topsoil” with some granular materials including flint with occasional brick and hardcore. Lying directly on the geotextile and under the “Topsoil” was 0.10-0.30m of lean mix concrete cement with some granular materials present as brick and hardcore fragments. The extent of this material, the feature and the geotextile can be seen in Photograph 1 as extending only partially onto the garden area, therefore limiting the potential extent of this material and the underlying stratum. A sample of the underlying soil/hardcore stratum below the geotextile was taken for comparison with previous results and analysed for Lead – the only noted contaminant of concern.

Additional Conclusions

Following this discovery and reappraisal of the site model in light of comments from the regulator in relation to cover systems, it was determined that the extent of the road/track feature was clearly limited and was already covered to the west of the site (if in fact present at all) by at least 600mm of hard cover, thereby removing any potential human health pathway by default. For the remainder of the garden and access area to the east, it was determined and proven to be limited in extent and marked by a distinctive layer (the geotextile) which could be used to guide remediation actions and extents and would also provide an additional layer with which to break the pathway linkage presenting a risk to human health receptors.

Discovery Remediation Strategy

Following appraisal of the new discovery, it was determined that the following actions would remove the pathway linkage in compliance with current guidance. Soils Limited are of the opinion that if the works are undertaken to the required specification, then no potential pathway in the current CSM will remain to present a risk to vulnerable identified human health receptors from potentially elevated levels of Lead that may be present underlying the geotextile associated with the feature.

- Surface materials within the defined area will be removed for off-site disposal to the depth of the existing geotextile layer to a suitable place of disposal in compliance with current waste requirements
- This area of “remediation” will comprise the rear garden to approximately 5m from the northern boundary and to the eastern boundary and the access between the residence and the northern boundary between the site access road and the garden
- The geotextile will be retained in situ (where present) as an additional barrier and covered with an additional precautionary layer of geotextile prior to soil emplacement

- Topsoil appropriate to the works, certified suitable and fit for purpose, will be emplaced to an appropriate depth i.e. at least 450mm to comply with NHBC requirements - which also complies with the 300mm clean soil overlying barrier requirements noted by the regulator
- Appropriate certification and evidence of compliance will be provided to the regulator on completion of this activity in line with current guidance.

Analytical Results - Additional

As confirmation, a sample was taken from the hardcore and clay below the geotextile layer. This sample recorded 1200mg/kg Lead and a copy of the report is included as Appendix 2. This result is significantly in excess of generic soil guideline values for the intended use of the site (Residential With Plants C4SL - 210mg/kg).

As this is almost six times the appropriate guideline value, current guidance would generally indicate that an engineered precautionary solution should be adopted to specifically break any and all potential linkages identified. In this case the proposed remediation strategy is therefore confirmed as being suitable and appropriate in removing the identified pathway and also confirms that the hard cover in other areas to the west should also be sufficient to provide appropriate levels of protection.

Actions

On the basis of the above findings and conclusions it was determined by the Client that they would action this works as noted whilst access was still possible to this area and so as to comply with their obligations under the Discovery Strategy and Appraisal. Confirmation of this intent was forwarded to the regulator on 16th August 2021 by e-mail as required under the Strategy. This report is the conclusion of the final action of the Strategy as noted above.

Remediation Works and Verification

This phase of remediation discovery works was undertaken between 17th and 18th August 2021 in compliance with the Strategy and comprised removal of two loads of material from above the geotextile layer estimated at 50 tonnes. This was disposed of in compliance with current waste guidance and copies of disposal tickets to confirm compliance are enclosed as Appendix 3. Also enclosed is the exemption certification for the point of disposal.

Additional geotextile was emplaced (Photograph 2) and imported clean suitable and fit for purpose material was emplaced to at least 450mm, which was confirmed by the on-site engineer (Photographs 3 and 4). A Plan detailing the extent of the works and their nature is enclosed as Appendix 4 for reference.

The material imported from Eurogreen Environmental comprised 54 tonnes of material as the final level following excavation was in some cases slightly greater than 450mm. The imported material has been certified as being suitable and fit for purpose (Certification and tickets in Appendix 5).

Given the volume of material imported, specification compliance, limited emplacement, homogenous nature and no deleterious materials being identified on emplacement (Photographs 3, 4 and 5), no additional sampling of this material is either indicated or has been undertaken.

Remedial Validation

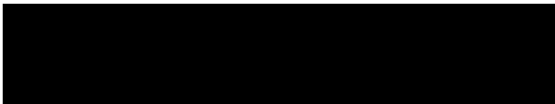
On the basis of the works to date, the conclusions of the CSM appraisal and review as well as the information provided as evidence detailed in this report, Soils Limited conclude that the remedial works have now been completed in compliance with the Strategy and that the identified risk has further been confirmed and appropriately mitigated in line with current guidance.

Soils Limited also consider that the action has been appropriately verified and validated such that no risk to identified vulnerable human receptors remains from this identified discovery source.

As no other additional sources have been identified or discovered and groundworks are now completed (including this Discovery Remediation), Soils limited consider that the condition has now been complied with as those elements which were Discovered during the works have been appropriately investigated, considered, remediated, verified and validated appropriately where necessary. At all times during the works Soils Limited can confirm that the Discovery Strategy was in place as evidenced in the copy of the Southcott Homes F1051 Contamination Discovery Strategy, a copy of which is enclosed as Appendix 6.

If you have any questions regarding the above, please contact the undersigned.

Yours sincerely



C G Swainston *BSc, PGCE, CGeol, FGS, CLAireQP*
Principal Geo-Environmental Engineer
For and on behalf of Soils Limited

