

NEW CHURCH ST
- M. M. P

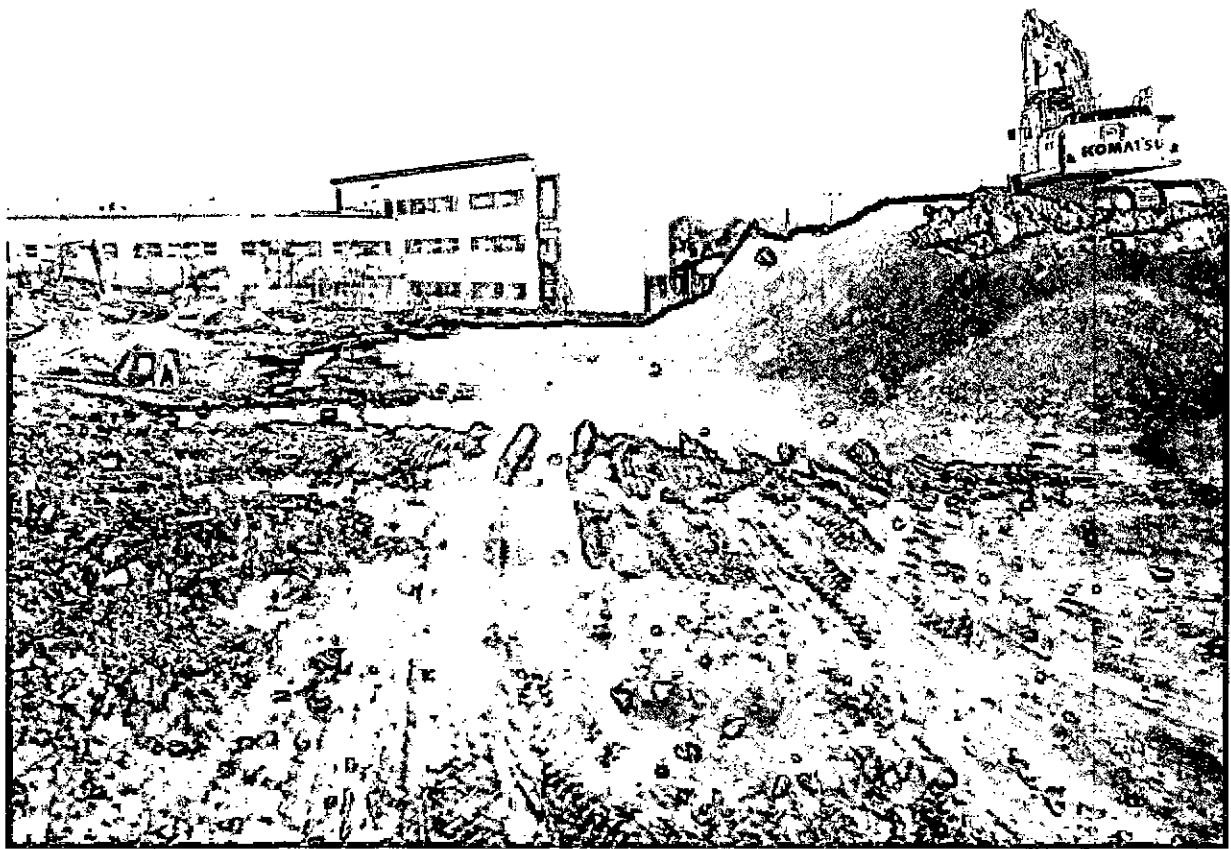
FILE

20-12-16 EARTH MOVED FROM 5E OFF SITE AND FROM G3 6D



PICTURE (26) 20-12-16

19-12-16 EARTH MOVED FROM 5D OFF SITE



PICTURE (25) 19-12-16

16-12-16 EARTH MOVED FROM 5E OFF SITE AND TO 2F



PICTURE (24) 16-12-16

15-12-16 EARTH MOVED FROM 6F TO 5E AND 17 LOADS OFF SITE



PICTURE (23) 15-12-16

14-12-16 EARTH MOVED FROM 5F OFF SITE AND TO 6E



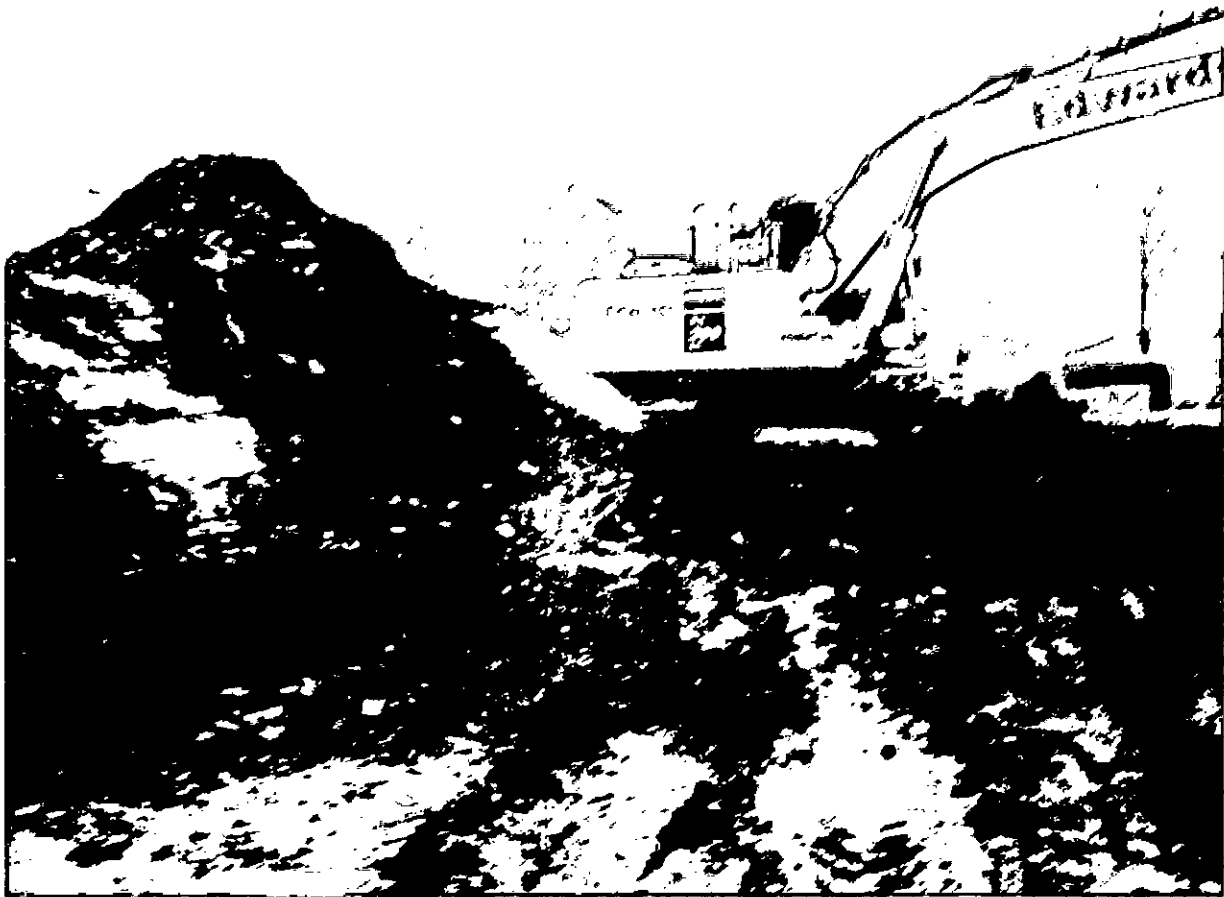
PICTURE (22) 14-12-16

13-12-16 EARTH MOVED FROM 4E OFF SITE TO TIP



PICTURE (21) 13-12-16

12-12-16 EARTH MOVED FROM 5E, 5F,5D, TO 6F, 5D/6E



PICTURES (20) 12-12-16

08-12-16 EARTH MOVED FROM 5F, 6F TO 6E



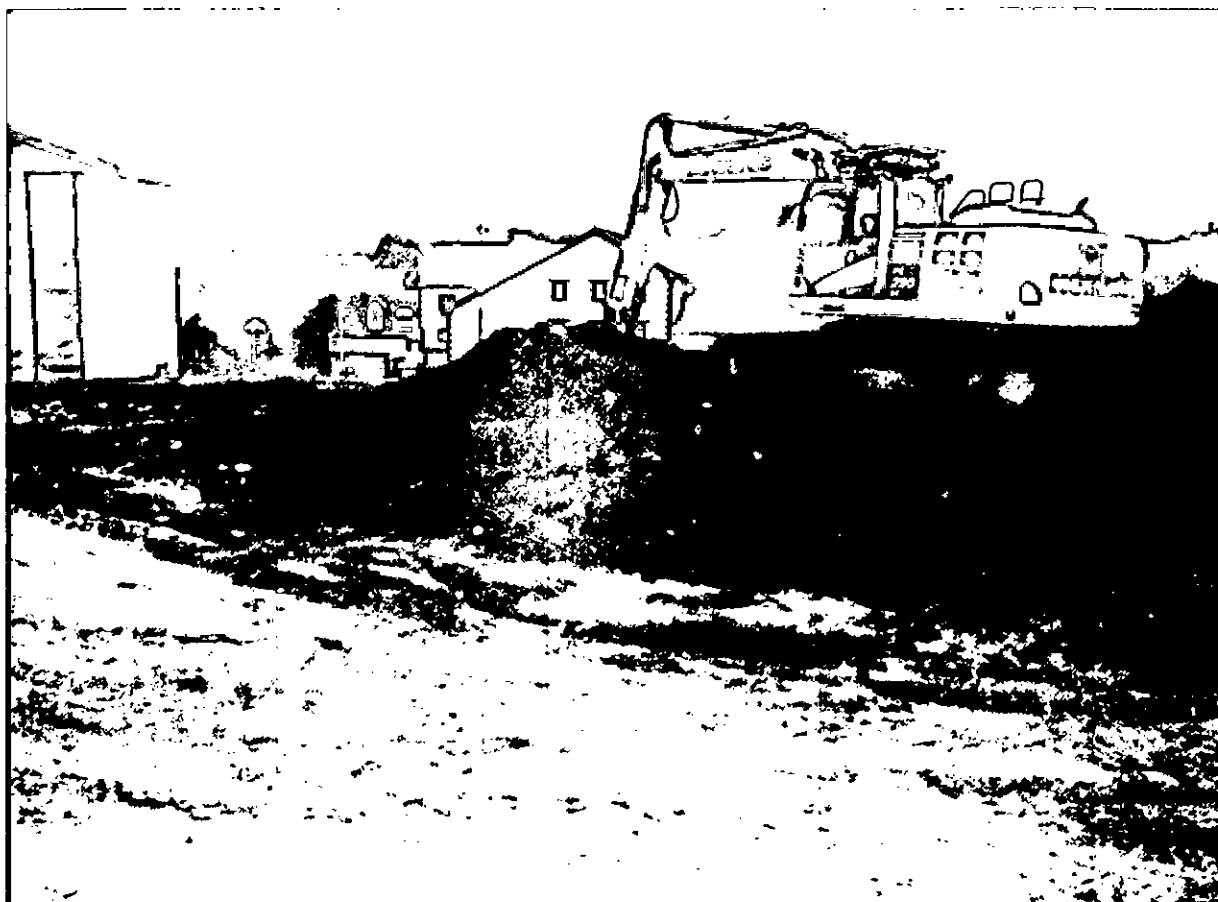
PICTURES (19) 8-12-16

7-12-16 EARTH MOVED FROM 7F, 6F, 6E TO 6F (OTHER HALF)



PICTURE (18) 7-12-16

6-12-16 EARTH MOVED FROM 6E, 6F, 7E, 7F TO 6D, 6E

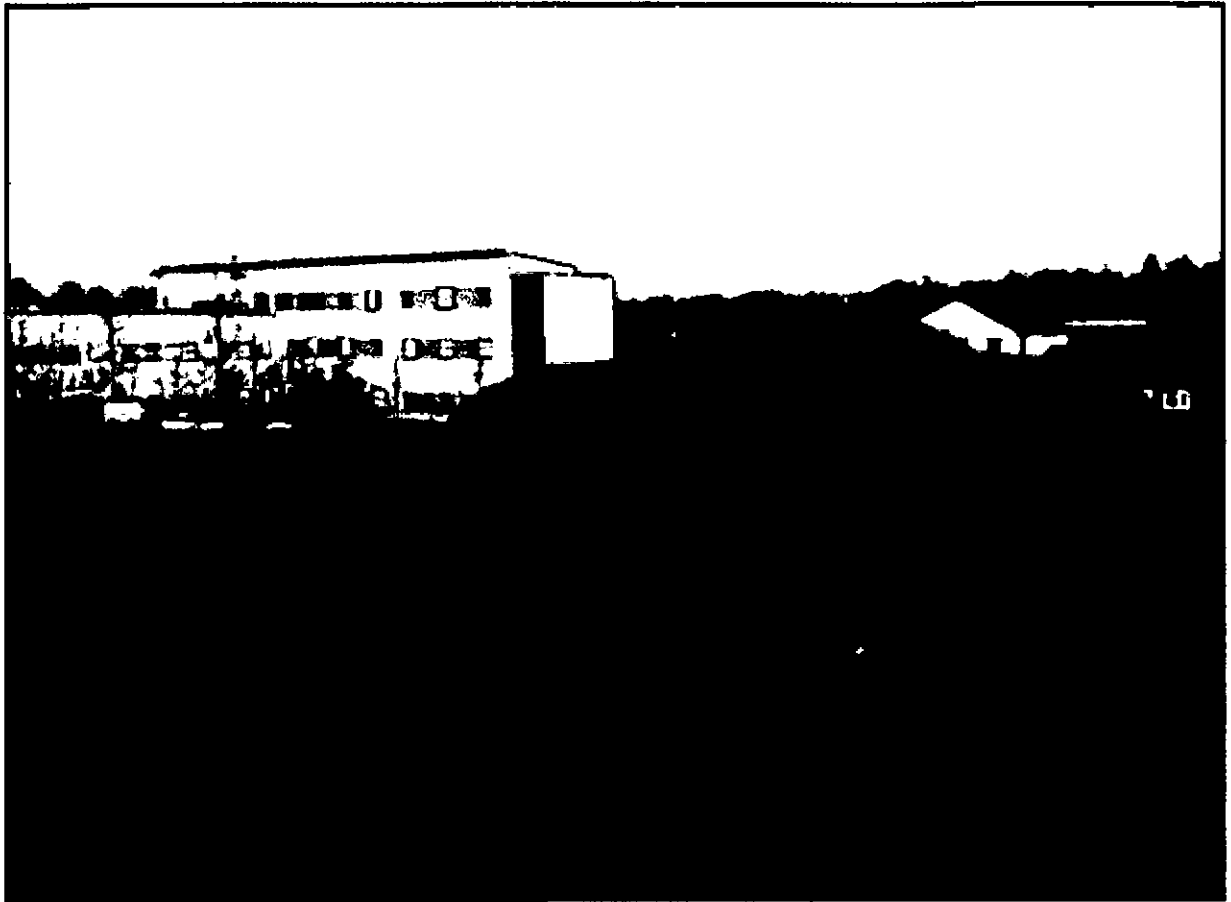


PICTURES (17) 6-12-16

6-12-16 EARTH MOVED FROM 6E, 6F, 7E, 7F TO 6D, 6E



5-12-16 EARTH MOVED FROM 6G, 6F TO 6E



PICTURES (16) 5-12-16

5-12-16 EARTH MOVED FROM 6G, 6F TO 6E



PICTURES (16) 5-12-16

1-12-16 EARTH MOVED FROM 7G, 7F TO 6F, 6E AND 4F TO 5F



PICTURES (15)1-12-16

30-11-16 EARTH MOVED FROM 3F TO 4E & 4F

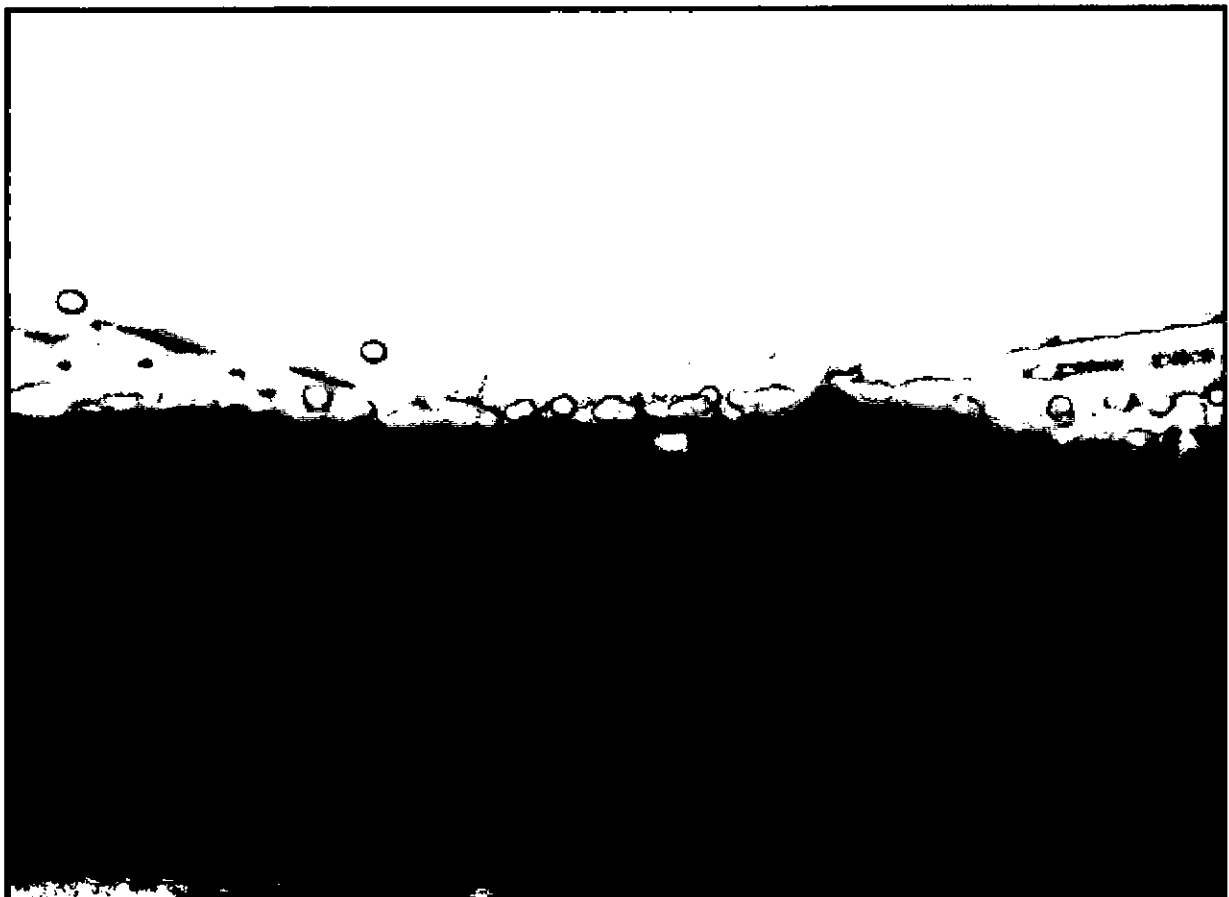


29-11-16 EARTH MOVED FROM 7G, 7F TO 6E, 6F & 4E, 3E TO 4F



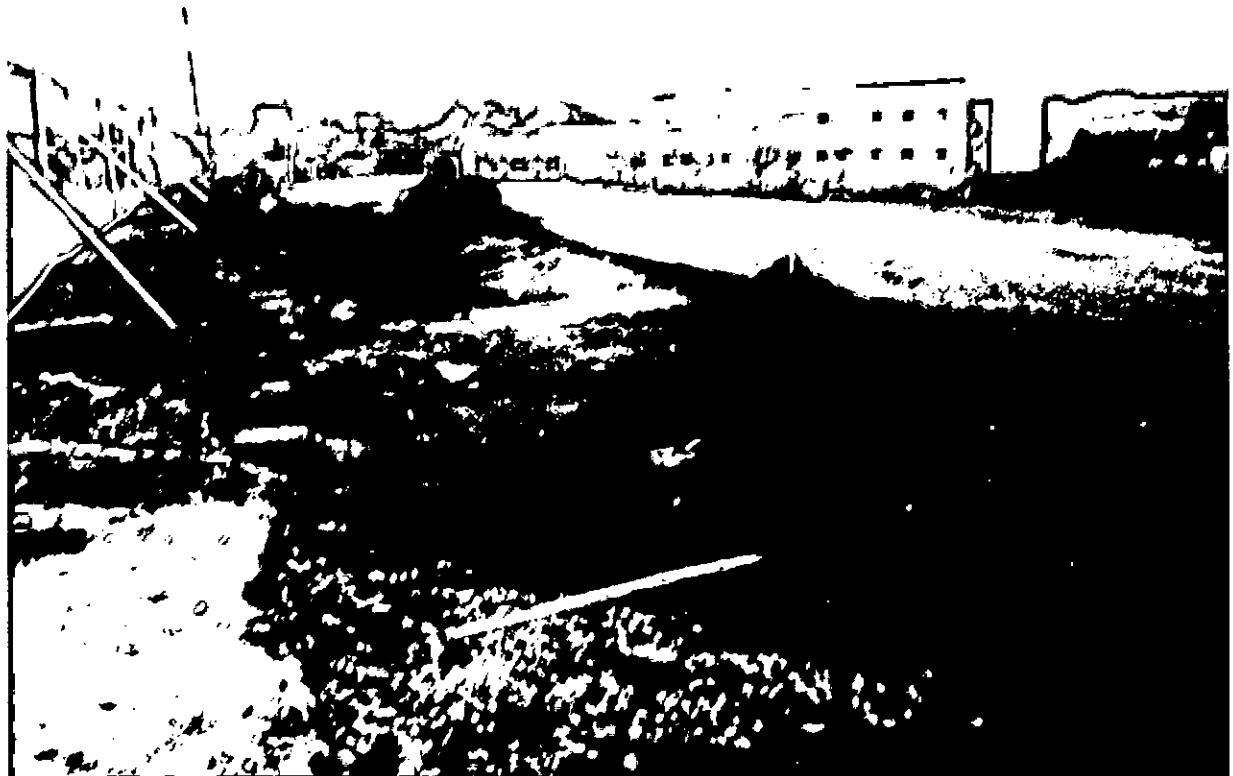
PICTURES (13) 29-11-16

28-11-16 EARTH MOVED FROM 6E, 6F,7F TO OTHER HALF OF 6E, 7F & 7E ALSO 4E TO 5F



PICTURES (12) 28-11-16

24-11-16 EARTH MOVED FROM 4G, 5G, 6H, 7G,6G, 5F TO 4F, 4E, 3F, 3E



PICTURE (11) 24-11-16

24-11-16 EARTH MOVED FROM 4G, 5G, 6H, 7G,6G, 5F TO 4F, 4E, 3F, 3E



PICTURE (11) 24-11-16

23-11-16 EARTH MOVED FROM 4D TO 5E



PICTURE (10) 23-11-16

17-11-16 EARTH MOVED FROM 5G, 6G & 5F TO 4G & 4F



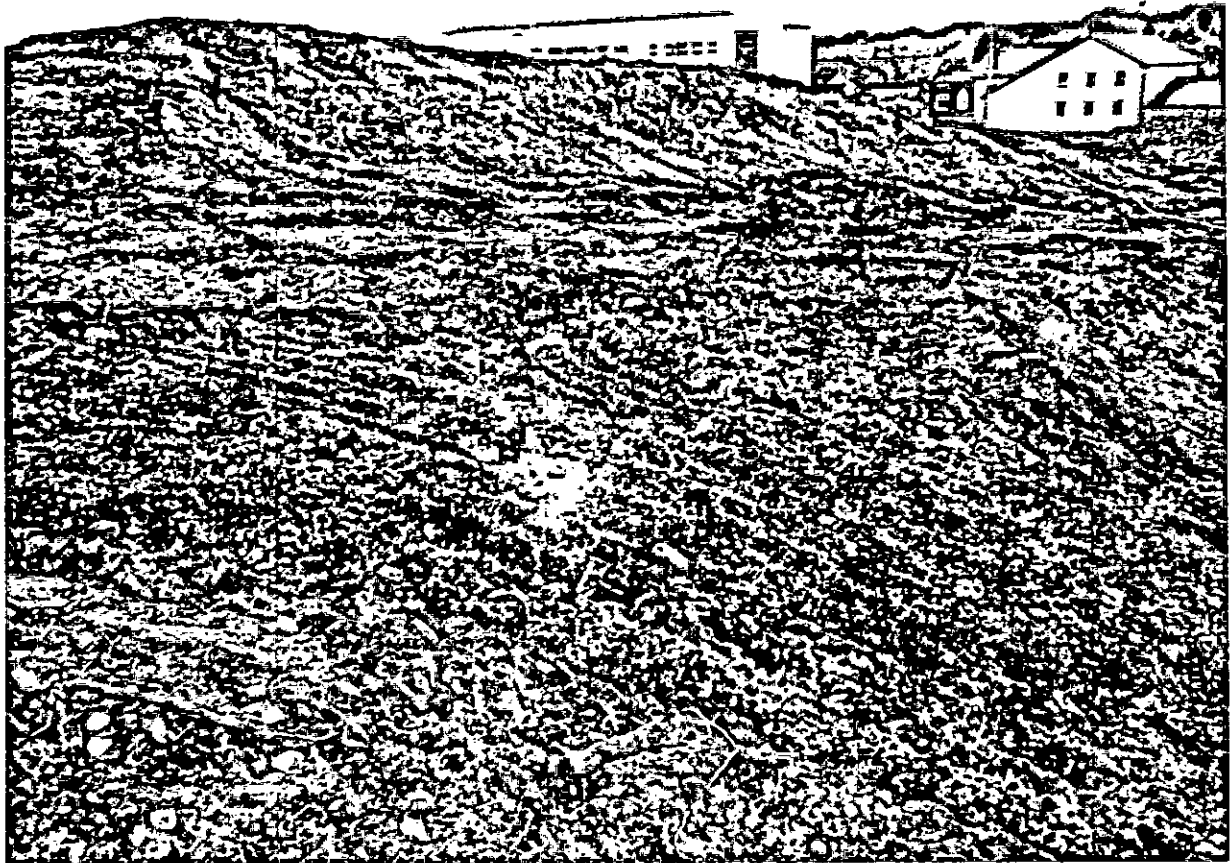
PICTURES (9) 17-11-16

16-11-16 SPOIL PILE MOVED FROM 2F, 2G, 3G, 4G & 5F TO 4E



PICTURES (8) 16-11-16

16-11-16 SPOIL PILE MOVED FROM 2F, 2G, 3G, 4G & 5F TO 4E



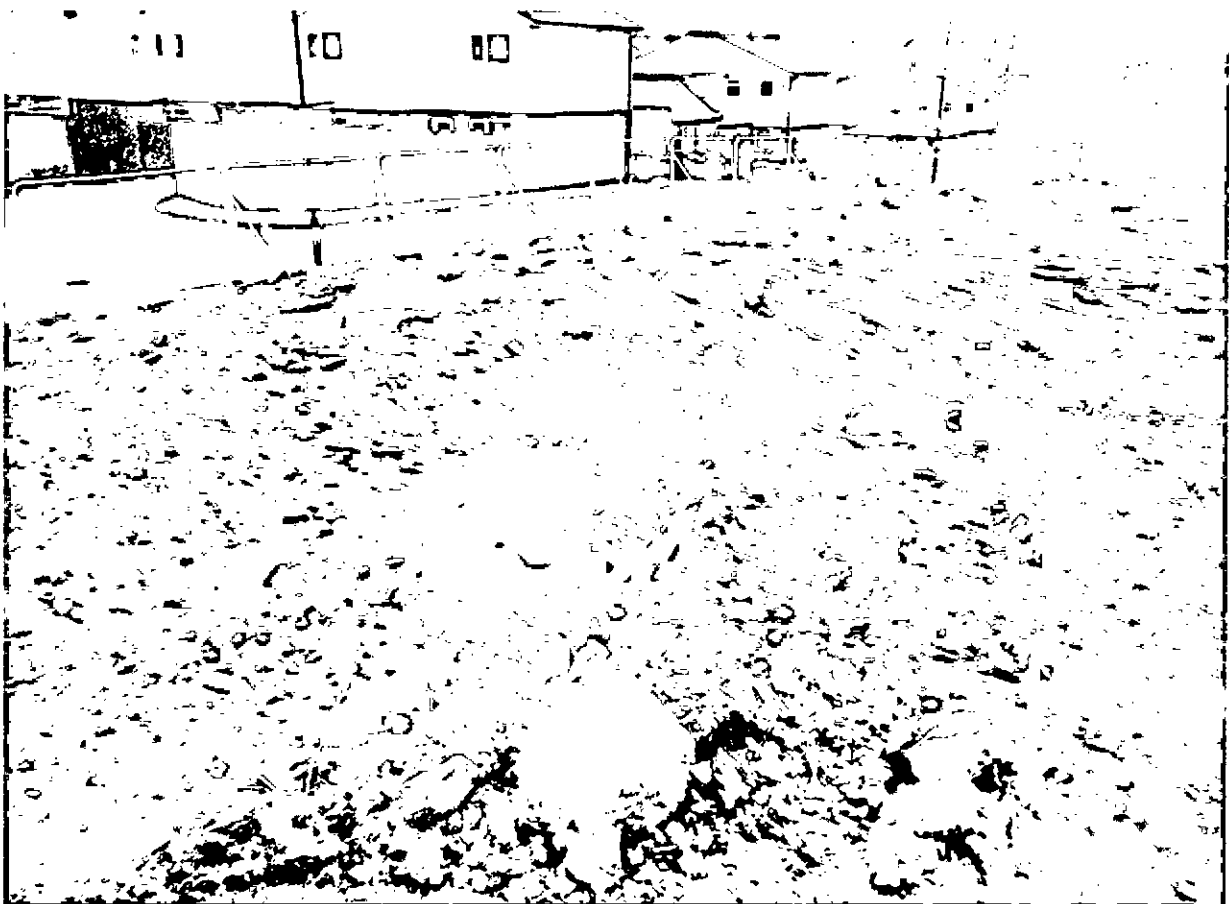
PICTURES (8) 16-11-16

15-11-16 SPOIL PILE MOVED FROM 5D TO 5E



PICTURES (7) 15-11-16

9-11-16 SPOIL PILE MOVED FROM 5H, 4H, 5G, 6G



PICTURES (6) 9-11-16

9-11-16 SPOIL PILE MOVED FROM 5H, 4H, 5G, 6G



PICTURES (6) 9-11-16

8-11-16 SPOIL PILE MOVED FROM 7G, 7H, 7I, 6H



PICTURES (5) 8-11-16

7-11-16 SPOIL PILE MOVED FROM 5G, 6H, 6G



PICTURES (4) 7-11-16

7-11-16 SPOIL PILE MOVED FROM 5G, 6H, 6G



PICTURES (4) 7-11-16

4-11-16 SPOIL PILE MOVED FROM 5H, 5G, 6G, 6F,5F



PICTURES (3) 4-11-16

4-11-16 SPOIL PILE MOVED FROM 5H, 5G, 6G, 6F,5F



PICTURES (3) 4-11-16

3-11-16 SPOIL PILE MOVED FROM 8F, 7F, 7E



PICTURES (2) 3-11-16

3-11-16 SPOIL PILE MOVED FROM 8F, 7F, 7E



2-11-16 SPOIL PILE – MOVED FROM 8F,7E, 6D (DIG FOR GABION & VEGATATION STRIP)



PICTURES (1) 2-11-16

Site: New Church Street, Radcliffe

[illegible]



Quotation Number:537

To: EDWARDS EXCAVATIONS LTD
Martin

From: Liva Tilena

Date: 29 March 2016

Site Address: CHURCH STREET
RADCLIFFE
M26 2UD

Details:

Non-Hazardous Soil and Stones	17 05 04	£80.00 ex. VAT	Load
Inert Soil and Stones	17 05 04	£65.00 ex. VAT	Load

Other Information:

Material from the following locations is acceptable for disposal by Booth Ventures at the price provided above according to locations:

Inert material: WS2, WS3, WS4, WS5 and WS6, .

Non-Hazardous material: WS1, WS7, BH4, WS8, BH1 and BH2

Satisfactory method statement explaining separation of the material is required prior to commencement of the job.

Standard conditions apply, terms and conditions are available upon request. Compliance testing may be undertaken on site to ensure the waste remains consistent with testing provided.

Visual checks will also be undertaken for asbestos.

All prices are valid for 1 month from date of issue.