Appendix 1: Site Photographs

Appendix 2: Laboratory Results

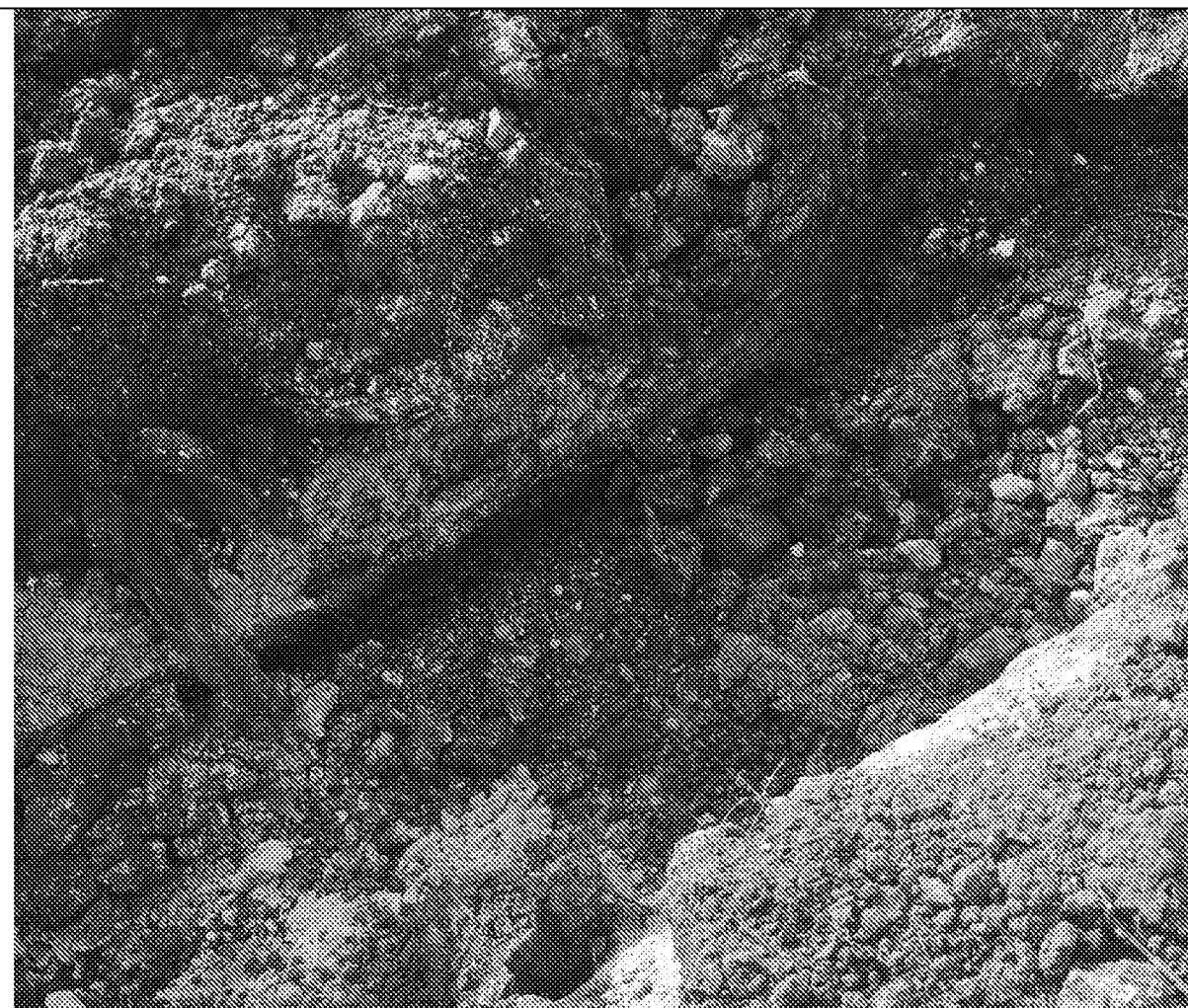
Appendix 3: Disposal Tickets and Exemption Confirmation

Appendix 4: Works Plan

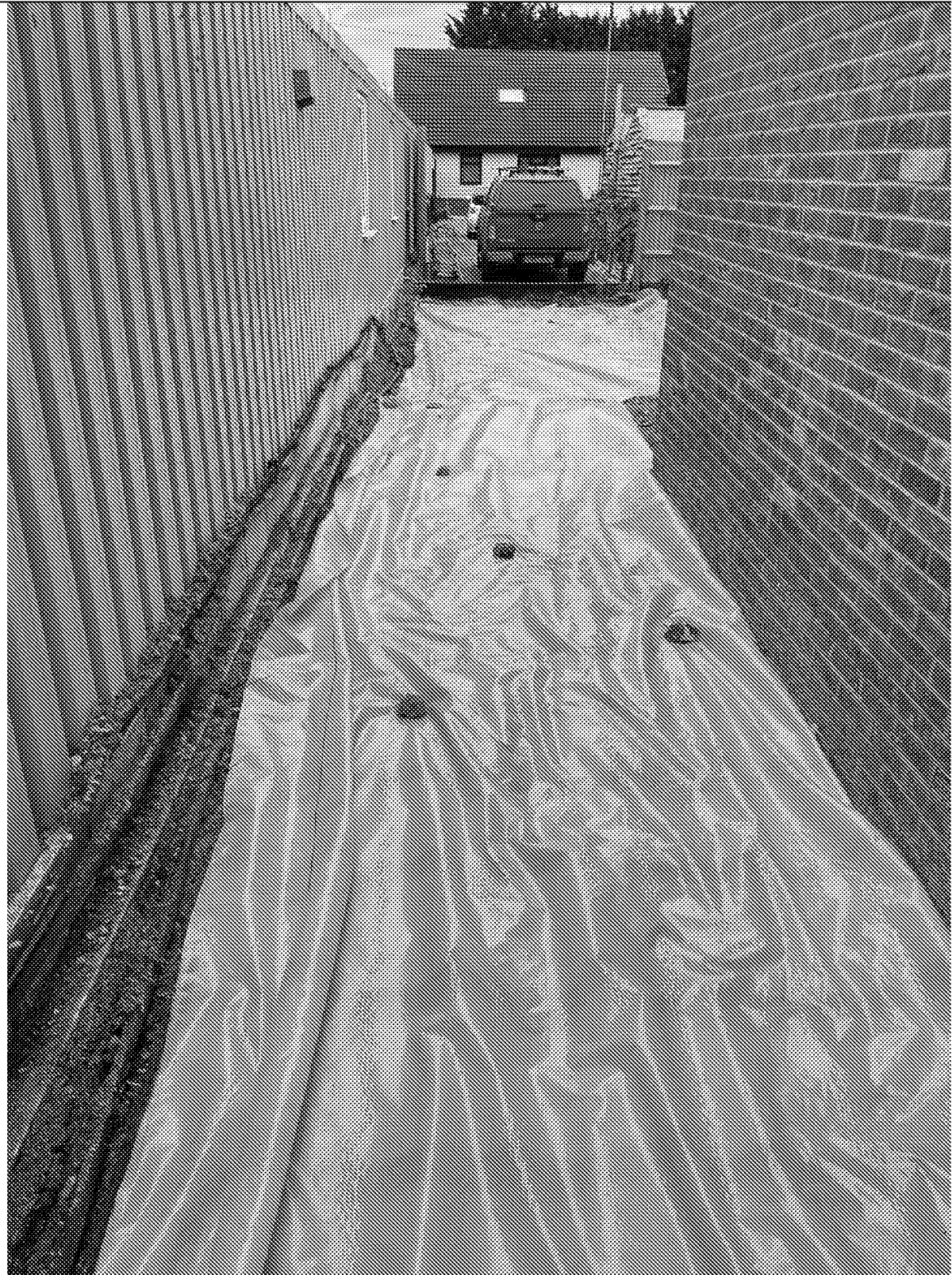
Appendix 5: Imported Material Data and Tickets