Harwood Quarry Brookfold Lane Harwood BL2 4LT

Tel 01204 597788 Fax 01204 597799 Email info@boothventures.co.uk www.boothventures.co.uk



Final Report

Report No.: 16-25525-1
Initial Date of Issue: 26-Oct-2016
Client: Rogers Geotechnical Services Ltd
Client Address: Unit 4, Barncliffe Business Park
Near Bank
Shelley
Huddersfield
West Yorkshire
HD8 8LU

Contact(s): James Farnsworth

Project: J3410/16/E Radcliffe

Quotation No.: Q16-07604

Date Received: 21-Oct-2016

Order No.: 1016-42

Date Instructed: 21-Oct-2016

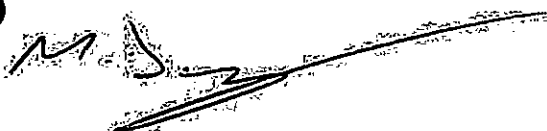
No. of Samples: 4

Turnaround (Wkdays): 3

Results Due: 25-Oct-2016

Date Approved: 26-Oct-2016

Approved By:



Details: Martin Dyer, Laboratory Manager

Results - Leachate

Client: Rogers Geotechnical Services Ltd	Chemtest Job No.:				16-25525	16-25525	16-25525	16-25525
Quotation No.: Q16-07604	Chemtest Sample ID.:				368012	368013	368014	368015
Order No.: 1016-42	Client Sample Ref.:				TP1	TP2	TP3	TP4
	Client Sample ID.:				D	D	D	D
	Sample Type:				SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.4	0.6	0.4	0.4
	Bottom Depth (m):				0.5	0.7	0.5	0.5
	Date Sampled:				17-Oct-2016	17-Oct-2016	17-Oct-2016	17-Oct-2016
Determinand	Accred.	SOP	Units	LOD				
Total Phenols	U	1920	mg/l	0.030	< 0.030	< 0.030	< 0.030	< 0.030
Acenaphthylene	U	1700	µg/l	0.10	< 0.10	1.5	< 0.10	0.47
Acenaphthene	U	1700	µg/l	0.10	< 0.10	13	< 0.10	1.5
Fluorene	U	1700	µg/l	0.10	< 0.10	7.7	< 0.10	0.53
Phenanthrene	U	1700	µg/l	0.10	< 0.10	56	< 0.10	3.6
Anthracene	U	1700	µg/l	0.10	< 0.10	13	< 0.10	0.81
Fluoranthene	U	1700	µg/l	0.10	< 0.10	71	< 0.10	4.3
Pyrene	U	1700	µg/l	0.10	< 0.10	70	< 0.10	4.8
Benzo[a]anthracene	U	1700	µg/l	0.10	< 0.10	31	< 0.10	2.1
Chrysene	U	1700	µg/l	0.10	< 0.10	31	< 0.10	3.4
Benzo[b]fluoranthene	U	1700	µg/l	0.10	< 0.10	44	< 0.10	3.4
Benzo[k]fluoranthene	U	1700	µg/l	0.10	< 0.10	18	< 0.10	1.3
Benzo[a]pyrene	U	1700	µg/l	0.10	< 0.10	36	< 0.10	2.5
Indeno(1,2,3-c,d)Pyrene	U	1700	µg/l	0.10	< 0.10	25	< 0.10	0.83
Dibenz(a,h)Anthracene	U	1700	µg/l	0.10	< 0.10	8.0	< 0.10	0.81
Benzo(g,h,i)perylene	U	1700	µg/l	0.10	< 0.10	23	< 0.10	1.8
Total Of 16 PAH's	U	1700	µg/l	2.0	< 2.0	450	< 2.0	33
Aliphatic TPH >C5-C6	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C6-C8	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C8-C10	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C10-C12	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C12-C16	N	1675	µg/l	0.10	29	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C16-C21	N	1675	µg/l	0.10	45	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C21-C35	N	1675	µg/l	0.10	15	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C35-C44	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Aliphatic Hydrocarbons	N	1675	µg/l	5.0	89	< 5.0	< 5.0	< 5.0
Aromatic TPH >C5-C7	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C7-C8	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C8-C10	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C10-C12	N	1675	µg/l	0.10	< 0.10	5.2	< 0.10	< 0.10
Aromatic TPH >C12-C16	N	1675	µg/l	0.10	13	95	< 0.10	< 0.10
Aromatic TPH >C16-C21	N	1675	µg/l	0.10	12	360	< 0.10	26
Aromatic TPH >C21-C35	N	1675	µg/l	0.10	9.7	840	< 0.10	63
Aromatic TPH >C35-C44	N	1675	µg/l	0.10	< 0.10	80	< 0.10	< 0.10
Total Aromatic Hydrocarbons	N	1675	µg/l	5.0	35	1400	< 5.0	89
Total Petroleum Hydrocarbons	N	1675	µg/l	10	120	1400	< 10	88
Sulphate	U	1220	mg/l	1.0	< 1.0	5.4	2.3	12

Client: Rogers Geotechnical Services Ltd	Chemtest Job No.:				16-25525	16-25525	16-25525	16-25525
Quotation No.: Q16-07604	Chemtest Sample ID.:				368012	368013	368014	368015
Order No.: 1016-42	Client Sample Ref.:				TP1	TP2	TP3	TP4
	Client Sample ID.:				D	D	D	D
	Sample Type:				SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.4	0.6	0.4	0.4
	Bottom Depth (m):				0.5	0.7	0.5	0.5
	Date Sampled:				17-Oct-2016	17-Oct-2016	17-Oct-2016	17-Oct-2016
Determinand	Accred.	SOP	Units	LOD				
Total Dissolved Solids	N		mg/l	1.0	130	100	62	89
Chloride	U	1220	mg/l	1.0	5.3	< 1.0	2.6	< 1.0
Fluoride	U	1220	mg/l	0.050	0.86	0.39	0.37	0.45
Cyanide (Total)	U	1300	mg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Arsenic (Dissolved)	U	1450	µg/l	1.0	67	3.2	< 1.0	1.6
Boron (Dissolved)	U	1450	µg/l	20	54	< 20	< 20	< 20
Barium (Dissolved)	U	1450	µg/l	5.0	67	53	45	26
Cadmium (Dissolved)	U	1450	µg/l	0.080	0.59	< 0.080	< 0.080	< 0.080
Chromium (Dissolved)	U	1450	µg/l	1.0	3.4	< 1.0	< 1.0	< 1.0
Copper (Dissolved)	U	1450	µg/l	1.0	38	5.5	< 1.0	4.8
Mercury (Dissolved)	U	1450	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Molybdenum (Dissolved)	U	1450	µg/l	1.0	13	3.5	2.1	4.1
Nickel (Dissolved)	U	1450	µg/l	1.0	5.9	< 1.0	< 1.0	< 1.0
Lead (Dissolved)	U	1450	µg/l	1.0	88	17	< 1.0	6.1
Antimony (Dissolved)	U	1450	µg/l	1.0	1.7	2.4	< 1.0	< 1.0
Selenium (Dissolved)	U	1450	µg/l	1.0	1.4	< 1.0	< 1.0	< 1.0
Zinc (Dissolved)	U	1450	µg/l	1.0	22	5.2	< 1.0	2.3
Dissolved Organic Carbon	U	1610	mg/l	2.0	37	12	8.7	12
Naphthalene	U	1700	µg/l	0.10	< 0.10	1.1	< 0.10	1.1
Benzene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl Tert-Butyl Ether	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0

Test Methods

SOP	Title	Accreditation	Parameters included	Method summary
1220	Anions, Alkalinity & Ammonium in Waters	UKAS accredited	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1300	Cyanides & Thiocyanate in Waters	UKAS accredited	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
1450	Metals in Waters by ICP-MS	UKAS accredited	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1610	Total/Dissolved Organic Carbon in Waters	UKAS accredited	Organic Carbon	TOC Analyser using Catalytic Oxidation
1675	TPH Aliphatic/Aromatic split in Waters by GC-FID(cf. Texas Method 1006 / TPH CWG)		Aliphatics: >C5-C6, >C6-C8, >C8-C10, >C10-C12, >C12-C16, >C16-C21, >C21-C35, >C35-C44 Aromatics: >C5-C7, >C7-C8, >C8-C10, >C10-C12, >C12-C16, >C16-C21, >C21-C35, >C35-C44	Pentane extraction / GCxGC FID detection
1700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-FID	UKAS accredited	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenzo[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Pentane extraction / GC FID detection
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	UKAS accredited	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.
1920	Phenols in Waters by HPLC	UKAS accredited	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.

Report Information

Key

- U UKAS accredited
- M MCERTS and UKAS accredited
- N Unaccredited
- S This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
- SN This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
- T This analysis has been subcontracted to an unaccredited laboratory
- I/S Insufficient Sample
- U/S Unsuitable Sample
- N/E not evaluated
- < "less than"
- > "greater than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container

Sample Retention and Disposal

All soil samples will be retained for a period of 45 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.co.uk

Our Ref J3410/16/E
27th October 2016

Carley Daines & Partners
11, Bridgewater Road
Worsley
Manchester
M28 3JE

**Environmental
Geotechnical
Specialists**



For the attention of Mr Carley Daines

Dear Sir,

Ref: New Church Street, Radcliffe

We thank you for your request to obtain samples for chemical analysis from the above site, and take pleasure in enclosing the results of this work. The following describes the work undertaken and the data obtained.

Fieldworks

Further to your instructions, trialpits were excavated at the site on the 17th October 2016 at locations indicated on the attached plan.

The trialpits were excavated employing hand-held excavation tools order to reveal the nature of the near surface soils. The soils were logged in general accordance with BS5930:2015, and full descriptions are given on the trialpit records which are attached. Samples were taken from the trialpits for chemical testing. The chemical test specimens were retained in the appropriate air tight containers within cool boxes for onward transition to the laboratory.

Laboratory Testing - Environmental

A suite of testing was conducted on the leachate (10:1) derived samples from across the site and the following regime was undertaken.

- Non-Metals – F⁻, Cl⁻, CN⁻.
- Dissolved Metals, Semi-Metals and Non-Metals – As, B, Ba, Cd, Cr, Cu, Hg, Mo, Ni, Pb, Se, Sb and Zn.
- PAHs, TPHs, BTEX, MTBE.
- Others – SO₄²⁻, Organic Carbon.

This testing was undertaken by Chemtest Ltd and the results of the chemical testing is attached.

**GEOTECHNICAL
ENVIRONMENTAL**



Rogers Geotechnical Services Ltd
Office 1 & 2 Bamcliffe Business Park,
Near Bank, Shelley, Huddersfield, HD8 8LU

Telephone 0843 50 666 87
Fax 0843 51 599 30
Company No: 5130864

Discussion of Ground Conditions - Environmental

There are no statutory guidelines in respect of leachate contamination levels for material to be retained on site. However, Waste Management Paper No 26A sets out leachate levels below which the risk of pollution of water resources is considered to be very low. These levels are based upon ten times the acceptable drinking water criteria in the *Water Supply (Water Quality) Regulations (2010)* for England Wales and Scotland. For contaminants where no limit is given in the Water Supply Regulations, the results have been compared to the ATRISK^{water} screening values (WSVs) as compiled by WS Atkins PLC where inhalation exposure pathways are considered. The results of the leachate contaminants found to exceed these screening values are tabulated below:

Table 1: Summary of leachate levels.

Location	Depth	Contaminants found to be exceeding WSVs (Residential)/10xdrinking water criteria
TP1	0.4 – 0.5	Boron, Chloride, TPH (aliphatic C12-C16).
TP2	0.6 – 0.7	None.
TP3	0.4 – 0.5	Chloride.
TP4	0.4 – 0.5	Sulphate.

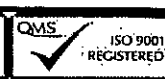
In some instances there are contaminants where there is no accepted leachate level from either the Water Supply Regulations or the screening values determined from ATRISK, the recorded concentrations are provided for reference only.

Concentrations of mercury, nickel, lead, cyanide, phenols, BTEX, MTBE and TPHs (aliphatic C5 – C12, aromatic C5 – C10) were below the detection limits for the tests. Detectable levels of all other contaminants were recorded, the levels of other determinands fell below the ATRISK Water Screening Values or the Water Supply Criteria multiplied by ten.

On this basis of the information provide above, it is considered that there may be a risk to nearby controlled waters from leachate derived from the made ground at the site. Moreover, operatives, end-users and neighbours could be at risk should they be exposed to the leachate from the site. It is therefore recommended that consultation with the overseers of nearby controlled waters is sought.

As a consequence of the above, it is considered that it will be necessary to break the linkage between the made ground and receptors. However, it must be realised the site is underlain by granular soils in places, which should be expected to have some permeability, and thus could present a migration pathway for leachate.

In the first instance, consideration could be directed to the removal of the made ground from the site, thus eliminating the source of contamination. However, as disposal of this material could give rise to excessive costs, thought may also be given to the installation of a barrier at the base of the made ground. This would require the excavation and stockpiling of the made ground, then following the installation of a suitable impermeable barrier, the replacement of the made ground as fill material. Care will to be taken to ensure that stockpiles of the made ground are placed on impermeable sheeting and covered over to



Rogers Geotechnical Services Ltd
Office 1 & 2 Barncliffe Business Park,
Near Bank, Shelley, Huddersfield, HD8 8LU

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Company No: 5130864

prevent the spread of contaminated soils and mitigate hazards to operatives and neighbours during the works.

In addition, it may be noted that chemical encapsulation of the made ground using lime or cement admixtures could be advantageous. Whilst such a process would reduce the permeability of the made ground and limit the leaching of contamination, such improved soils could provide a suitable bearing layer for foundations, access roads and driveways at the site.

We trust that this information is of interest and should you have any other requirements do not hesitate to contact us.

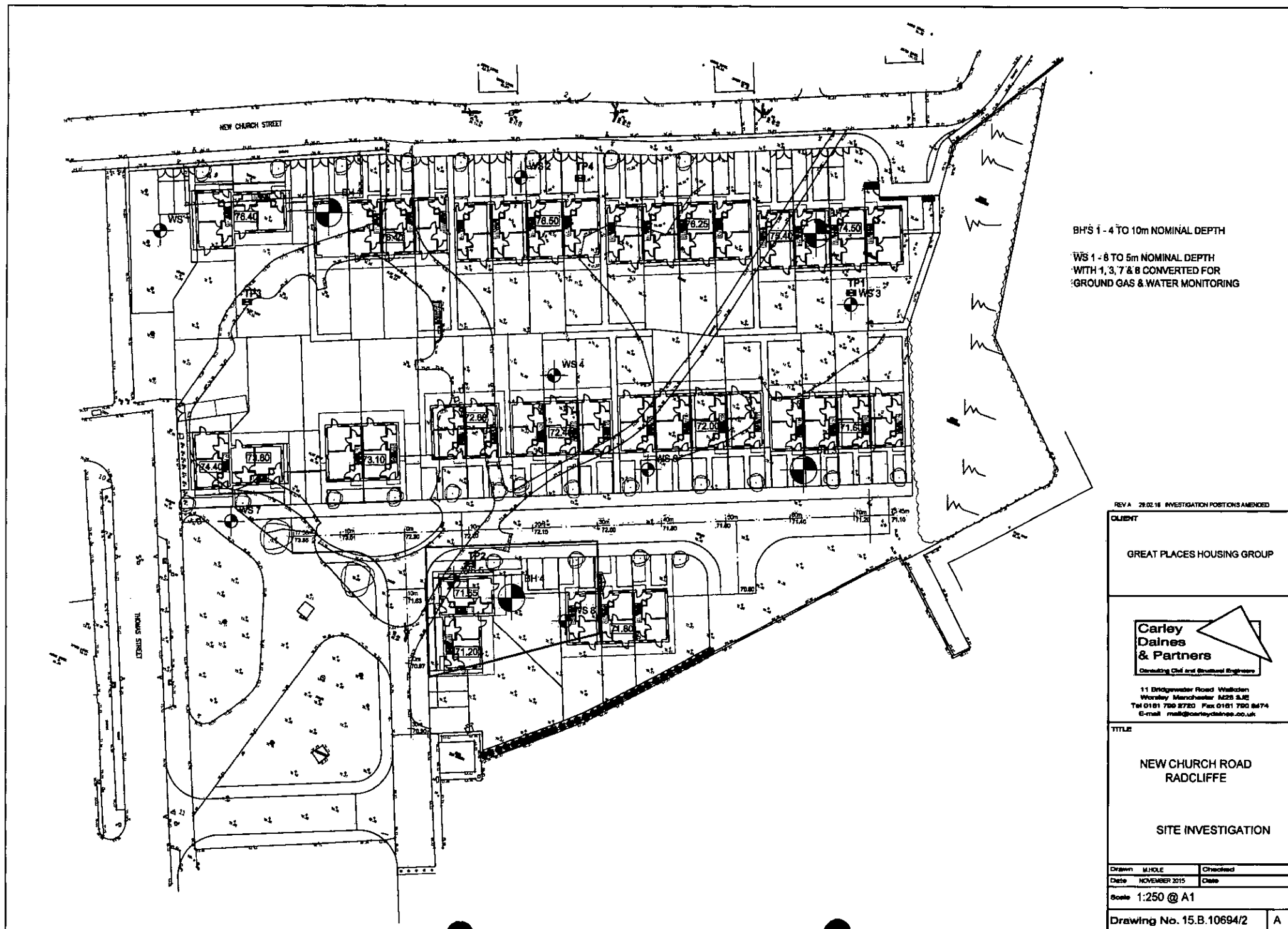
For Rogers Geotechnical Services Ltd,
Yours Faithfully

J. Farnsworth BEng, FGS
Senior Geotechnical Engineer



Rogers Geotechnical Services Ltd
Office 1 & 2 Barncliffe Business Park,
Near Bank, Shelley, Huddersfield, HD8 8LU

Telephone 0843 50 666 87
Fax 0843 51 599 30
Company No: 5130864



REV A 28.02.18 INVESTIGATION POSITIONS AMENDED

CLIENT

GREAT PLACES HOUSING GROUP

**Carley
Daines
& Partners**

Consulting Civil and Structural Engineers

11 Bridgewater Road, Walkden
Worsley, Manchester M28 3JZ
Tel 0161 750 8720 Fax 0161 750 8874
E-mail: mail@carleydaines.co.uk

TITLE

NEW CHURCH ROAD
RADCLIFFE

SITE INVESTIGATION

Drawn	M.HOLE	Checked	
Date	NOVEMBER 2015	Date	
Scale	1:250 @ A1		
Drawing No.	15.B.10694/2		A

Trial Pit Log

Trialpit No

TP1

Sheet 1 of 1

Project Name: New Church Street

Project No.
J3410/16/E

Co-ords:	-
Level:	

Date
17/10/2016

Location: Radcliffe

Dimensions
(m):

0.3

Scale
1:25

Client: Great Places Housing Group

Depth
0.50

0.2

Logged
DH/JRF

[illegible]

Remarks: Refusal at 0.5m on cobbles and boulders of yellowish grey sandstone masonry.

Stability: Stable





Trial Pit Log

Trialpit No

TP2

Sheet 1 of 1

Project Name: New Church Street

Project No.
J3410/16/ECo-ords: -
Level:Date
17/10/2016

Location: Radcliffe

Dimensions
(m):

0.5

Depth
0.80

0.5

Scale
1:25Logged
DH/JRF

Client: Great Places Housing Group

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.60 - 0.80	ES		0.20			MADE GROUND (Brown very gravelly silty CLAY with abundant roots, and gravel size fragments of metal (steel) and glass. Gravel is sub-rounded to sub-angular fine to coarse brick).
				0.80			MADE GROUND (Dark brown very gravelly silty CLAY with low cobble content. Gravel is sub-rounded to sub-angular fine to coarse brick and ash. Cobbles are sub-angular sandstone masonry).
							End of pit at 0.80 m

Remarks: Refusal at 0.8m on cobbles and boulders of yellowish grey sandstone masonry.

Stability: Stable





Trialpit No

TP4

Sheet 1 of 1

Project Name: New Church Street

Project No.
J3410/16/E

Co-ords:	-
Level:	

Date
17/10/2016

Location: Radcliffe

Dimensions
(m):

0.3

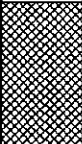
Scale
1:25

Client: Great Places Housing Group

Depth
0.50

0.3

Logged
DH/JRF

Water Strike	Samples and in Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.40 - 0.50	ES		0.50		 MADE GROUND (Brown very clayey gravelly SAND with pockets of wood chippings. Gravel is sub-rounded to angular fine to coarse brick, ash, mortar, sandstone masonry and pink sandstone). ----- End of pit at 0.50 m	1 2 3 4 5

Remarks:	Refusal at 0.5m on yellow sandstone slabs.
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Stability: Stable





Final Report

Report No.: 16-25525-1
Initial Date of Issue: 26-Oct-2016
Client: Rogers Geotechnical Services Ltd
Client Address: Unit 4, Barncliffe Business Park
Near Bank
Shelley
Huddersfield
West Yorkshire
HD8 8LU

Contact(s): James Farnsworth

Project: J3410/16/E Radcliffe

Quotation No.: Q16-07604

Date Received: 21-Oct-2016

Order No.: 1016-42

Date Instructed: 21-Oct-2016

No. of Samples: 4

Turnaround (Wkdays): 3

Results Due: 25-Oct-2016

Date Approved: 26-Oct-2016

Approved By:

Details: Martin Dyer, Laboratory Manager

Results - Leachate

Client: Rogers Geotechnical Services Ltd	Chemtest Job No.:				16-25525	16-25525	16-25525	16-25525
Quotation No.: Q16-07604	Chemtest Sample ID.:				368012	368013	368014	368015
Order No.: 1016-42	Client Sample Ref.:				TP1	TP2	TP3	TP4
	Client Sample ID.:				D	D	D	D
	Sample Type:				SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.4	0.6	0.4	0.4
	Bottom Depth (m):				0.5	0.7	0.5	0.5
	Date Sampled:				17-Oct-2016	17-Oct-2016	17-Oct-2016	17-Oct-2016
Determinand	Accred.	SOP	Units	LOD				
Total Phenols	U	1920	mg/l	0.030	< 0.030	< 0.030	< 0.030	< 0.030
Acenaphthylene	U	1700	µg/l	0.10	< 0.10	1.5	< 0.10	0.47
Acenaphthene	U	1700	µg/l	0.10	< 0.10	13	< 0.10	1.5
Fluorene	U	1700	µg/l	0.10	< 0.10	7.7	< 0.10	0.53
Phenanthrene	U	1700	µg/l	0.10	< 0.10	56	< 0.10	3.6
Anthracene	U	1700	µg/l	0.10	< 0.10	13	< 0.10	0.81
Fluoranthene	U	1700	µg/l	0.10	< 0.10	71	< 0.10	4.3
Pyrene	U	1700	µg/l	0.10	< 0.10	70	< 0.10	4.8
Benzo[a]anthracene	U	1700	µg/l	0.10	< 0.10	31	< 0.10	2.1
Chrysene	U	1700	µg/l	0.10	< 0.10	31	< 0.10	3.4
Benzo[b]fluoranthene	U	1700	µg/l	0.10	< 0.10	44	< 0.10	3.4
Benzo[k]fluoranthene	U	1700	µg/l	0.10	< 0.10	18	< 0.10	1.3
Benzo[a]pyrene	U	1700	µg/l	0.10	< 0.10	36	< 0.10	2.5
Indeno(1,2,3-c,d)Pyrene	U	1700	µg/l	0.10	< 0.10	25	< 0.10	0.83
Dibenz(a,h)Anthracene	U	1700	µg/l	0.10	< 0.10	8.0	< 0.10	0.81
Benzo[g,h,i]perylene	U	1700	µg/l	0.10	< 0.10	23	< 0.10	1.8
Total Of 16 PAH's	U	1700	µg/l	2.0	< 2.0	450	< 2.0	33
Aliphatic TPH >C5-C6	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C6-C8	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C8-C10	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C10-C12	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C12-C16	N	1675	µg/l	0.10	29	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C16-C21	N	1675	µg/l	0.10	45	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C21-C35	N	1675	µg/l	0.10	15	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C35-C44	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Aliphatic Hydrocarbons	N	1675	µg/l	5.0	89	< 5.0	< 5.0	< 5.0
Aromatic TPH >C5-C7	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C7-C8	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C8-C10	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C10-C12	N	1675	µg/l	0.10	< 0.10	5.2	< 0.10	< 0.10
Aromatic TPH >C12-C16	N	1675	µg/l	0.10	13	95	< 0.10	< 0.10
Aromatic TPH >C16-C21	N	1675	µg/l	0.10	12	360	< 0.10	26
Aromatic TPH >C21-C35	N	1675	µg/l	0.10	9.7	840	< 0.10	63
Aromatic TPH >C35-C44	N	1675	µg/l	0.10	< 0.10	80	< 0.10	< 0.10
Total Aromatic Hydrocarbons	N	1675	µg/l	5.0	35	1400	< 5.0	89
Total Petroleum Hydrocarbons	N	1675	µg/l	10	120	1400	< 10	88
Sulphate	U	1220	mg/l	1.0	< 1.0	5.4	2.3	12

Client: Rogers Geotechnical Services Ltd	Chemtest Job No.:				16-25525	16-25525	16-25525	16-25525
Quotation No.: Q16-07604	Chemtest Sample ID.:				368012	368013	368014	368015
Order No.: 1016-42	Client Sample Ref.:				TP1	TP2	TP3	TP4
	Client Sample ID.:				D	D	D	D
	Sample Type:				SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.4	0.6	0.4	0.4
	Bottom Depth (m):				0.5	0.7	0.5	0.5
	Date Sampled:				17-Oct-2016	17-Oct-2016	17-Oct-2016	17-Oct-2016
Determinand	Accred.	SOP	Units	LOD				
Total Dissolved Solids	N		mg/l	1.0	130	100	62	89
Chloride	U	1220	mg/l	1.0	5.3	< 1.0	2.6	< 1.0
Fluoride	U	1220	mg/l	0.050	0.86	0.39	0.37	0.45
Cyanide (Total)	U	1300	mg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Arsenic (Dissolved)	U	1450	µg/l	1.0	67	3.2	< 1.0	1.6
Boron (Dissolved)	U	1450	µg/l	20	54	< 20	< 20	< 20
Barium (Dissolved)	U	1450	µg/l	5.0	67	53	45	26
Cadmium (Dissolved)	U	1450	µg/l	0.080	0.59	< 0.080	< 0.080	< 0.080
Chromium (Dissolved)	U	1450	µg/l	1.0	3.4	< 1.0	< 1.0	< 1.0
Copper (Dissolved)	U	1450	µg/l	1.0	38	5.5	< 1.0	4.8
Mercury (Dissolved)	U	1450	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Molybdenum (Dissolved)	U	1450	µg/l	1.0	13	3.5	2.1	4.1
Nickel (Dissolved)	U	1450	µg/l	1.0	5.9	< 1.0	< 1.0	< 1.0
Lead (Dissolved)	U	1450	µg/l	1.0	88	17	< 1.0	6.1
Antimony (Dissolved)	U	1450	µg/l	1.0	1.7	2.4	< 1.0	< 1.0
Selenium (Dissolved)	U	1450	µg/l	1.0	1.4	< 1.0	< 1.0	< 1.0
Zinc (Dissolved)	U	1450	µg/l	1.0	22	5.2	< 1.0	2.3
Dissolved Organic Carbon	U	1610	mg/l	2.0	37	12	8.7	12
Naphthalene	U	1700	µg/l	0.10	< 0.10	1.1	< 0.10	1.1
Benzene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl Tert-Butyl Ether	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0

Test Methods

SOP	Title	Accreditation	Parameters included	Method summary
1220	Anions, Alkalinity & Ammonium in Waters	UKAS accredited	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1300	Cyanides & Thiocyanate in Waters	UKAS accredited	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
1450	Metals in Waters by ICP-MS	UKAS accredited	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1610	Total/Dissolved Organic Carbon in Waters	UKAS accredited	Organic Carbon	TOC Analyser using Catalytic Oxidation
1675	TPH Aliphatic/Aromatic split in Waters by GC-FID(cf. Texas Method 1006 / TPH CWG)		Aliphatics: >C5-C6, >C6-C8, >C8-C10, >C10-C12, >C12-C16, >C16-C21, >C21-C35, >C35-C44 Aromatics: >C5-C7, >C7-C8, >C8-C10, >C10-C12, >C12-C16, >C16-C21, >C21-C35, >C35-C44	Pentane extraction / GCxGC FID detection
1700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-FID	UKAS accredited	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenzo[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Pentane extraction / GC FID detection
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	UKAS accredited	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.
1920	Phenols in Waters by HPLC	UKAS accredited	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.

Report Information

Key

- U UKAS accredited
- M MCERTS and UKAS accredited
- N Unaccredited
- S This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
- SN This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
- T This analysis has been subcontracted to an unaccredited laboratory
- I/S Insufficient Sample
- U/S Unsuitable Sample
- N/E not evaluated
- < "less than"
- > "greater than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container

Sample Retention and Disposal

All soil samples will be retained for a period of 45 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.co.uk

Materials Management Plan (MMP) Form - October 2014

This form should be completed once the lines of evidence have been marshalled in relation to suitability for use, certainty of use and quantity required.

The answers to the questions posed within this form, together with the supporting information will constitute the MMP and must be provided to the Qualified Person.

A Qualified Person may comment on draft versions of this MMP, but will not complete the Declaration until all the relevant documents, demonstrating lines of evidence have been provided for each site.

The person / organisation who will pay the Declaration fee should confirm that they have read and understand the Terms and Conditions relating to the payment of the Declaration fee to CL:AIRE. These can be found on the CL:AIRE website.

**The person / organisation agreeing to pay the Declaration Fee -
Name, organisation and contact details inc. email address -**

Neil Hughes, Kier Living Ltd, The Genesis Centre, Science Park
South, Birchwood, Warrington. WA3 7BH. Tel – 01925 858810 Mobile
– 07985 370958 Neil.Hughes@kier.co.uk

☒ I confirm I have read and understood the Terms & Conditions.

Each question must be answered. If the question is not applicable please state this and provide a brief explanation.

1. Specify the scenario to which this MMP relates, as described in the Definition of Waste: Development Industry Code of Practice (DoW CoP) (1, 2, 3 or 4):

- ☒ 1. Reuse on the Site of Origin
- ☐ 2. Direct Transfer of clean naturally occurring soil / mineral materials
- ☐ 3. Cluster Project
- ☐ 4. Combination of any of the above

In the case of a combination of reuse scenarios, please describe it below (e.g. (i) Reuse on Site of Origin and Direct Transfer of clean naturally occurring unpolluted soils, (ii) Reuse on the Site of Origin with Direct Transfer of clean naturally occurring soil to x number of development sites etc:

(NB: A Declaration is required for reuse on the Site of Origin and for any 2 site arrangement i.e. there is no facility for a combination Declaration)

2. Organisation and name of person preparing this MMP	(Full address and contact details) Mouchel Limited, St. Johns House, Queen Street, Manchester. M2 5JB. Verity Sankey. Tel – 0161 838 6018 verity.sankey@mouchel.com
---	--

Document Control

Date issued	xxxxxxx
Revision date	
Summary of revision 1	
Summary of revision 2	

Insert additional lines to the table above for any subsequent revisions.

Note - revisions to the MMP do not trigger an additional Declaration by a Qualified Person, unless an additional site is added to the project.

Revisions to the MMP must be recorded and summarised in the Document Control box above.

Site Details

3. Site / Project name(s)	Former Radcliffe Civic Centre, New Church Street, Radcliffe
Reuse / receiving site name :	Former Radcliffe Civic Centre, New Church Street, Radcliffe
Donor site name (if Direct Transfer)	n/a

Landowners

4a. Name of Landowner(s) (full address and contact details) – where excavated materials are to be reused	Land Owner – Bury Council, Town Hall, Knowsley Street, Bury, Lancashire. BL9 0SW. Helen Longworth, 0161 253 5322, h.longworth@bury.gov.uk Leased to – Great Places Housing Association, 729 Princess Road, Manchester. M20 2LT. Luke Newland, 0161 447 5041, Luke.newland@greatplaces.org.uk (125 year lease)
4b. Name of Landowner(s) (full address and contact details) – where excavated materials are arising from	As above.

Summary and objectives

5a. Provide a brief description of the planned project and how excavated materials are to be reused.	Proposed cut and fill exercise as detailed in Drawing no. 6030/KIER/MMP/001 and KL-NCS-R/20-1 rev B on a site being redeveloped for a residential with gardens end use.
--	---

General Plans and Schematics

6. Attach a location plan for the site(s) and a plan of the site(s) which identifies where different materials are to be excavated from, stockpile locations (if applicable), where materials are to be treated (if applicable) and where materials are to be reused.	Plan Document Reference(s): Site location plan – Triangle Architects Drawing Reference 14-009/SK01 Excavation / reuse areas, stockpile locations plan – 6030/KIER/MMP/001
--	---

7. Attach a schematic of proposed materials movement. Where there is only one source area and one placement area briefly describe it. For all other projects a schematic is required.	Description & Schematic Document Reference: Drawing 6030/KIER/MMP/001 provides a plan and details of the sequence of works. Drawing KL-NCS-R/20-1 rev B provides a plan and details of the cut and fill volumes
--	---

Parties Involved and Consultation – if more than one party please provide additional details for them and identify the location that they will be working e.g. where a site is zoned

8a. Main earthworks contractor(s) (full address and contact details) – Where excavated materials are to be reused	Edwards Excavations Ltd, Unit 6, Woodman Works, South Lane, Elland. HX5 0PA. Tel – 01422 377 829, Fax – 01422 310082
8b. Main earthworks contractor(s) (full address and contact details) - Where	As above.

excavated materials are arising from	
9. Treatment contractor(s) (full address and contact details) – for treatment on site of origin, or at a Hub site within a fixed STF / Cluster Project	N/a – no treatment proposed.
10. Where wastes and materials are to be transported between sites, provide details of the transport contractor(s) (full address, contact details and waste carriers registration details (if applicable))	N/a – no material transport between sites proposed.
11. Provide Local Authority contact details (full address and named contacts) where excavated materials are to be reused	Bury Metropolitan Borough Council, Environmental Protection, 3 Knowsley Place, Duke Street, Bury. BL9 0EJ. Judith Scott, 0161 253 5581 j.scott@bury.gov.uk
12a. For the site where materials are to be reused and for Hub Site locations provide Environment Agency contact details (full address and named contacts):	Environment Agency, Environment, Planning and Engagement, Sustainable Places Team, Richard Fairclough House, Knutsford Road, Warrington, WA4 1HT Sylvia Whittingham, 020 302 51059, sylvia.whittingham@environment-agency.gov.uk
For all Cluster Projects:	EA references: N/A

12b. Attach any relevant documentation from the EA relating to the excavation and reuse of the materials to demonstrate no objection to the proposals (see 3.37 of DoW CoP)

If the EA has not been consulted please explain why (see paragraph 3.39 of the DoW CoP).