Appendix 6: Site F1051 Contamination Discovery Strategy

18935 Orchard Nursery: Appendix I: Site Photographs



Photograph 1:	View East of "Road" in Rear Garden forwarded to regulator
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Photograph 2:

View East of cover geotextile/barrier/warning layer on emplacement



Photograph 3: View of trial hole rear garden confirming depth to base and cover > 450mm



Photograph 4:

View of trial hole access confirming depth to base and cover > 450mm



Photograph 5:

View East of completed cover in garden area and along access

Appendix 2: Laboratory Results



Chris Swainston
Soils Ltd
Newton House
Cross Road
Tadworth
Surrey
KT20 5SR

Derwentside Environmental Testing Services Ltd
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN

DETS Report No: 21-10150

Site Reference: Orchard Nursery

Project / Job Ref: 18935

Order No: 18935

Sample Receipt Date: 17/08/2021

Sample Scheduled Date: 17/08/2021

Report Issue Number: 1

Reporting Date: 19/08/2021

Authorised by:

Dave Ashworth
Technical Manager

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

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



DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN



4480

Soil Analysis Certificate						
DETS Report No: 21-10150	Date Sampled	16/08/21				
Soils Ltd	Time Sampled	None Supplied				
Site Reference: Orchard Nursery	TP / BH No	Garden 1				
Project / Job Ref: 18935	Additional Refs	None Supplied				
Order No: 18935	Depth (m)	0.60				
Reporting Date: 19/08/2021	DETS Sample No	560105				

Determinand	Unit	RL	Accreditation	(n)
Lead (Pb)	mg/kg	< 3	ISO 17025	1200

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

Subcontracted analysis (S)

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



DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN



Soil Analysis Certificate - Sample Descriptions

DETS Report No: 21-10150	
Soils Ltd	
Site Reference: Orchard Nursery	
Project / Job Ref: 18935	
Order No: 18935	
Reporting Date: 19/08/2021	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
560105	Garden 1	None Supplied	0.60	12	Brown sandy gravel with stones and concrete

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

Insufficient Sample ^{1/5}

Unsuitable Sample ^{4/5}



DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN



4480

Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 21-10150

Soils Ltd

Site Reference: Orchard Nursery

Project / Job Ref: 18935

Order No: 18935

Reporting Date: 19/08/2021

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 diphénylcarbazine followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCS	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received

Appendix 3: Disposal Tickets

HOARE

CONSTRUCTION GROUP LTD

Unit 1, River Rise
Titchfield Lane
Fareham
Hampshire
PO15 6DZ

Tipper Hire • Plant Hire • Cartaway
Construction Waste Re-cycling
Hoggin • Crushed Concrete
Chalk • Bulk Fill Materials
As Dug & Screened Topsoil

CONVEYANCE WASTE TRANSFER NOTE 7967

COLLECTED FROM

Customer Name Bea Construction Date 26.8.21
Site Address Northeast Rd Time on Site _____ Time off site _____
Vapion
Quantity 1x Load

DESCRIPTION OF MATERIALS

MUCK

Waste/Material received from:

Company/Person Collecting Waste

Name Hoare Construction
Address Fareham
Waste Carriers License No. CBDU231153 Reg. Authority E. A. Sheffield
Signature _____ Vehicle Reg. No. W119 VFH

CUBIC METRES	TONNE		DAY WORK	
	Gross Weight		Total Hours	
	Tare Weight		Less Breaks	
	Nett Weight		Trav. Time	
<u>1x Load</u>			HOURS	

Person/Company/Authority receiving Waste/Material

Name Angier Lane
Address Bishops Waltham
Waste Disposal Licence No. _____ Issued by _____
Registered Waste Carrier _____ Issued by _____
Signature for Receipt _____ Date 26.8.21

I confirm that I have read and understood the provisions of the Waste (England and Wales) Regulations 2011.

Certified that the above is a true and correct copy of the Waste Transfer Note which Waste/Material is being conveyed in the vehicle described.

Required by Regulation 12 of the Waste (England and Wales) Regulations 2011.

Materials being conveyed in the vehicle described, in accordance with the agreement for the sale thereof made by the cubic metre or tonne.

MINIMUM HIRE 8 HOURS: All Hirers are charged Depot to Depot. Maximum 15 minutes for Machine Loading. Customers ordering vehicles off the Public Road do so entirely at their own responsibility.

Tipper Hire • Plant Hire • Cartaway
Construction Waste Re-cycling
Hoggin • Crushed Concrete
Chalk • Bulk Fill Materials
As Dug & Screened Topsoil

CONVEYANCE WASTE TRANSFER NOTE

9459

COLLECTED FROMCustomer Name *Deer Court*Date *15/1/2011*Site Address *ct. End Rd.*Time on Site *---* Time off site *---**Lepton*Quantity *1x Load*

DESCRIPTION OF MATERIALS	Waste/Material received from:
<i>Sub Soil (HA)</i>	

Company/Person Collecting WasteName *HCG*Address *Rumham*

Waste Carriers License No. CBDU231153

Reg. Authority E. A. Sheffield

Signature *---*Vehicle Reg. No *NN19 VFS*

CUBIC METRES	TONNE		DAY WORK	
<i>1x Load</i>	Gross Weight	<i>---</i>	Total Hours	<i>---</i>
	Tare Weight	<i>---</i>	Less Breaks	<i>---</i>
	Nett Weight	<i>---</i>	Trav. Time	<i>---</i>
			HOURS	<i>---</i>

--- (Signature) (Authority receiving Waste/Material)

--- (Address)

Address

Waste Disposal Licence No. *---*Issued by *---*Registered Waste Carrier *---*Issued by *---*Signature for Receipt of Waste/Material *---*Date *15/1/2011*

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

Certified that the above particulars are true and relate to the Waste/Materials being conveyed in the vehicle described, which Waste/Material is being conveyed in pursuance of: a sale or an agreement for the sale thereof made by the cubic metre or tonne.

MINIMUM HIRE 8 HOURS: All Hirers are charged Depot to Depot. Maximum 15 minutes for Machine Loading. Customers ordering vehicles off the Public Road do so entirely at their own responsibility.

Waste exemption registration WEX250788

We confirm that the details you have entered, as shown below, are now on the exemptions register. Your registration should show on the public register within 5 days.

This document is not a permit. Exemptions may have ceased or been revoked.

To check whether these exemptions are still valid, check the company's registration WEX250788 on the public register of waste exemptions:

<https://environment.data.gov.uk/public-register/view/search-waste-exemptions>

Business responsibilities

The business or organisation responsible for carrying out the exempt waste operations agrees to:

- comply with all limits on waste types and quantities
- comply with all conditions governing how waste must be stored, handled and treated
- carry out the operations without endangering human health or harming the environment

For the operations to remain exempt they must be carried out without:

- causing risk to water, air, soil, plants or animals
- causing a nuisance through noise and odours
- negatively affecting the countryside or places of special interest

In sensitive locations, extra controls may be needed over and above those set out in the exemptions to make sure this happens.

Registration details

Registration details

Reference Number	WEX250788
Date registered	4 September 2020

Exemptions

U1: Use of waste in construction	Expires on 3 September 2023
S2: Storing waste in a secure place	Expires on 3 September 2023

Your contact details

Your name	Jacob Hoare

Waste operator details

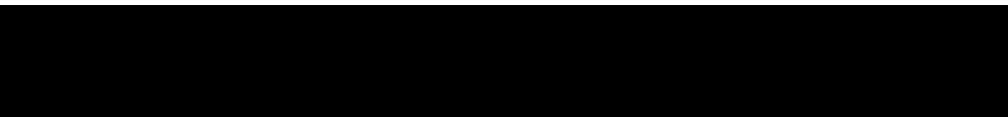
Business or organisation type	Individual or sole trader
Waste operator responsible for these waste operations	Steve Gregory

Address of the Waste operator	J & S T GREGORY TANGIER FARM TANGIER LANE BISHOPS WALTHAM SOUTHAMPTON SO32 1BU
--------------------------------------	---

Waste operations contact

Name	Jacob Hoare
-------------	-------------

Position	
-----------------	--



Address	RIVER RISE TITCHFIELD LANE WICKHAM FAREHAM PO15 6DZ
----------------	---

Waste operation details

Grid reference	SU 54093 16899
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Site details	New Barn
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Appendix 4: Works Plan

Notes

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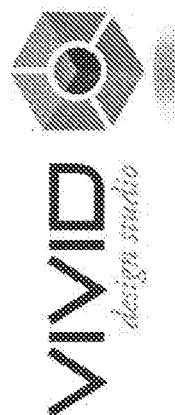
UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED. DIMENSIONS MUST BE TAKEN IN PREFERENCE TO SCALE DIMENSIONS.

Rev	Description	Date	Drawn By

Schedule of Areas

Total Site Area
= 2905sqm/0.29hectares/0.72acres

- Plot 1
4 Bedroom Detached House
NFA = 131sqm/1410sqft
plus single garage & 2 car parking spaces
- Plot 2
3 Bedroom Detached House
NFA = 107sqm/1152sqft
plus single garage & 2 car parking spaces
- Plot 3
4 Bedroom Detached Chalet
NFA = 131sqm/1410sqft
plus single garage & 2 car parking spaces
- Plot 4
4 Bedroom Detached Chalet
NFA = 131sqm/1410sqft
plus single garage & 2 car parking spaces



The Barn, Colket Mount Business Park, Colket Lane,
Cambridge, South Hampshire, Hampshire, SO19 2BN
Tel: 01489 786679
Email: info@vividdesignstudio.co.uk
Website: www.vividdesignstudio.co.uk

Project

Proposed Residential Development
Land at
East of North End Road &
West of Church Lane Nursery
Yapton

Title

Proposed Site Plan (Part 2)

Client

Southcott Homes (Fareham) Ltd

Scale: 1:100 (@A1)