Lines of Evidence

There is no one single factor that can be used to decide that a substance or object is waste, or when it is, at what point it ceases to be waste; as complete a picture as possible has to be created.

The following sections require completion to ensure the correct decision is made.

If a requested item is not relevant it is important to clearly state why this is so (e.g. no planning permission required because permitted development status exists).

Suitable for use criteria

13. Please describe or provide copies of the required specification(s) for the materials to be reused on each site.	Document Reference(s): A remediation statement from RGS (reference J3410/16/E) dated 22 nd June 2016 has been provided.
---	---

<i>Where contamination is suspected or known to be present</i> 14a. Please provide copies of or relevant extracts from the risk assessment(s) that has been used to determine the specification for use on the site. This must relate to the place where materials are to be used. This must be in terms of (i) human health (ii) controlled waters and (iii) any other relevant receptors. If a risk assessment is not relevant for a particular receptor given the site setting please explain why below:	Document Reference(s): (i) Human Health – RGS Report “Report on a Geo-environmental Investigation at New Church Street, Radcliffe, Greater Manchester, M26 2UD for Great Places Housing Group” Ref. J3410/16/E dated April 2016 is attached. (ii) <u>Controlled waters – the above report also provides information on the risk to controlled waters. No investigation into this was carried out as it was considered to be low risk!</u>
14b. Please attach any relevant documentation from the LA relating to the excavation and reuse of the materials to demonstrate no objection (see 3.37 of the CoP)	LA Document references: Letter from Bury Council Environmental Protection Officer (Judith Scott) ref. CL814.040816.1) dated 4th August 2016 attached.

14c. Please attach any relevant documentation from the EA relating to the excavation and reuse of the materials to demonstrate no objection (see 3.37 and Table 2 of the CoP)	EA Document references: No comments received to date.
14d. Please attach any relevant documentation from any other regulators (if relevant) relating to the excavation and reuse of the materials to demonstrate no objection (see 3.37 of the CoP)	Document Reference(s): N/A

Where contamination is not suspected	Document Reference(s) N/A
15a. Please attach copies or relevant extracts from the Desk Top Study that demonstrates that there is no suspicion of contamination.	
15b. Please attach copies of or relevant extracts from the site investigation/testing reports that adequately characterise the clean materials to be used (if appropriate).	Document Reference(s) N/A
15c. Please attach copies of any other relevant information (if available) confirming that land contamination is not an issue.	Document Reference(s) N/A

NB: It is your responsibility to assess the nature of the material to be used and that it fits within the limitations of the scenario under which it is to be used

Certainty of use

Various lines of evidence are required to demonstrate that the materials are certain to be used. This includes:

- The production of this MMP
- An appropriate planning permission (or conditions that link with the reuse of the said materials)
- An agreed Remediation Strategy(ies)
- An agreed Design Statement(s)
- Details of the contractual arrangements

Please identify in the following sections what lines of evidence relate to the site(s) **where the materials are to be used**.

16a. Planning Permission(s) relating to the site where materials are to be reused Please provide a copy of the relevant planning permission	Document Reference: Notice of Planning Permission – Application No. 59600 dated 5 th January 2016 for Site of Civic Centre, Thomas Street / New Church Street, Radcliffe, M26 2UD attached.
16b. Explain how the reuse of the excavated materials fits within the planning	Condition 5 of the planning permission relates to the approved Remediation Strategy that has been produced and includes the reuse of the excavated materials.

permission(s) for each site.	
16c. If planning permission is not required for any one site please explain why below e.g. permitted development, clean up of a chemical spill, surrender of an Environmental Permit, re-contouring within the existing permission.	N/A
<i>Where contamination is suspected or is known to be present</i> 17. Please provide a copy of any Remediation Strategy(ies) that have been agreed with relevant regulators.	Document Reference(s): RGS letter report "Remediation Statement for New Church Street, Radcliffe" ref. J3410/16/E dated 22 nd June 2016 attached.
<i>Where contamination is not suspected</i> 18. Please provide a copy of any Design Statement(s) that have been agreed (e.g. with the planning authority or in the case of permitted developments the client).	Document Reference(s): N/A

Quantity of Use

19. Please provide a breakdown of the excavated materials for each site and how much will be placed at each site or sub area of each site. Where this is not specific to a single readily identifiable source refer to an annotated plan, schematic or attach a tabulated summary.	Document Reference(s): Drawing ref. KL/NCS-R/20-1 rev B shows the cut / fill / balance volumes. Cut – 6869m³ Fill - 1538m³ Balance - 5331m³ (to be removed from site) Drawing ref 6030/KIER/MMP/01 shows the sequence of works / cut & fill areas.
20a. How has consolidation/compaction being considered in the above mass balance calculations?	Due to minimal volumes being generated minimal volume increases are expected
20b. How has loss due to treatment being considered in the above mass balance calculations (if applicable)?	N/A
20c. How has the addition of treatment materials being considered in the above mass balance calculations (if applicable)? Note - An exact figure is not required but	N/A

one that is reasonable in the circumstances and can be justified if challenged.	
---	--

Contingency arrangements

Explain what is to happen in the following situations and **identify the appropriate clauses** in the contract(s) (Such clauses must be provided to the Qualified Person, preferably as a summary document): or

21a. What is to happen to, and who is to pay for out of specification materials?	Main contractor: Kier Living is to pay for any excess materials. Out of specification materials to be removed from site.
21b. What is to happen to, and who is to pay for any excess materials?	Main contractor: Kier Living is to pay for any excess materials. All excess materials to be removed from site.
21c. What happens if the project programme slips in relation to excavated materials or materials under -going treatment?	No materials undergoing treatment on site. In the event that the programme slips works will continue as agreed in the schedule.
21d. Other identified risk scenarios for the project (relating to excavated materials)?	Reference: N/A

The Tracking System

Where contamination is suspected or known to be present, state the procedures put in place to:

22a. For all sites please describe the tracking system to be employed to monitor materials movements.	On site engineer will survey and monitor stockpile location and material movement Transfer notes
Where contamination is suspected or known to be present, state the procedures put in place to: 22b. Prevent contaminants not suitable for the treatment process being accepted	N/A – no material to be treated.
Where contamination is suspected or known to be present, state the procedures put in place to: 22c. Prevent cross contamination of materials not in need of treatment, wastes awaiting treatment and treated materials	N/A – no materials to be treated, all material suitable to be reused on site without treatment.
Where contamination is suspected or known to be present, state the procedures put in place to: 22d. Demonstrate that materials that do not require treatment and successfully treated materials reach their specific destination	The risk assessment / remediation strategy accepted by the local authority confirm that material does not require treatment to remain on site. However, remediation strategy to be adhered to regarding cover layer thickness.
Where contamination is suspected or known to be present, state the procedures put in place to:	Please refer to Kier standard procedure: SHEMS-STD-INF-200: Materials & Waste – characterisation, classification and testing standard

22e. Ensure that waste for off-site disposal or treatment is properly characterised and goes to the correct facility	
23. Please attach a copy of the tracking forms / control sheets that are to be used to monitor materials movements. To include transfer of loads on site into stockpiles prior to treatment (if applicable), stockpiled after treatment (if applicable), stockpiled awaiting use (as appropriate) and final placement.	Please refer to Kier standard form: Document Reference: SHEMS-STD-INF-201: Materials Movement Tracking Form
<i>For Hub Sites within Cluster Projects & where materials need treatment before reuse</i> 24. Please attach a copy of the Environmental Permit covering the treatment process. Alternatively if the treatment is covered by a	Permit reference / EA letter reference: N/A

Mobile Plant Permit and associated Deployment Form, attach a copy of the EA agreement to the Deployment Form.	
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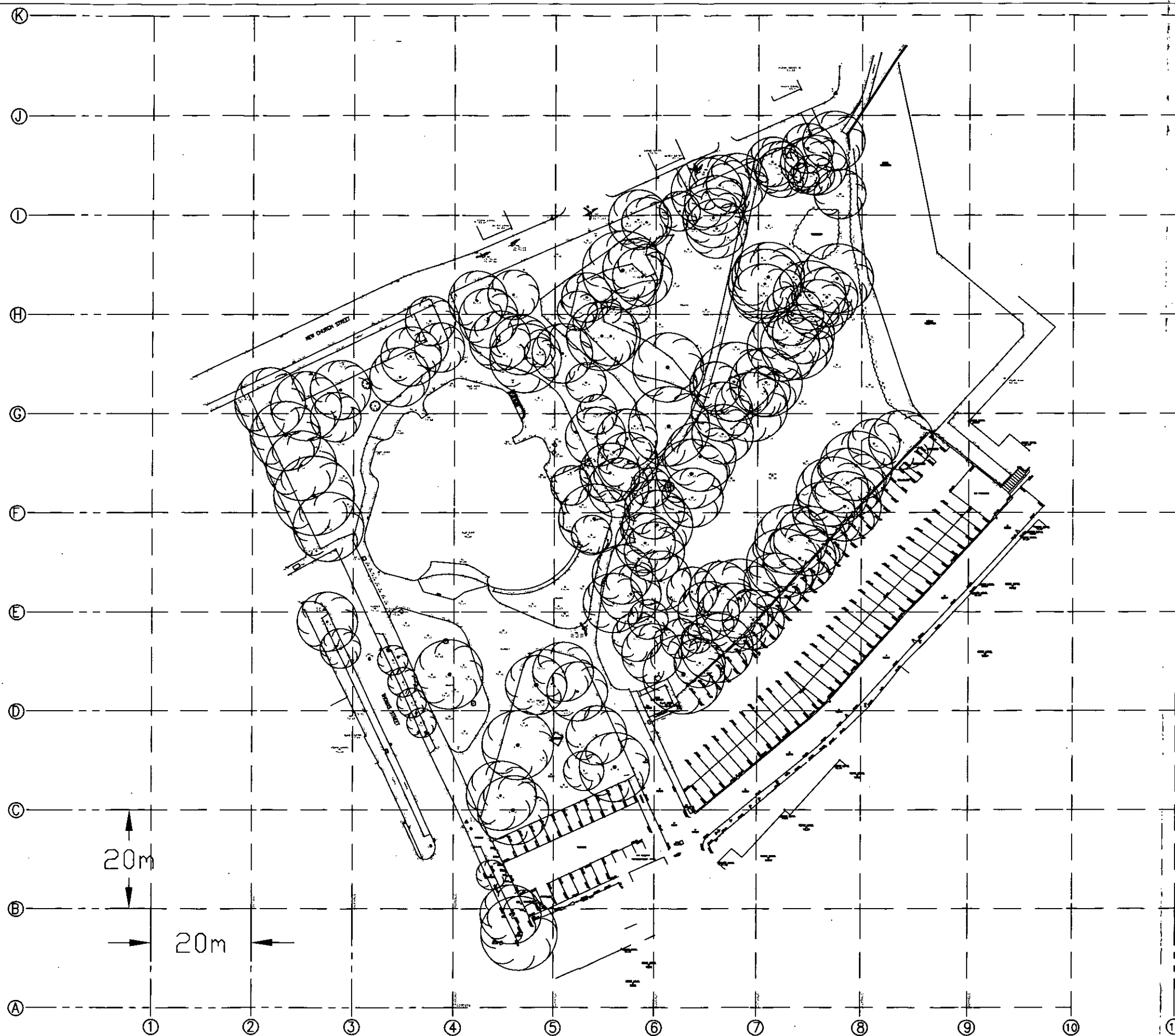
Records

25. Where, and in what form, are records to be kept? Note – records e.g. transfer notes, delivery tickets, Desk Top Study, Site Investigation, Risk Assessment(s), Verification Report(s) need to be kept for at least 2 years after the completion of the works and production of the Verification Report	Kier to maintain records including transfer notes, delivery tickets, test results etc. All hardcopy information to be stored in site cabin and transferred to main office upon site completion for scanning onto electronic format.
---	---

Verification Plan

26. Provide or explain the Verification Plan which sets out how you will record the placement of materials and prove that excavated materials have been reused in the correct location and in the correct	Document Reference As built records to be maintained by site engineer. Remediation Statement attached provides details of the content required to be included within the Verification Report.
---	--

quantities within the development works (see 3.4 of the DoW CoP).	
--	--



6m radius

Rev	Details	Date	By
Kier Living Limited			
Project: New Church Street 6030			
Drawing: MWP Grid -			
Drawing File Location: Q:\			
Drawn by: JD		Date: --/--	
Scale: NTS @ A3		COINS code: -----	
This drawing is © copyright protected. All dimensions to be checked on site. Any discrepancies to be reported to the Architect Immediately. This drawing should not be scaled.			
Drawing no: -		Revision: -	

[illegible]

Our ref CL814.040816.1
Your ref 59600
Date 4 August 2016
Please ask for Judith Scott
Direct line 0161 253 5581
Direct fax 0161 253 5563
E-mail j.scott@bury.gov.uk

Department for
Communities and Wellbeing

Lesley Jones
Director of Public Health

Barry Murphy
Triangle Architects
Raven House
113 Fairfield Street
Manchester
M12 6EL

Dear Mr Murphy

Radcliffe Civic Hall, Thomas Street, Radcliffe, Planning Application: 59600 – Contaminated Land

The Environment Section has received a copy of the following reports:

- Phase 1 Preliminary Risk Assessment, New Church Street, Radcliffe, Carley Daines & Partners, Ref. 15-B-10694, 20th November 2015.
- Report on a Geo-Environmental Investigation, New Church Street, Radcliffe, Greater Manchester, M26 2UD, Carley Daines & Partners, Report No J3410/16/E, April 2016.
- Remediation (Gas) Statement for New Church Street, Radcliffe, RGS, Ref: J3410/16/E, 22nd June 2016.
- Remediation Statement for New Church Street, Radcliffe, RGS, Ref: J3410/16/E, 22nd June 2016.

The Environment Section has reviewed the above information in order to assess the following points:

1. The adequacy of the desk study information available for this site.
2. The adequacy of the site investigation.
3. The adequacy of the final risk assessment.
4. The acceptability of the proposed remediation strategy.
5. Whether the information submitted is sufficient to determine that the site presents a low risk to human health and the environment.

The site has previously been in use as terraced housing and the southern area of the site has been in use as a cotton mill and a reservoir. The site was later cleared of terraced housing and a Civic Hall was built with landscaping, paths and a play area. Surrounding landuses have included a graveyard, a quarry, Cotton Mill with associated reservoir, Iron Works, railway, unspecified works, Brass Foundry, Health Centre, car parks, and an Electricity Sub Station.

The site is within 250m of a historical landfill site and is situated above the Nob End Rock Sandstone Secondary A Aquifer which is partially overlain by Glacial Till. The River Irwell is situated 60m to the south of the site.

It is understood that the proposed development comprises the demolition of the Civic Hall and the development of forty residential properties.

1. The adequacy of the desk study information available for this site

The Desk Study Report has previously been assessed and approved by this Section.

2. The adequacy of the site investigation

The recent geotechnical site investigation comprised the following:

Technique	No.	Comments
Windowless Boreholes	8	WS1 – WS8. Maximum depth 5m bgl. Gas monitoring standpipes installed in four boreholes.
Light Cable Percussive Boreholes	4	BH1 – BH4. Maximum depth 4.2m bgl.

Site Ground Conditions: Ground conditions at the site comprise of topsoil to 0.43m bgl over made ground comprising brown sandy gravelly clay or clayey gravelly sand, the gravel component included brick, slate, coal, sandstone and some ash, to a maximum of 3.0m bgl. Made ground was underlain by drift deposits of Glacial Till and solid geology comprising of the Nob End Rock Secondary A Aquifer. Chemical testing was carried out from samples across the site.

A chemical odour believed to be associated with solvents was noted at depth in the boreholes. However, general contamination testing did not find any obvious indication of the source of such contaminants. No asbestos containing materials were found.

Site Water Conditions: No groundwater was encountered and no groundwater testing or leachate testing has been carried out.