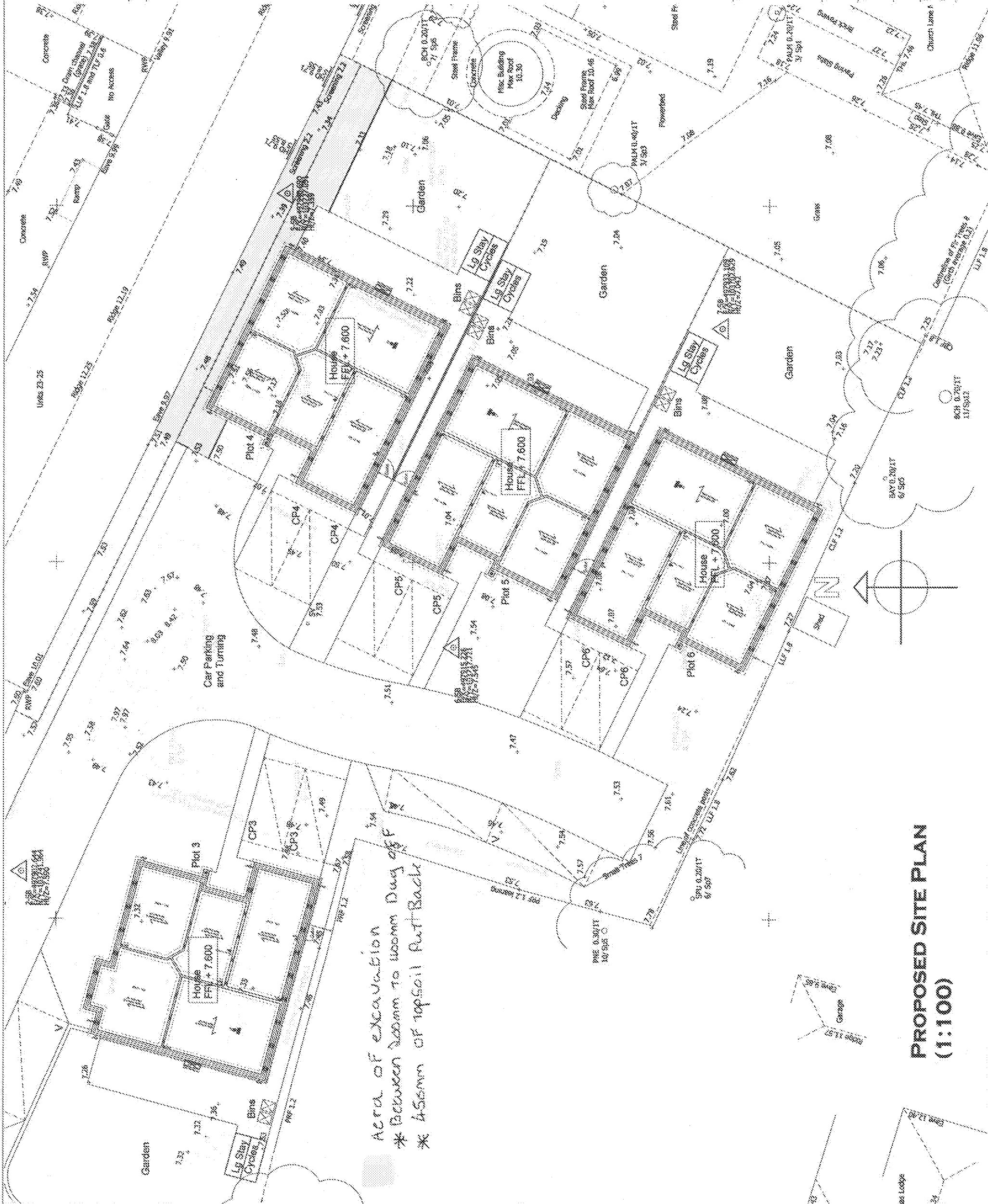
Drawn By: PJD

Date: 08/10/20

Rev: 001

200024

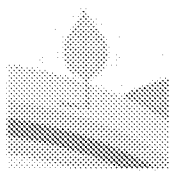
102



Area of excavation
* Between 200mm to 400mm Day off
* 450mm of topsoil put back

PROPOSED SITE PLAN
(1:100)

Appendix 5: Imported Material Data and Tickets



TIM O'HARE ASSOCIATES
SOIL & LANDSCAPE CONSULTANCY

Darrel Burgess
MCM (SE) Ltd
7 Coppergate Mews
103-107 Brighton Road
Surbiton, Surrey
KT6 5NE

11th May 2021
Our Ref: TOHA/21/9944/SS
Your Ref: see below

Dear Sirs

Topsoil Analysis: Worthing West Sussex

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

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

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

SAMPLE EXAMINATION

The sample was described as a dark brown (Munsell Colour 7.5YR 3/3) slightly moist, friable, slightly calcareous, LOAMY SAND with a weakly developed, very fine to fine granular structure*. The sample had a low stone content and contained a moderate proportion of organic fines and occasional woody fragments. No unusual odours, deleterious materials, roots or rhizomes of pernicious weeds were observed.

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

Tim O'Hare Associates LLP
Howbery Park Wallingford Oxfordshire OX10 8BA



Plate 1: Topsoil Sample

ANALYTICAL SCHEDULE

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

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

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

RESULTS OF ANALYSIS

Detailed Particle Size Analysis and Stone Content

The sample fell into the *loamy sand* texture class. Further detailed particle size analysis found the sample to have a sufficiently narrow particle size distribution and a predominance of *medium sand* (0.25-0.50mm) and smaller proportions of *coarse sand* (0.50-1.0mm). This is usually ideal for topsoil in general landscape applications as reasonable porosity levels are generally maintained in a consolidated state and the risk of particle interpacking is reduced. The sample should therefore provide adequate drainage and aeration properties for general landscape applications.

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

pH and Electrical Conductivity Values

The sample was strongly alkaline in reaction (pH 8.3). This pH value would be considered suitable for general landscape purposes providing species with a wide pH tolerance or those known to prefer alkaline soils are selected for planting, turfing and seeding.

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

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

Organic Matter and Fertility Status

The sample was adequate to well supplied with organic matter all major plant nutrients.

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

Potential Contaminants

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

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

Phytotoxic Contaminants

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

CONCLUSION

The purpose of the analysis was to determine the suitability of the topsoil sample for general landscape purposes. The analysis has also been undertaken to determine the sample's compliance with the requirements of the British Standard for Topsoil (*BS3882:2015 – Specification for Topsoil – Table 1, Multipurpose Topsoil*).

From the soil examination and subsequent laboratory analysis, the sample was described as a strongly alkaline, non-saline, loamy sand with a weakly developed structure and low stone content. The sample was adequately supplied with organic matter and all major plant nutrients. Of the potential contaminants determined, none exceeded their guideline values.

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

The topsoil was also fully compliant with the requirements of the British Standard for Topsoil (*BS3882:2015 – Specification for Topsoil – Table 1, Multipurpose Topsoil*).

RECOMMENDATIONS

Soil Handling Recommendations

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

It is important to ensure that the soil is not unnecessarily compacted by trampling or trafficking by site machinery, and soil handling should be stopped during and after heavy rainfall and not continued until the soil is friable in consistency. If the soil is structurally damaged and compacted at any stage during the course of soiling or landscaping works, it should be cultivated appropriately to relieve the compaction and to restore the soil's structure prior to any planting, turfing or seeding.

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

Further guidance on the management, preparation and handling of soils is provided in the DEFRA publication *Construction code of practice for the sustainable use of soils on construction sites*, 2009.