Site Ground Gas Conditions: Gas monitoring was carried out on three occasions between 11th and 29th March 2016 with further testing scheduled. Negligible concentrations of methane were present and carbon dioxide concentrations ranged between 0.2% and 4.0%. The maximum flow rate being 0.2 l/hr.

An additional three more rounds of gas monitoring have now been carried out, the maximum carbon dioxide concentration is now 4.1% v/v and maximum flow being 0.4 l/hr.

3. The adequacy of the final risk assessment

Ground Assessment: The results of the chemical testing have been compared to the ATRISK soil screening values (SSVs), CLEA soil screening criteria for, and Category 4 Screening Levels (C4SL) for Residential with Plant Uptake.

Exceedences of the C4SL values for arsenic were found in WS1 (190 mg/kg) and BH3 (42 mg/kg). Half the samples exceeded the assessment criteria for lead and elevated

✓ levels were found in WS2 (220mg/kg), WS5 (330mg/kg), WS6 (210 mg/kg), WS7 (370 mg/kg), BH3 (250 mg/kg) and BH4 (600mg/kg). The sample from BH4 (although in report it references this results to BH1) revealed a concentration of benzo(a)pyrene of 9.6 mg/g which is above the C4SL value. These results are considered to pose an unacceptable risk to human health receptors.

It is concluded that the contamination at the site is likely to be a result of coal ash within the near surface soils. This could be related to the demolition of former properties at the site.

Samples have been obtained from depths in line with the placement of water pipes and the results compared to criteria used in risk assessments associates with UKWIR guidance. There are parts of the site where contamination exceeds the threshold for use of PE Pipe and the use of barrier or metal pipe will be considered.

Contamination testing did not identify any source of the solvent type odour identified in the made ground during the investigation and the odour appeared to be limited to deeper soils. The solvent odour has therefore been associated with potential off-site sources which could be nearby dry cleaners (138m and 402m away) or commercial vehicle spraying (416m from the site). This assessment appears to this Section to be unlikely.

Due to the presence of volatile PAHs a vapour resistant membrane has been recommended to be installed. Whilst it has not been possible to establish the source of the potential solvent contamination below the site, mitigation of volatiles migrating into houses will be achieved by the installation of the vapour resistant membrane.

Controlled Waters Assessment: No free product was observed although the results identified the potential for leaching of hydrocarbon contaminants within the made ground which could affect controlled waters. However, as this source is diminishing it has been assessed that significant levels of contamination are unlikely to impact nearby controlled waters (River Irwell).

Please note that the Environment Agency is the regulator of controlled waters and as such need to be consulted and forwarded copies of all the relevant information for this site. This Section will require confirmation that the Environment Agency has approved the risk assessment.

Ground Gas Assessment: Gas Screening Values (GSV) in line with CIRIA C665 have been calculated for methane and carbon dioxide; 0.008 l/hr for carbon dioxide and negligible for methane. Therefore the site may be characterised as Characteristic Situation 1. However as the carbon dioxide readings are close to 5% it is recommended that plans include provision for gas barriers.

Further gas monitoring has now been completed and a revised GSV calculated 0.0164 l/hr. Methane concentrations were negligible. The site has been fully characterised and Characteristic Situation Level 1 conditions prevail. Therefore the installation of gas barriers is not considered necessary. However a vapour resistant membrane has been recommended for installation as discussed above.

4. The acceptability of the proposed remediation strategy

The following remediation has been proposed to address the contamination at the site:

- Protection of site operatives during groundworks.
- On completion of site works an inspection of the sub-grade material will take place. If visual or olfactory evidence of contamination is revealed then suitably qualified specialists will be consulted.
- Beneath buildings, pavements and hard-standings clean inert granular sub-base shall be employed.
- A Vapour resistant membrane is to be installed within sub-structure of properties.
- Plastic services to be constructed in clean inert material and a risk assessment to be carried out as instructed by United Utilities.
- Redundant services at the site to be de-commissioned and sealed.
- Capping layer in garden areas consisting of 500mm inert material and a 100mm granular capillary break layer at the base to be installed. Or 600mm of current ground to be removed and replaced with clean inert fill.
- Fill materials either site won or imported will be initially screened for the following:
 - Suitable growing medium including compliance with BS3883 (2007).
 - Free from obvious contamination i.e. visual or olfactory evidence.
 - Free from Japanese Knotweed or other invasive plants.
 - It is not a statutory nuisance such as being odorous.
 - It is free from unsuitable material.
- Any fill to be subjected to validation testing to assess its suitability. The Sampling & Testing Matrix of Yorkshire and Humberside Pollution Advisory Council 2016 (YAHFAC) documentation will be used for testing frequency and determinants to be tested for. At-risk SSVs will be used as screening criteria.
- A Verification Report will be produced to demonstrate that the remediation has been sufficiently carried out. The report will include:
 - The details of any vapour resistant membrane installed, photographic evidence of the installation along with evidence that the membrane has been installed to the manufacturer's specification.
 - Characterisation of the suitability of clean fill employed at the site including derivation of the material, comments from the visual screen, the tests results of chemical screening, delivery tickets where appropriate and the conditions by which the clean material has been stored and handled on site.
 - Photographic and logged evidence that the clean material has been handled on site and placed in a sufficient thickness over soft landscaped areas where made ground remains. Verification to include hand excavated pits and photographs.
 - Details of the final destination of any contaminated soils removed from site.

The above remedial proposal appear reasonable although please provide foundation details and specification of the vapour resistant membrane to be installed. Additionally please could you confirm if the CL:AIRE Code of Practice will be used for management of material on site and if a Materials Management Plan is to be submitted?

5. Whether the information submitted is sufficient to determine that site presents a low risk to human health and the environment

In order for this Section to be satisfied that this development does not pose a risk to human health or the environment, the following information needs to be submitted to the Council for approval:

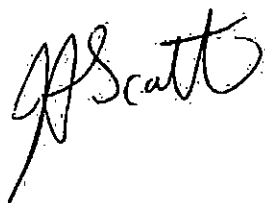
- (i) Confirmation the Environment Agency is satisfied with the controlled waters risk assessment.
- (ii) Specification of the vapour resistant membrane and foundation design details.
- (iii) A Material Management Plan.
- (iv) After completion of site works, a verification report is required to validate that the work undertaken conforms to the remediation proposals received and agreed by this Section.

This Section cannot recommend the discharge of condition 4 until points (i) to (iii) above has been met.

Conditions 5 and 6 will require the submission of information to meet point (iii).

Please do not hesitate to contact me if you require any clarification of the above.

Yours sincerely



Judith Scott
Environmental Protection Officer

c.c
c.c

Helen Longworth
J. Farnsworth

Bury Council Planning Division
Rogers Geotechnical Services Ltd

Please Note:

The Environmental Services Division has used all reasonable endeavours to determine the risk from contaminated land and ground gas based upon the information available to it. However, the comments made above should not be taken to imply that the land is safe or otherwise suitable for this or any other development. The responsibility for safe development rests with the developer.



UNDER NO CIRCUMSTANCES SHALL ANY
PROPOSED LEVELS BE AMENDED
WITHOUT THE PRIOR CONSULTATION
WITH JLES GROUP LTD.

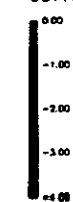
SITE BLOCK PLAN

SCALE: 1:1250
GRID REF: E-378547 N-407121
POST CODE: M26 2UH



LEGEND

CUT AREAS

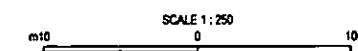


FILL AREAS



VOLUMETRIC RESULT:

FILL VOLUME 1538m3
CUT VOLUME 6869m3
FILL AREA 2113m2
CUT AREA 8080m2
BALANCE 5331m3 (CUT)



6	REVISED TO CLIENT REQUIREMENTS	02/08/16	DMS
A	ISSUED TO CLIENT FOR REVIEW	31/08/16	DMS
REV	AMENDMENTS	DATE	DRAWN

CLIENT:

GREAT PLACES
HOUSING GROUP
(NORTH WEST)



project title
**NEW CHURCH STREET
RADCLIFFE**

drawing title
**PROPOSED CUT & FILL
VOLUME LAYOUT**

scale
1:250
date
31 AUGUST 2016
ref
KL/NCS-R/20-01
rev
B



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SITE LOCATION PLAN

SCALE: 1:250
GRID REF: E-378547 N-407121
POST CODE: M26 2UH



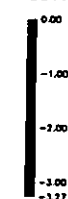
SITE BLOCK PLAN

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LEGEND

CUT AREAS



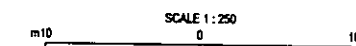
FILL AREAS



VOLUMETRIC RESULT:

FILL VOLUME 1485m3
CUT VOLUME 6352m3
FILL AREA 2241m2
CUT AREA 4867m2

BALANCE 4867m3 (CUT)



C	REVISED VOLUMES & COLOUR PLAN TO SUIT CLIENT	12/10/16	DMS
B	REVISED TO CLIENT REQUIREMENTS	02/09/16	DMS
A	ISSUED TO CLIENT FOR REVIEW	31/08/16	DMS
REV	AMENDMENTS	DATE	DRAWN

CLIENT:

GREAT PLACES
HOUSING GROUP
(NORTH WEST)



Project title	NEW CHURCH STREET RADCLIFFE
---------------	--------------------------------

drawing title	scale
PROPOSED CUT & FILL VOLUME LAYOUT	1:250
	date
	31 AUGUST 2016

Drawn	DMS	Checked	DMS	Rev	KL/NCS-R/20-01	C
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SITE LOCATION PLAN

SCALE: 1:250
GRID REF: E-378547 N-407121
POST CODE: M26 2UH

NOTICE OF PLANNING PERMISSION

Town and Country Planning Act 1990 Town and Country Planning (Development Management Procedure) Order 2015

To:

Mr Barry Murphy
Triangle Architects
Raven House
113 Fairfield Street
Manchester
M12 6EL

On Behalf Of:

Ms Lynsey Clark
Great Places Housing Association
Southern Gate
729 Princess Road
Manchester
M20 2LT

PART 1 - Particulars of Application

Application Number: 59600

Date of Registration: 05/01/2016

Proposal:

Demolition of existing Civic Centre and
erection of 40 no. dwellings with associated
car parking and landscaping

Location:

Site of Civic Centre, Thomas Street/New
Church Street, Radcliffe, M26 2UD

PART 2 - Particulars of Decision

Bury Metropolitan Borough Council hereby give notice in pursuance of the provisions of the Town and Country Planning Act 1990 that permission has been **GRANTED** for the carrying out of the development referred to in Part 1 hereof in accordance with the application and plans submitted subject to the following conditions:-

- 1 The development must be begun not later than three years beginning with the date of this permission.
Reason. Required to be imposed by Section 91 Town & Country Planning Act 1990.
- 2 This decision relates to drawings numbered 14-009/01 A, 14-009/02 A, 14/009-03 A, 14-009/04, 14-009/05, 14-009/06, 14-009/07, 14-009/09, 14-009/10, 14-009/11, 14-009/12, 14-009/14 A, 14-009/20, 14-009/21 A, 14-009/30, 14-009/31, 060714JC-01, Arbtech TCP 01 and the development shall not be carried out except in accordance with the drawings hereby approved.
Reason. For the avoidance of doubt and to ensure a satisfactory standard of design pursuant to the policies of the Bury Unitary Development Plan listed.
- 3 No development, other than demolition, shall commence unless or until details/samples of the (materials/bricks/stone) to be used in the external elevations and an element of stone in plots 1, 2, 19, 20), together with details of their manufacturer, type/colour and size, have been submitted to and approved in writing by the Local Planning Authority. Only the approved materials/bricks shall be used for the construction of the development.
Reason. No material samples have been submitted and are required in the interests of visual amenity and to ensure a satisfactory development pursuant to UDP Policy EN1/1 Visual Amenity.

- 4 No development, other than demolition, shall commence unless and until:-
- A contaminated land Preliminary Risk Assessment report to assess the actual/potential contamination and/or ground gas/landfill gas risks at the site shall be submitted to, and approved in writing by, the Local Planning Authority;
 - Where actual/potential contamination and/or ground gas/landfill gas risks have been identified, detailed site investigation and suitable risk assessment shall be submitted to, and approved in writing by the Local Planning Authority;
 - Where remediation/protection measures is/are required, a detailed Remediation Strategy shall be submitted to, and approved in writing by, the Local Planning Authority.

Reason. The scheme does not provide full details of the actual contamination and subsequent remediation, which is required to secure the satisfactory development of the site in terms of human health, controlled waters, ground gas and the wider environment and pursuant to National Planning Policy Framework Section 11 - Conserving and enhancing the natural environment.

- 5 Following the provisions of Condition 4 of this planning permission, where remediation is required, the approved Remediation Strategy must be carried out to the satisfaction of the Local Planning Authority within agreed timescales; and A Site Verification Report detailing the actions taken and conclusions at each stage of the remediation works, including substantiating evidence, shall be submitted to and approved in writing by the Local Planning Authority prior to the development being brought into use.

Reason. To secure the satisfactory development of the site in terms of human health, controlled waters and the wider environment and pursuant to National Planning Policy Framework Section 11 - Conserving and enhancing the natural environment.

- 6 Following the provisions of Condition 4 of this planning permission, where ground gas remediation / protection measures are required, the approved Remediation Strategy must be carried out to the written satisfaction of the Local Planning Authority within approved timescales; and A Site Verification Report detailing the actions taken and conclusions at each stage of the remediation works, including substantiating evidence, shall be submitted to and approved in writing by the Local Planning Authority prior to the development being brought into use.

Reason. To alleviate any possible risk associated with the production of landfill gas and ground gas in accordance with the recommendations of the Environment Agency and pursuant to National Planning Policy Framework Section 11 - Conserving and enhancing the natural environment.

- 7 No development, other than demolition works, shall commence unless or until a scheme for the disposal of foul drainage has been submitted to and approved in writing by the Local Planning Authority. Such a scheme shall be constructed and completed in accordance with the approved plans prior to occupation of the dwellings hereby approved.

Reason: To ensure a satisfactory means of drainage pursuant to Policy EN7/5 - Waste Water Management of the Bury Unitary Development Plan.

- 8 No development, other than demolition, shall commence unless or until details of a scheme for the disposal of surface water drainage have been submitted to and approved in writing by the Local Planning Authority. The proposed scheme must be based on the hierarchy of drainage options in the National Planning Practice Guidance and be designed in accordance with the Non-Statutory Technical Standards for Sustainable Drainage Systems (March 2015). This must include assessment of potential SuDs options for surface water drainage with appropriate

calculations and test results to support the chosen solution. Details of the proposed maintenance arrangements must be provided. Only the approved scheme shall be implemented prior to occupation of the dwellings hereby approved.

Reason. No details of the drainage have been submitted and to ensure a satisfactory means of drainage pursuant to Policy EN7/5 - Waste Water Management of the Bury Unitary Development Plan.

- 9 The demolition works shall be carried out in accordance with the recommendations of the Bat survey by Arbtech, dated 3 November 2015. If the demolition works are delayed beyond the end of April, a survey to establish whether the buildings are utilised by bats and a programme of mitigation shall be submitted to and approved in writing by the Local Planning Authority prior to any demolition works commencing. All mitigation measures shall be fully implemented prior to the commencement of the works and remain in situ on the site for an agreed period of time.

Reason. In order to ensure that no harm is caused to a Protected Species pursuant to policies EN6 – Conservation of the Natural Environment and EN6/3 – Features of Ecological Value of the Bury Unitary Development Plan and Section 11 of the National Planning Policy Framework.

- 10 No works of any kind shall be carried out to trees between the months of March to August inclusive, unless and until a survey commissioned by a suitably qualified person to establish that the trees are not being used by nesting birds, has been submitted to and approved in writing by the Local Planning Authority. Where such approval is provided in writing by the Local Planning Authority, then any works subsequently undertaken shall for the purposes of this condition 10 relate only to those trees identified as part of the survey approved and further survey by a suitably qualified person shall be required in relation to any trees where works have not taken place within a period of six months of such approval or where any nesting birds may subsequently have become present.

Reason. In order to ensure that no harm is caused to a Protected Species pursuant to policies EN6 – Conservation of the Natural Environment and EN6/3 – Features of Ecological Value of the Bury Unitary Development Plan and National Planning Policy Framework Section 11 - Conserving and enhancing the natural environment.

- 11 No development, other than demolition, shall be carried out unless or until a landscaping scheme, including details of replacement trees, has been submitted to and approved in writing by, the Local Planning Authority. It shall be implemented not later than 12 months from the date the building(s) is first occupied; and any trees or shrubs removed, dying or becoming severely damaged or becoming severely diseased within five years of planting shall be replaced by trees or shrubs of a similar size or species to those originally required to be planted to the written satisfaction of the Local Planning Authority.