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

Yours faithfully

Tilly Kimble-Wilde
BSc MSc
Graduate Soil Scientist

Laura Hathaway-Jenkins
BSc MSc EngD MISOilSci CSci
Senior Associate

For & on behalf of Tim O'Hare Associates LLP

Client:	MCM (SE) Ltd
Project:	Worthing West Sussex
Job:	Topsoil Analysis - BS3882:2015
Date:	11/05/2021
Job Ref No:	TOHA/21/994/SS

Sample Reference		Accreditation
Clay (<0.002mm)	%	UKAS
Silt (0.002-0.05mm)	%	UKAS
Very Fine Sand (0.05-0.15mm)	%	UKAS
Fine Sand (0.15-0.25mm)	%	UKAS
Medium Sand (0.25-0.50mm)	%	UKAS
Coarse Sand (0.50-1.0mm)	%	UKAS
Very Coarse Sand (1.0-2.0mm)	%	UKAS
Total Sand (0.05-2.0mm)	%	UKAS
Texture Class (UK Classification)	—	UKAS
Stones (2-20mm)	% DW	GLP
Stones (20-50mm)	% DW	GLP
Stones (>50mm)	% DW	GLP

Topsoil
8
10
4
4
46
19
9
82
LS
3
0
0

pH Value (1:2.5 water extract)	units	UKAS
Electrical Conductivity (1:2.5 water extract)	uS/cm	UKAS
Electrical Conductivity (1:2 CaSO ₄ extract)	uS/cm	UKAS
Exchangeable Sodium Percentage	%	UKAS
Organic Matter (LOI)	%	UKAS
Total Nitrogen (Dumas)	%	UKAS
C : N Ratio	ratio	UKAS
Extractable Phosphorus	mg/l	UKAS
Extractable Potassium	mg/l	UKAS
Extractable Magnesium	mg/l	UKAS

8.3
681
2579
5.4
3.8
0.18
12
46
519
77

Total Arsenic (As)	mg/kg	MCERTS
Total Cadmium (Cd)	mg/kg	MCERTS
Total Chromium (Cr)	mg/kg	MCERTS
Hexavalent Chromium (Cr VI)	mg/kg	MCERTS
Total Copper (Cu)	mg/kg	MCERTS
Total Lead (Pb)	mg/kg	MCERTS
Total Mercury (Hg)	mg/kg	MCERTS
Total Nickel (Ni)	mg/kg	MCERTS
Total Selenium (Se)	mg/kg	MCERTS
Total Zinc (Zn)	mg/kg	MCERTS
Water Soluble Boron (B)	mg/kg	MCERTS
Total Cyanide (CN)	mg/kg	MCERTS
Total (mono) Phenols	mg/kg	MCERTS

8.1
< 0.2
11
< 4.0
18
34
0.4
5
< 1.0
46
1.7
< 1.0
< 1.0

Naphthalene	mg/kg	MCERTS
Acenaphthylene	mg/kg	MCERTS
Acenaphthene	mg/kg	MCERTS
Fluorene	mg/kg	MCERTS
Phenanthrene	mg/kg	MCERTS
Anthracene	mg/kg	MCERTS
Fluoranthene	mg/kg	MCERTS
Pyrene	mg/kg	MCERTS
Benzo(a)anthracene	mg/kg	MCERTS
Chrysene	mg/kg	MCERTS
Benzo(b)fluoranthene	mg/kg	MCERTS
Benzo(k)fluoranthene	mg/kg	MCERTS
Benzo(a)pyrene	mg/kg	MCERTS
Indeno(1,2,3-cd)pyrene	mg/kg	MCERTS
Dibenzo(a,h)anthracene	mg/kg	MCERTS
Benzo(g,h,i)perylene	mg/kg	MCERTS
Total PAHs (sum USEPA16)	mg/kg	MCERTS

< 0.05
< 0.05
< 0.05
< 0.05
< 0.05
< 0.05
0.36
0.38
< 0.05
< 0.05
< 0.05
< 0.05
< 0.05
< 0.05
< 0.05
< 0.80

Aliphatic TPH >C5 - C6	mg/kg	MCERTS
Aliphatic TPH >C6 - C8	mg/kg	MCERTS
Aliphatic TPH >C8 - C10	mg/kg	MCERTS
Aliphatic TPH >C10 - C12	mg/kg	MCERTS
Aliphatic TPH >C12 - C16	mg/kg	MCERTS
Aliphatic TPH >C16 - C21	mg/kg	MCERTS
Aliphatic TPH >C21 - C35	mg/kg	MCERTS
Aliphatic TPH C5 - C35	mg/kg	MCERTS
Aromatic TPH >C5 - C7	mg/kg	MCERTS
Aromatic TPH >C7 - C8	mg/kg	MCERTS
Aromatic TPH >C8 - C10	mg/kg	MCERTS
Aromatic TPH >C10 - C12	mg/kg	MCERTS
Aromatic TPH >C12 - C16	mg/kg	MCERTS
Aromatic TPH >C16 - C21	mg/kg	MCERTS
Aromatic TPH >C21 - C35	mg/kg	MCERTS
Aromatic TPH C5 - C35	mg/kg	MCERTS

< 0.001
< 0.001
< 0.001
< 1.0
< 2.0
< 8.0
< 8.0
< 10
< 0.001
< 0.001
< 0.001
< 1.0
< 2.0
< 10
< 10
< 10

Benzene	mg/kg	MCERTS
Toluene	mg/kg	MCERTS
Ethylbenzene	mg/kg	MCERTS
p & m-xylene	mg/kg	MCERTS
o-xylene	mg/kg	MCERTS
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	MCERTS

< 0.001
< 0.001
< 0.001
< 0.001
< 0.001
< 0.001

LS = LOAMY SAND

Visual Examination

The sample was described as a dark brown (Munsell Colour 7.5YR 3/3) slightly moist, friable, slightly calcareous, LOAMY SAND with a weakly developed, very fine to fine granular structure. The sample had a low stone content and contained a moderate proportion of organic fines and occasional woody fragments. No unusual odours, deleterious materials, roots or rhizomes of pernicious weeds were observed.

Results of analysis should be read in conjunction with the report they were issued with.

The contents of this certificate shall not be reproduced without the express written permission of Tim O'Hare Associates LLP.

Tilly Kimble-Wilde
BSc MSc
Graduate Soil Scientist

EUROGREEN ENVIRONMENTAL

CONVEYANCE WASTE TRANSFER NOTE

Note No: 33506

SUPPLIERS OF: TOPSOILS AGGREGATES MUCK AWAY COMPOSTS TURF LOGS WOODCHIP

Customer Name: Peac Construction Date: 18-8-21

Site Address: Garbark Park Development Time: 11:00

IN	Description Of Waste /EWC Code	OUT
Clean Soil 17 05 04	10mm Screened Topsoil	
Green Waste 20 02 01	10mm Screened Sandy Loam	
Mixed Soil/Stone 17 05 04	10mm Compost	
Other <u>Waste</u>	Other	
Tonnes/Cubic Metres	Tonnes/Cubic Metres	

Vehicle Reg. No: GR65 UYP

Company Name Receiving Waste/Material: Euro Green

Address: Titmore Lane, Worthing



Customer

Signature: _____

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

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

Certified that the above particulars are true and relate to the Waste/Materials being conveyed in the vehicle described, which Waste/Material is being conveyed in pursuance of: a sale or agreement for the sale thereof made by the cubic metre or ton.