Reason. To secure the satisfactory development of the site and in the interests of visual amenity pursuant to Policy EN1/2 - Townscape and Built Design and EN8/2 – Woodland and Tree Planting of the Bury Unitary Development Plan.

- 12 All trees to be retained on site shall be protected in accordance with BS 5837:2012 "Trees in relation to design, demolition and construction". The development shall not commence unless and until the measures required by the British Standard are implemented and all measures required shall remain in situ until the development has been completed.

Reason. To avoid the loss of trees which are of amenity value to the area pursuant to Policy EN1/2 - Townscape and Built Design and EN8/2 – Woodland and Tree Planting of the Bury Unitary Development Plan.

- 13 No development shall commence unless and until a 'Construction Traffic

Management Plan' (CTMP), has been submitted to and approved in writing by the Local Planning Authority and shall confirm/provide the following:

- Access route for construction traffic from the highway network;
- Hours of operation and number of vehicle movements;
- Arrangements for the turning and manoeuvring of vehicles within the curtilage of the site;
- Parking on site of operatives' and construction vehicles together with storage on site of construction materials.

The approved plan shall be adhered to throughout the construction period and the measures shall be retained and facilities used for the intended purpose for the duration of the construction period. The areas identified shall not be used for any other purposes other than the turning/parking of vehicles and storage of construction materials

Reason. No information has been provided and to mitigate the impact of the construction traffic generated by the proposed development on the adjacent residential streets and ensure adequate off street car parking provision and materials storage arrangements for the duration of the construction period, in the interests of highway safety pursuant to the following Policies of the Bury Unitary Development Plan:

Policy H2/1 - The Form of New Residential Development

Policy H2/2 - The Layout of New Residential Development.

- 14 Notwithstanding the details indicated on approved plan reference 14-009 02 Revision A, no development, other than the demolition of the Civic Centre, shall commence unless and until full details of the following have been submitted to and agreed with the Local Planning Authority:

- A pre-condition survey of all highways (Thomas Street, New Church Street, Seymour Street);
- Reconstruction of the existing and widened section of New Church Street abutting the site to a specification to be agreed, incorporating the provision of a 1.8m min. wide southerly footway, revised adoptable turning head arrangements adjacent to Plot 18, works to improve the pedestrian link from New Church Street to Cross Street and all associated highway and highway drainage remedial works, which shall be informed by the pre-condition survey;
- Formation of the proposed site access onto Thomas Street and residential estate road to an agreed specification incorporating adoptable turning head arrangements and service margins;
- A scheme of traffic calming measures on Cross Street and Thomas Street to a scope to be agreed including details of proposed materials, road markings and signage as required;
- Revised footway arrangements at the interface between the site and Seymour Street incorporating the provision of bollards to a specification to be agreed;
- Provision of a street lighting scheme for the proposed residential development to include the section of New Church Street abutting the site, the pedestrian link from New Church Street to Cross Street, Thomas Street in the vicinity of the site access and the cul-de-sac end of Seymour Street;
- Provision of long sections and cross sections at positions to be agreed through the proposed estate roads and turning heads to ensure adoptable gradients and minimum 1 in 3 batters can be achieved along and adjacent to the proposed adopted highways;
- Swept path analysis of the proposed estate roads to ensure a refuse collection vehicle can pass a private car and manoeuvre at both turning heads

The details subsequently approved shall be implemented to a programme, which shall be agreed in writing by the Local Planning Authority.

Reason. To ensure good highway design and maintain the integrity of the adopted

highway, in the interests of highway safety pursuant to Policy H2/2 - The Layout of New Residential Development of the Bury Unitary Development Plan.

- 15 A minimum hardstanding of 5.5m measured between the highway boundary and any proposed garage doors shall be provided to the written satisfaction of the Local Planning Authority and thereafter maintained.
Reason. To enable a vehicle to stand clear of the highway whilst the garage doors are opened and to allow adequate space to maintain a vehicle clear of the highway in the interests of road safety pursuant to Policy H2/2 - The Layout of New Residential Development of the Bury Unitary Development Plan.
- 16 No development shall commence unless and until details have been submitted to and approved in writing by the Local Planning Authority to cover measures to ensure that all mud and other loose materials are not carried on the wheels and chassis of any vehicles leaving the site and measures to minimise dust nuisance caused by the operations. The approved details shall be implemented and maintained thereafter during the period of construction.
Reason. To ensure that the adopted highways are kept free of deposited material from the ground works operations pursuant to Policy H2/2 - The Layout of New Residential Development of the Bury Unitary Development Plan.
- 17 No development, other than demolition works shall commence unless or until a scheme for works to the recreation/public open space retained on site shall be submitted to and approved in writing by the Local Planning Authority. The approved scheme shall be implemented not later than 6 months from the date a dwelling is first occupied; and any trees or shrubs removed, dying or becoming severely damaged or becoming severely diseased within five years of planting shall be replaced by trees or shrubs of a similar size or species to those originally required to be planted.
Reason. To secure the satisfactory development of the site and in the interests of visual amenity pursuant to Policy EN1/2 - Townscape and Built Design, EN8/2 – Woodland and Tree Planting and Policy RT1/1 - Protection of Recreation Provision in the Urban Area of the Bury Unitary Development Plan.

Statement in accordance with Article 35(2) Town and Country Planning (Development Management Procedure) (England) (Amendment) Order 2015

The proposal would improve the economic, social and environmental conditions of the area. It therefore comprises sustainable development and the Local Planning Authority worked proactively and positively to issue the decision without delay. The Local Planning Authority has therefore implemented the requirement in Paragraphs 186-187 of the National Planning Policy Framework.

The following policies of the Bury Unitary Development Plan, National and Regional Government were considered relevant:

H1/2	H1/2 - Further Housing Development
H2/1	H2/1 - The Form of New Residential Development
H2/2	H2/2 - The Layout of New Residential Development
H4/1	H4/1 - Affordable Housing
H5/1	H5/1 - Area Improvement
EN1/1	EN1/1 - Visual Amenity
EN1/2	EN1/2 - Townscape and Built Design
EN1/3	EN1/3 - Landscaping Provision
EN1/5	EN1/5 - Crime Prevention
EN1/7	EN1/7 - Throughroutes and Gateways
EN2/3	EN2/3 - Listed Buildings
EN6	EN6 - Conservation of the Natural Environment

EN6/3	EN6/3 - Features of Ecological Value
EN7	EN7 - Pollution Control
EN7/1	EN7/1 - Atmospheric Pollution
EN7/2	EN7/2 - Noise Pollution
EN7/5	EN7/5 - Waste Water Management
EN8	EN8 - Woodland and Trees
EN8/2	EN8/2 - Woodland and Tree Planting
RT1/1	RT1/1 - Protection of Recreation Provision in the Urban Area
RT2/2	RT2/2 - Recreation Provision in New Housing Development
S1/2	S1/2 - Shopping in Other Town Centres
HT2/4	HT2/4 - Car Parking and New Development
HT4	HT4 - New Development
HT5/1	HT5/1 - Access For Those with Special Needs
HT6/2	HT6/2 - Pedestrian/Vehicular Conflict
CF1/1	CF1/1 - Location of New Community Facilities
TC1/1	TC1/1 - Open Space in Town Centres
Area	Area RD2 - Green Street/New Church Street
RD2	
SPD1	Supplementary Planning Document 1 - Open Space, Sport and Recreation Provision in New Housing Development
SPD5	Development Control Policy Guidance Note 5: Affordable Housing Provision in New Residential Developments
SPD6	Supplementary Planning Document 6 - Alterations and Extensions to Residential Properties.
SPD11	Development Control Policy Guidance Note 11 - Parking Standards in Bury
NPPF	National Planning Policy Framework

This decision relates only to the Town and Country Planning Acts and does not include any consent or approval under any other enactment or under the Building Regulations. Any other consent or approval which is necessary must be obtained from the appropriate authority.

Applicant Plan Numbers:

14-009/01 A
14-009/02 A
14/009-03 A
14-009/04
14-009/05
14-009/06
14-009/07
14-009/09
14-009/10
14-009/11
14-009/12
14-009/14 A
14-009/20
14-009/21 A
14-009/30
14-009/31
060714JC-01
Arbtech TCP 01

NOTES TO APPLICANT

1. This recommendation relates to revised plan reference 14-009 02 Revision A received by this Section on 04 February 2016.

2. There is a surfaced path across the open space to the north east of the Civic Suite which links Seymour Street to New Church Street. There is also access along the eastern edge of the Civic Suite linking more directly to the walkway beside St Thomas and St Johns Church. With the absence of evidence to the contrary, it is likely that these routes have attained the status of public rights of way albeit the two routes are not included on the Definitive Map. The two routes would be obstructed by the proposed development, therefore, diversion or extinguishment would be required.
3. This development affects public rights of way. This planning decision does not authorise the closure or diversion of the public rights of way affected by the development. The applicants attention is therefore drawn to the statutory procedures for obtaining a closure/diversion order of the affected public rights of way. Development affecting the public rights of way should not be commenced until the statutory requirements have been complied with and the closure/diversion order made. Enquiries regarding the necessary procedures should be made to the Department for Resources and Regulation, 3 Knowsley Place, Duke Street, Bury BL9 0EJ. Telephone 0161 253 5788/7226
4. The applicants attention is drawn to the need to consult the Department for Resources and Regulation regarding the specification for and implementation of the required highway works. The cost of the works will be the responsibility of the developer.
5. The applicants attention is drawn to the need to complete a Section 38 Agreement under the Highways Act 1980, and a Section 104 Agreement under the Water Industry Act 1991, regarding the future adoption of the proposed roads and sewers.
6. the applicants attention is drawn to the legal procedures for the establishment of traffic calming measures on the highway required as a result of the proposed development and the need to consult the Department for Resources and Regulation in order to secure their implementation. The highway works should not take place until the statutory requirements have been completed. All associated public consultation and legal costs in addition to the cost of the proposed highway works will be the responsibility of the applicant.
7. The applicants attention is drawn to Section 80 of the Building Act 1984 and the need to give six weeks prior written notice to the Department for Resources and Regulation detailing any proposed demolition works in connection with the proposed development.
8. The Council currently operates a curtilage system of refuse collection. The applicant is advised to liaise with Environment & Development Services, Waste Management & Transport - Bradley Fold, on 0161 253 7010/6635, regarding the operation of this system.

Our Ref J3410/16/E
22nd June 2016

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M28 3JE

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Geotechnical
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For the attention of Mr. Carley,

Dear Chris,

Ref: Remediation Statement for New Church Street, Radcliffe.

Further to our report on a geo-environmental investigation (J3410/16/E) which was presented in April 2016, we have completed our gas monitoring regime and this letter presents the results.

Monitoring

Monitoring standpipes were installed to the full depth of four of the windowless sample boreholes, WS1, WS4, WS7 and WS8, which were excavated during the previous geo-environmental investigation. The locations of the boreholes are provided on the site plan presented as Appendix 1 in the geo-environmental report. Visits were made to the site between the 11th March and the 20th May 2016, when the gas standpipes were monitored. The results of the monitoring undertaken at the site are presented in the geo-environmental report, however, to assist in discussions, the summary table is reproduced below.

Table 1: Gas and water level monitoring

Borehole No	Date	CH ₄ (%)	CO ₂ (%)	O ₂ (%)	Flow	Barometric Pressure (mb)	Water Level (m)	Standpipe Depth (m)
WS1	11/03/16	0.0	0.5	21.2	0.1	1019	2.0	3.2
	18/03/16	0.0	0.6	20.7	0.2	1020	2.2	
	29/03/16	0.0	0.5	20.7	0.2	992	2.6	
	05/04/16	0.0	0.6	20.4	0.2	997	2.5	
	05/05/16	0.0	0.5	20.2	0.2	1010	2.5	
	20/06/16	0.0	1.5	19.2	0.2	1004	2.7	
WS4	11/03/16	0.0	3.1	17.6	0.2	1018	4.9	4.9
	18/03/16	0.0	3.6	17.9	0.1	1019	-	
	29/03/16	0.0	4.0	17.7	0.1	992	-	
	05/04/16	0.0	4.1	17.1	0.0	998	-	
	05/05/16	0.0	3.5	17.9	0.2	1010	-	
	20/06/16	0.0	3.0	17.9	0.3	1004	-	

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WS7	11/03/16	0.0	0.4	20.8	0.2	1019	2.9	2.9
	18/03/16	0.0	0.7	20.3	0.2	1020	-	
	29/03/16	0.0	0.2	20.2	0.2	991	-	
	05/04/16	0.0	0.2	19.7	0.2	998	-	
	05/05/16	0.0	0.5	19.3	0.2	1010	-	
	20/06/16	0.0	0.8	18.2	0.1	1004	-	
WS8	11/03/16	0.0	2.6	18.3	0.1	1019	2.8	3.5
	18/03/16	0.0	2.6	18.5	0.2	1020	3.4	
	29/03/16	0.0	3.3	17.0	0.1	992	3.5	
	05/04/16	0.0	3.8	15.8	0.2	998	2.8	
	05/05/16	0.0	3.5	16.3	0.4	1010	3.2	
	20/06/16	0.0	4.0	17.5	0.3	1004	-	

This work was undertaken using a Geotechnical Instruments (UK) Ltd. GA5000 (serial No G503524) which was last calibrated on the 29th February 2016.

Gas Concentrations

The latter gas monitoring results have shown a very slight increase in the maximum concentration of carbon dioxide and flow from those presented in the geo-environmental report. Moreover, the minimum concentration of oxygen recorded at the site has also reduced slightly. As a consequence, it will be necessary to re-evaluate the gas screening values considered in the geo-environmental report.

In order to establish the gas screening value (GSV) for methane or carbon dioxide, the maximum gas concentration (expressed as a decimal) is multiplied by the borehole flow rate (l/hr). In this case a maximum of 4.1% (0.041) carbon dioxide was recorded, in association with a maximum flow of 0.4 l/hr. This results in a GSV of 0.0164 l/hr for carbon dioxide. As the concentrations of methane were negligible, the GSV for methane may be considered as null.

Therefore, in accordance with Table 8.5, *Modified Wilson and Card classification* of the CIRIA report C665, *Assessing risks posed by ground gasses to building*, the site may be characterised as *Characteristic Situation Level 1*; GSV is <0.07 l/hr. It is therefore considered that there is a very low risk of harm to end users and site operatives.

Moreover, in regard to the number of monitoring visits required reference is made to Tables 5.5a and 5.5b of CIRIA report C665 (2007)¹. Accepting that the proposed development is of high sensitivity (residential with gardens end use) and that the generation potential is very low to low, these tables suggest that 6 readings could be undertaken over a period of 3 months. As the gas monitoring fulfils the required frequency and number of results, it is considered that the site is fully characterised.

As a consequence, whilst it was recommended in the geo-environmental report that consideration be given to the provisional planning and costings of the installation of gas barriers, until the gas monitoring was complete, the further monitoring suggests that Characteristic Situation Level 1 conditions at the site prevail. Therefore, the installation of such barriers will not be necessary.

¹ Adapted from tables 5.5a and 5.5b of CIRIA C665, 2007, *Assessing risks posed by hazardous ground gas to buildings*, p60.

Comments

Whilst no further gas monitoring is currently proposed at the site, it is strongly recommended that the standpipe installations within the boreholes at the site remain in a serviceable condition, in case circumstances change. Should the existing standpipes become damaged or permanently obstructed and further monitoring does become necessary, the repair or installation of further standpipes at the site is likely to incur significant costs.

Clearly, the comments made in this letter have been based on the current understanding of the construction proposals. Should any of the circumstances of the project change, this advice would no longer be valid. Rogers Geotechnical Services Ltd should be made aware of any substantial changes to the project, such that appropriate advice can be offered. Moreover, if required we would be happy to continue the gas monitoring regime or, if necessary, install replacement standpipes.

References

- Wilson S, Oliver S, Mallet H, Hutchings H, Card G, *Assessing risks posed by ground gasses to buildings*, CIRIA Report C665.

We trust that this information is of interest and should you have any other requirements do not hesitate to contact us.

For Rogers Geotechnical Services Ltd,
Yours Faithfully

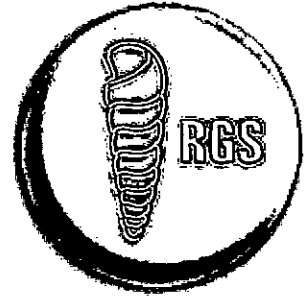
J. Farnsworth BEng, FGS
Senior Geotechnical Engineer

G.L. Bobrowicz MSc, PhD, MCSM, FGS
Principal Geotechnical Engineer

Our Ref J3410/16/E
22nd June 2016

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Company No: 5130864

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	18/03/16	0.0	2.6	18.5	0.2	1020	3.4	
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As a consequence, whilst it was recommended in the geo-environmental report that consideration be given to the provisional planning and costings of the installation of gas barriers, until the gas monitoring was complete, the further monitoring suggests that Characteristic Situation Level 1 conditions at the site prevail. Therefore, the installation of such barriers will not be necessary.