CARRIER REG. NO: CBDU58167

SIC 2007 CODE: 38210

PERMIT NO: EPR/CB707UL

North Barn Farm, Titmore Lane, Worthing, West Sussex, BN12 6NZ

EUROGREEN ENVIRONMENTAL

SUPPLIERS OF: TOPSOILS AGGREGATES MUCK AWAY COMPOSTS TURF LOGS WOODCHIP

Customer Name: Barry Construction Note No. 1
 Site Address: Euro Green Date: 19-8-21
Worthing Time: 12.30

IN		Description Of Waste /EWC Code		OUT	
Clean Soil 17 05 04			10mm Screened Topsoil		
Green Waste 20 02 01			10mm Screened Sandy Loam		
Mixed Soil/Stone 17 05 04			10mm Compost		
Other			Other		
Tonnes/Cubic Metres			Tonnes/Cubic Metres		

Vehicle Reg. No: ST25 YFP
 Company Name Receiving Waste/Material: Barry Construction
 Address: Worthing



Customer Signature: _____
 I hereby declare that the above particulars are true and relate to the Waste/Materials being conveyed in the vehicle described, which Waste/Material is being conveyed in pursuance of a sale or agreement for the sale thereof made by the cubic metre or ton.

CARRIER REG. NO: **CBDU58167**
 SIC 2007 CODE: **38210**
 PERMIT NO: **EPR/CB707UL**
 North Barn Farm, Titnore Lane, Worthing, West Sussex, BN12 6NZ

EUROGREEN ENVIRONMENTAL

SUPPLIERS OF: TOPSOILS

AGGREGATES

MUCK AWAY

COMPOSTS

TURF LOGS

WOODCHIP

TRANSFER NO.

Note No: 33510

Customer Name:

Site Address:

Date:

Time:

IN		Description Of Waste /EWC Code		OUT	
Clean Soil 17 05 04			10mm Screened Topsoil		
Green Waste 20 02 01			10mm Screened Sandy Loam		
Mixed Soil/Stone 17 05 04			10mm Compost		
Other			Other		
Tonnes/Cubic Metres			Tonnes/Cubic Metres		

Vehicle Reg. No:

Company Name Receiving Waste/Material:

Address:

Customer

Signature:

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

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

Certified that the above particulars are true and relate to the Waste/Materials being conveyed in the vehicle described, which Waste/Material is being conveyed in pursuance of: a sale or agreement for the sale thereof made by the cubic metre or ton.

CARRIER REG. NO: C8DU58167

SIC 2007 CODE: 38210

PERMIT NO: EPR/CB707UL

th Barn Farm, Titnore Lane, Worthing, West Sussex, BN12 6NZ

EUROGREEN ENVIRONMENTAL

CONVEYANCE WASTE TRANSFER NOTE

Note No: 33505

SUPPLIERS OF: TOPSOILS AGGREGATES MUCK AWAY COMPOSTS TURF LOGS WOODCHIP

Customer Name: Bear Construction Date: 12-8-21

Site Address: Euro Green Time:

Worthing

IN	Description Of Waste /EWC Code	OUT
Clean Soil 17 05 04	10mm Screened Topsoil	
Green Waste 20 02 01	10mm Screened Sandy Loam	
Mixed Soil/Stone 17 05 04	10mm Compost	
Other	Other	
Tonnes/Cubic Metres	Tonnes/Cubic Metres	

3.5 tonnes / 10 cubic metres

Vehicle Reg. No: GR65 WYP

Company Name Receiving Waste/Material: Bear Construction

Address: Richard Park Developments

Worthing, Sussex BN12 6NZ



Customer

Signature:

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

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

Certified that the above particulars are true and relate to the Waste/Materials being conveyed in the vehicle described, which Waste/Material is being conveyed in pursuance of: a sale or agreement for the sale thereof made by the cubic metre or ton.

CARRIER REG. NO: C8DU58167

SIC 2007 CODE: 38210

PERMIT NO: EPR/CB707UL

North Barn Farm, Titnore Lane, Worthing, West Sussex, BN12 6NZ

Appendix 6: Site F1051 Contamination Discovery Strategy



SOUTHCOTT HOMES

FAREHAM

Our Ref:

F1051

CONTAMINATION DISCOVERY STRATEGY

This is to be read in conjunction with the H&S Plan for this site.

RE PROPOSED RESIDENTIAL DEVELOPMENT – LAND AT EAST OF NORTH END ROAD & WEST OF CHURCH LANE NURSERY, YAPTON, WEST SUSSEX, BN18 0GA

Introduction

This discovery strategy is to be endorsed by Merlin Homes (Southern) Ltd in relation to the above development site. The document needs to be placed within the onsite H&S file and displayed on the site notice board and the developer will guarantee this will be incorporated into all of the site works and instructions and acted upon when required.

This document should also be read in conjunction with contamination reports prepared by Soils Ltd and recommendations detailed within these reports.

Discovery Strategy

The investigation to date has provided a reasonably robust assessment of potential contamination across the site. There is however a risk of further contamination being present in small discrete areas (hotspots) that have not been previously identified and there can be no certainty that all such areas have been or will be located and/or sampled. Such occurrences may also be discovered during the demolition and construction phases for the redevelopment of the site. As such, a discovery strategy will be implemented.

Care should be taken during the excavation works especially to investigate any soils, which appear by eye (e.g. such as fibrous materials, large amounts of ash and unusual discolouration), odour (e.g. fuel, oil and chemical type odours or unusual odours such as sweet odours or fishy odours) or wellbeing (e.g. light headedness and/or nausea, burning of nasal passages and blistering or reddening of skin due to contact with soil) to be contaminated or unusual and/or different character to standard soils or those analysed.

There are two aspects to the strategy, one relating to encountering contaminants previously identified at other locations on the site and the second relating to the identification of contaminants not previously encountered (e.g. those of an unusual appearance and/or odour).

BUILDING FOR GENERATIONS

Southcott Homes (Fareham) Ltd, The Barn, Calcot Mount Business Park, Calcot Lane, Curdridge, Southampton SO32 2BN



Should suspected contaminated materials be encountered during excavation, either by visual or olfactory methods, the contractor shall implement the following procedures:

- 1) Works shall be halted and the site manager shall be contacted to inspect the area of concern.
- 2) Photographs of the area shall be taken and detailed plans and method statements for dealing with the issue shall be drafted and forwarded to the local authority for approval.
- 3) Time and resources may need to be allocated to complete these further works/assessment with laboratory testing/analysis to be undertaken as necessary. The contractor may need to adjust the programme to enable works in other areas of the site to be progressed.
- 4) Verification samples shall be obtained from the base and sides of any excavations to demonstrate that the material has been effectively remediated.

In the event of any discovery of potentially contaminated soils or materials, this discovery should be quarantined and reported to the most senior member of site staff or the designated responsible person at the site for action. The location, type and quantity must be recorded and the Local Authority, and a competent and appropriate third party Engineer/Environmental consultant notified immediately. An approval from the Local Authority must be sought prior to implementing any proposed mitigation action.

A written summary of the discovery strategy will be included within the TGEN monthly reports and the contractor monthly reports.

Fuel Tanks

Should any fuel or oil tanks be encountered in the ground, then they will be decommissioned in accordance with relevant EA guidelines (e.g. PPG27). The possibility of encountering as yet undiscovered tanks cannot be fully discounted.

Where above ground storage tanks (AST), underground storage tanks (UST) or interceptors are found to contain liquids, then these shall be emptied and cleaned/degassed by an appropriately licensed contractor. All certification for this process should be retained. The London Fire Brigade (Petroleum Group) should also be informed of this activity and in the case of petroleum filled tanks may wish to be in attendance to verify the process. Allowance should be made for over excavation to remove any hydrocarbon contaminated soils from around the base and sides of any AST, UST or interceptors.

Any areas where tanks (AST or UST), fuel feed infrastructure or interceptors etc. are encountered will be treated as unexpected hotspots of contamination and will be

subject to the monitoring and validation procedure and will be backfilled with suitable imported material or site won arisings validated in accordance with the procedures. It is proposed that the following procedures will be adopted to deal with UST and to excavate any hydrocarbon impacted soils:

- 1) Task specific risk assessments and method statements should be in place, and risks and required mitigation measures communicated to all relevant personnel prior to the works commencing. Appropriate PPE and, if required, RPE should be provided and utilised.
- 2) Once the location of the identified UST at the site is confirmed (and if any additional UST are identified during the site clearance, surface strip or redevelopment works), these tanks will be made safe and removed from the site in accordance with the recommendations in Chapter 5 of the Defra Groundwater Protection Code 'Petrol stations and other fuel dispensing facilities involving underground storage tanks'. All UST, AST, fuel feed infrastructure and interceptors are to be removed for offsite disposal. All tank removal works will be undertaken under specialist supervision.
- 3) When UST are identified (and have not been previously decommissioned) these will be assessed, opened to vent any gases contained within and any contents removed by vacuum tanker prior to removing the tanks and associated pipework for offsite disposal.
- 4) During the removal of the UST and the excavation of the soils, a qualified geo-environmental engineer should maintain a watching brief and undertake a visual inspection of the ground material.
- 5) Hydrocarbon contaminated material will be loaded directly into wagons or temporarily stockpiled pending offsite disposal, on suitable impermeable plastic sheeting and covered with plastic sheeting to prevent runoff or leaching of contamination and to minimise the potential for dust generation.
- 6) On the assumption that any significant hydrocarbon contamination is likely to be in localised hotspots, it is considered that the site has a low potential to generate an odour that is likely to cause a nuisance issue at or beyond the site boundary. However, should a potential significant odour issue be identified, the groundwork in that area will be suspended until a suitable odour suppression or mitigation system is in place.
- 7) Validation samples will be collected from the sides and the bases of the UST excavations and any other hydrocarbon impacted areas, including hotspots, to confirm that removal of the impacted soils has been successful. Samples would be analysed for speciated TPH, speciated PAH and VOC.
- 8) A detailed written and photographic record of the works will be made to provide an audit trail of the works and for inclusion in a verification report. This will include a record of the location and dimensions of hotspot excavations, volumes of materials removed and reused onsite and/or disposed offsite, details of all validation testing and copies of waste transfer documentation for materials disposed offsite.

Where AST are encountered, following removal of the tank and any related fuel feed infrastructure, the ground will be inspected by the geo-environmental engineer (e.g. visual inspection backed by photographs and in-situ PID measurements) and where necessary backed by laboratory testing. Should contamination be encountered, then this will be treated as an unexpected hotspot and dealt with in accordance with the discovery strategy and validation strategy.

Deleterious Materials

Any significant quantities of deleterious materials (e.g. metal, timber, textiles, plastics etc.) encountered at the site surface or in the made ground or generated as a result of routine site works will be segregated and placed into a separate skip(s) for disposal offsite as general waste.

Hydrocarbon Impacted Soil

If encountered, soils contaminated with hydrocarbons will be excavated out for ex-situ treatment (e.g. soil vapour extraction, bioremediation, screening etc.) or treatment/disposal offsite as waste depending on the volumes of contaminated material encountered and on the time constraints of the development.

Conclusion

This Discovery Strategy must remain on site at all times and must demonstrate a clear allocation of responsibility for reporting and dealing with contamination. A copy of the strategy must be placed on the health and safety notice board and/or displayed in a prominent area where all site staff are able to take note of and consult the document at any time. Any member of the workforce entering the site to undertake any excavation must be made aware of the potential to discover contamination and the Discovery Strategy.

Site and Contact Details

Below is a list of details needed to implement the Discovery Strategy.

Developer

Merlin Homes (Southern) Ltd
The Barn
Calcot Mount Business Park
Calcot Lane
Curdridge
Southampton
Hampshire
SO32 2BN

Mr Andy Southcott
Director and Project Manager
[REDACTED]

Mr John Oakley
Senior Site Manager
[REDACTED]

Contamination Engineer

Soils Ltd
Sun Valley Business Park
Winnall Close
Winchester
Hampshire
SO23 0LB

Mr Chris Swainston
Principle Environmental Engineer
[REDACTED]

Local Authority

Arun District Council
Civic Centre
Maltravers Road
Littlehampton
West Sussex
BN17 5LF

Mrs Kate Giddings
Environmental Health Officer
[REDACTED]