¹ Adapted from tables 5.5a and 5.5b of CIRIA C665, 2007, *Assessing risks posed by hazardous ground gas to buildings*, p60.

Comments

Whilst no further gas monitoring is currently proposed at the site, it is strongly recommended that the standpipe installations within the boreholes at the site remain in a serviceable condition, in case circumstances change. Should the existing standpipes become damaged or permanently obstructed and further monitoring does become necessary, the repair or installation of further standpipes at the site is likely to incur significant costs.

Clearly, the comments made in this letter have been based on the current understanding of the construction proposals. Should any of the circumstances of the project change, this advice would no longer be valid. Rogers Geotechnical Services Ltd should be made aware of any substantial changes to the project, such that appropriate advice can be offered. Moreover, if required we would be happy to continue the gas monitoring regime or, if necessary, install replacement standpipes.

References

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We trust that this information is of interest and should you have any other requirements do not hesitate to contact us.

For Rogers Geotechnical Services Ltd,
Yours Faithfully

J. Farnsworth BEng, FGS
Senior Geotechnical Engineer

G.L. Bobrowicz MSc, PhD, MCSM, FGS
Principal Geotechnical Engineer

Our Ref J3410/16/E
22nd June 2016

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For the attention of Mr. Carley,

Dear Chris,

Ref: Remediation Statement for New Church Street, Radcliffe.

Further to the site specific risk assessment provided within the geo-environmental report (J3410/16/E, April 2016), it is considered that some remediation will be required at this site. The strategy for the remediation is presented below.

Remediation Objectives

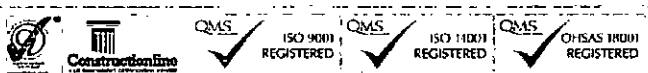
Based on the site specific risk assessment provided in the geo-environmental report, the object of remediation at the site is as follows:

- To protect the site operatives during the construction process from the ingestion of soil or dust, dermal contact with the soil and inhalation of dust and vapours.
- To protect the end user from the ingestion of soil or dust, dermal contact with the soil and inhalation of dust and vapours.
- To protect the neighbours from the ingestion of soil or dust, dermal contact with the soil and inhalation of dust.
- To protect the garden plants from contaminated ground and to protect site operatives, the end user and neighbours from the ingestion of contaminated fruit and vegetables.
- To ensure that contamination cannot leach from the made ground and reach controlled waters via permeable strata.
- To ensure that contamination cannot enter the former services occupying the site which may return to controlled waters.
- To protect plastic services from being penetrated by, or degrading due to the presence of, contamination in the soil or groundwater.

Development Requirements

The site is to be developed by the construction of a number of residential dwellings with associated gardens and driveways. In light of this, it is considered that the site may be classified as being a residential development with plant uptake.

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Remediation Statement

In order to fulfill the objectives defined above the following remedial strategy will be utilised. A pragmatic approach will be undertaken, with observational techniques being employed at each stage of the work.

Ground-works

During the ground-works phase of the development, protection to the site operatives is required. The risk to site operatives is considered under the Health and Safety at Work Act 1974, together with regulations made under the act, which includes the Control of Substances Hazardous to Health (COSHH) regulations. Therefore the risks to site personnel will be considered under the Construction Design and Management (CDM) regulations at the planning stage and be included in the contractor's Health and Safety Plan and site specific Method Statements. These documents shall include the following main elements.

- Access to the site by the general public will be restricted until remediation has taken place.
- Any edible vegetation present at the site shall be removed and considered as contaminated. This will require the vegetation being disposed of to a licensed waste operator. Operatives will be made aware that such vegetation is hazardous and potentially harmful.
- Site operatives at all levels shall be made aware of the hazards of working with contaminated soils and in an environment where accumulations of carbon dioxide may occur.
- Personal hygiene facilities, including washing and messing, will be provided and site operatives will be encouraged to use them.
- Where work is undertaken in dry weather the site will be dampened down to avoid dust. In addition, dust masks will be provided to all site operatives for use in dry weather.
- Where vehicles are transferring soil to the landfill site they will be covered to prevent contamination of the surrounding area by dust.
- Any stockpiles of contaminated soil on site will be sheeted over to prevent excessive amounts of airborne dust.
- Where work is undertaken in wet weather, vehicle and wheel washing facilities will be provided to ensure that the vehicles leaving the site do not transfer contamination to surrounding areas.

On completion of the ground-works a careful site inspection of the sub-grade will take place. Should visual or olfactory evidence of contamination be revealed, then suitably qualified specialists will be consulted. Further testing and updates to the site specific ground model, risk assessment, and remediation strategy will be undertaken where necessary.

Construction

During the construction phase of the contract the following items are required to protect the end user from the potential contaminants revealed at this site.

- Beneath buildings, pavements and hard-standings clean inert granular sub-base shall be employed.
- Due to the presence of volatile PAHs, a vapour resistant membrane will be installed within the sub-structure of the properties.
- Plastic services will be constructed in a surround of clean inert material and a risk assessment will be carried as instructed by the statutory water authority for the

area. Where necessary testing as recommended in the United Kingdom Water Industry Research (UKWIR) website under Report Ref. No. 10/WM/03/21 - 'Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites' will be carried out.

- The redundant services revealed at this site will be de-commissioned and piped services sealed. Any existing services that are to be employed in the new development will be carefully inspected to ensure that they are serviceable and will not allow the ingress of contamination.
- Buried concrete placed at the site will conform to the guidance given in BRE Special Digest SD1 in accordance with a design sulphate class of DS-1.

Garden and Landscaped Areas

In view of the contamination at the site, it is considered that the gardens and landscaped areas will require some remediation. This will include the provision of a capping layer of 500mm of inert material, which will put the contaminated ground out of the end users' dig range. At the base of this layer a granular capillary break of 100mm of free draining granular soil will be placed in order to prevent contaminants rising upward. This expedient will also provide a suitable root barrier to isolate the plants from the underlying contaminated ground.

As a second option, subject to final site levels, a suitable barrier may be provided by appropriately disposing of 600mm of the current ground and replacing it with clean inert fill as described above. Whilst it is considered that this approach could be cost prohibitive it is an option available to the developer subject to site conditions.

Fill Materials

Any materials to be used as fill at the site, either site-won or imported, will be subjected to the following assessment to determine its suitability.

Fill materials will be initially screened, by a suitably qualified engineer, for the following.

- It is a suitable growing medium where is to be employed as such, including compliance with BS3883 (2007)
- It is free from obvious contamination i.e. visual or olfactory evidence
- It has not come from areas where Japanese Knotweed or other invasive or injurious plants are suspected to be growing
- It is not a statutory nuisance, such as being odorous
- It is free from unsuitable material i.e. whole bricks, brick ties, timber or glass.

It should also be appreciated that any fill will be subjected to validation testing to assess its suitability. The following table has been taken from YAHPAC¹ documentation and will be used in the first instance. Depending on the origin and nature of the material, not all fill will require the sampling frequency and testing indicated, although this will be in agreement with any regulatory bodies (such as the Local Authority).

Table 1: Validation sampling and testing

Fill Type	Frequency	Minimum Determinands
Virgin Quarried Material	1 or 2 depending on the type of stone (to confirm the inert nature of the material)	Standard metals/metalloids (As, Cd, Cr, Cr ^{VI} , Cu, Hg, Ni, Pb, Se, Zn)

¹ Sampling & Testing Matrix of Yorkshire and Humberside Pollution Advisory Council, 2016, YAHPAC Technical Guidance for Developers, Landowners and Consultants – Verification Requirements for Cover Systems v7.2.

Crushed Hardcore, Stone, Brick	Minimum 1 per 1000m ³	Standard metals/metalloids as above plus PAH (16 USEPA) and Asbestos
Greenfield/ Manufactured Soils	The greater of a minimum of 3 or 1 per 250m ³	Standard metals/metalloids as above plus PAH (16 USEPA) and Asbestos
Brownfield/ Screened Soils	The greater of a minimum of 6 or 1 per 100m ³	Standard metals/metalloids as above plus PAH (16 USEPA), TPH (CWG banded) and Asbestos Any additional analysis dependant on the history of the donor site.

Assuming fill material being used on site contains 6% SOM, the screening values for the above shall include the following:

Table 2: Fill screening values

Contaminant	Screening Value (Residential without Plant Uptake) (mg/kg)	Reference
As	35	Atrisk ^{SOIL} SSVs, 6% soil organic matter
Cd	83.6	Atrisk ^{SOIL} SSVs, 6% soil organic matter
Cr ^{VI}	38.1	Atrisk ^{SOIL} SSVs, 6% soil organic matter
Cu	8370	Atrisk ^{SOIL} SSVs, 6% soil organic matter
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Pb	235	Atrisk ^{SOIL} SSVs, 6% soil organic matter
V	353	Atrisk ^{SOIL} SSVs, 6% soil organic matter
Zn	46800	Atrisk ^{SOIL} SSVs, 6% soil organic matter
TPH CWG	See contamination analysis sheet	Atrisk ^{SOIL} SSVs, 6% soil organic matter
PAH 16 USEPA	See contamination analysis sheet	Atrisk ^{SOIL} SSVs, 6% soil organic matter

Should the organic content within the fill material being used be different to the above, then screening values for the appropriate SOM will be employed (having been approved by the local authority). Testing will comply with UKAS and MCERTS, where applicable, and undertaken by an accredited laboratory.

Where the material has been derived from a commercial company, certificates or other industry quality protocol compliance i.e. WRAP shall be obtained. However, it will be necessary to ensure that this documentation specifically related to the material being imported, it is no more than two months old and complies with the screening and frequency requirements given above.

Suitable fill materials will either be placed immediately or sufficiently quarantined to prevent cross-contamination. If it is necessary, the quarantined material will be placed on appropriate sheeting and covered to prevent it becoming mixed with contaminated soils or dust, or penetrated by mobile contaminants.

Verification Report

In order to demonstrate that the remedial has been sufficiently carried out, it will be necessary to produce a verification report for submission to any statutory authorities.

It will be necessary for this report to include the following:

- The parameters of any vapour resistant membranes installed, photographic evidence of the installation along with evidence that the membrane has been installed to the manufacturer's specification without tears and punctures. This will be undertaken by a suitable qualified specialist.
- Characterisation of the suitability of clean fill employed at the site including the derivation of the material, comments from a visual screen, the tests results of chemical

screening, delivery tickets where appropriate and the conditions by which the clean material has been stored and handled on site.

- Photographic and logged evidence that the clean material has been handled on site and placed in a sufficient thickness over soft landscaped areas where made ground remains. This will be either at the time of placement or after placement by means of hand excavated trialpits. Photographs will include visual site references or reference boards to prove the location and date taken. A measurement reference will be visible in the photographs to substantiate the thickness of material placed.
- A record of the measures taken to cap and seal any disused services.
- The methods used for handling and final destination of any contaminated soils removed from the site.

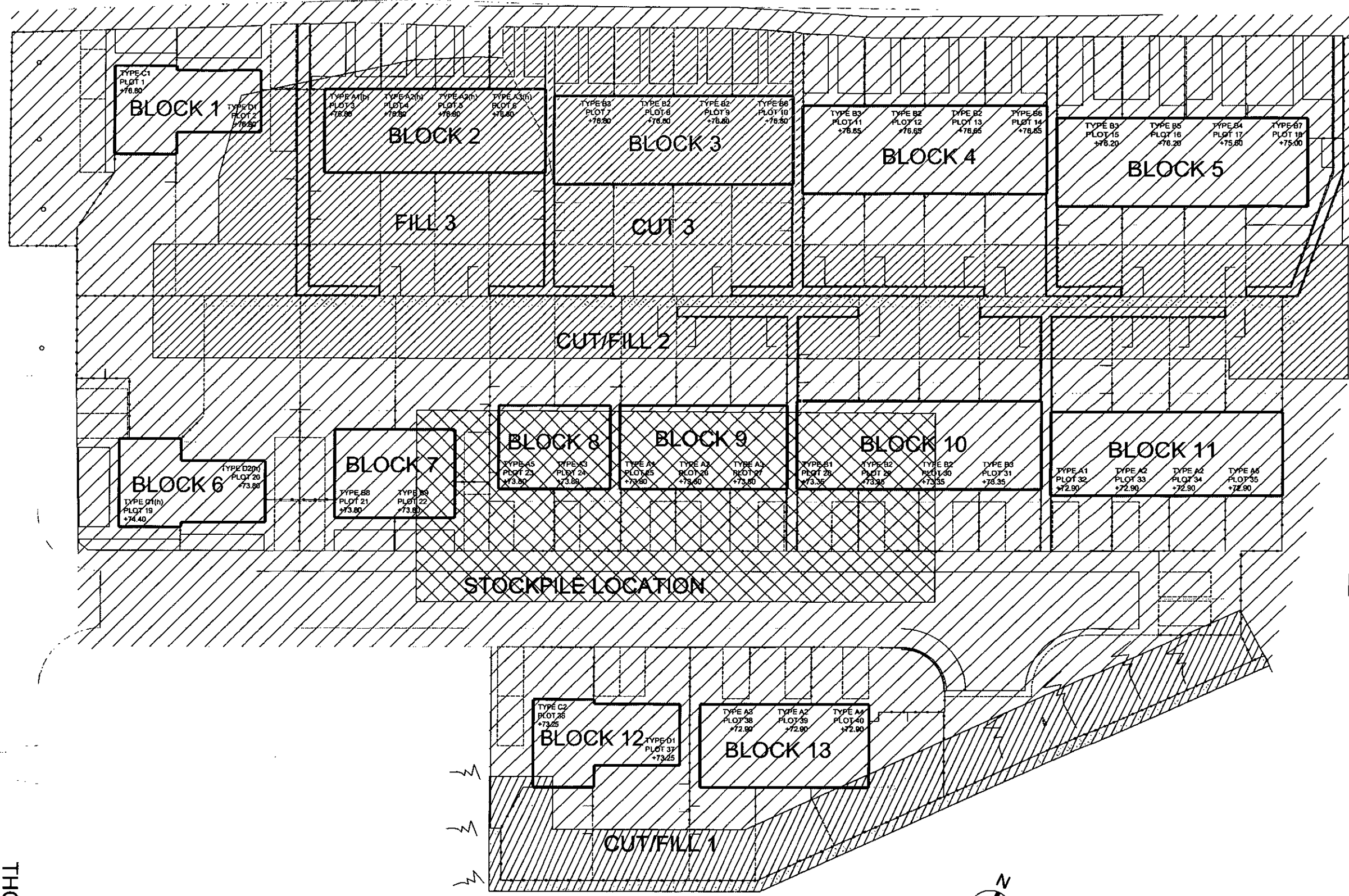
The report detailed above shall be produced by a suitably qualified engineer or engineers. The number of verification areas for the development will be confirmed with the statutory authorities for the site.

For and on behalf of Rogers Geotechnical Services Ltd,
Yours Faithfully

J. Farnsworth BEng, FGS.
Senior Geotechnical Engineer

Gabriel Bobrowicz, MSc, PhD, MCSM, FGS.
Principal Geotechnical Engineer

NEW CHURCH STREET



- KEY/SEQUENCE OF WORKS**
- CUT & FILL EXERCISE 1**
 - 1. Cut to rear of lower retaining wall
 - 2. Cut material to be moved to stockpile location
 - 3. Installation of retaining wall
 - 4. Material from stockpile location 1 to be used as retaining wall fill
 - CUT & FILL EXERCISE 2**
 - 5. Cut to upper level retaining wall
 - 6. Cut material to be moved to stockpile location
 - 7. Installation of retaining wall
 - 8. Material from stockpile location to be used as retaining wall fill
 - CUT & FILL EXERCISE 3**
 - 9. Cut to highlighted area
 - 10. Cut material to be used directly in adjacent fill area
 - CUT EXERCISE 4**
 - 11. Remainder of cut material to be removed from site

THOMAS STREET

QUARRY STREET

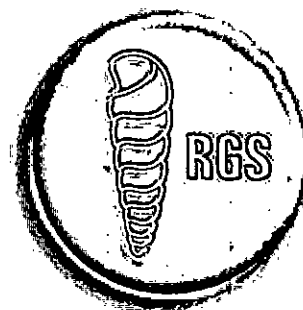


Kier Living Limited The Genesis Centre Science Park South Birchwood Warrington WA3 7BN Tel: 01925 817600	
Project: New Church Street, Raddiffe	
Drawing: Materials Movement Schematic	
Drawing File Location: 6030/64/0	
Drawn by: TB	Date: 14.09.16
Scale: 1:200(A1)	COGS code: 600
This drawing is © copyright protected. All dimensions to be checked on site. Any discrepancies to be reported to the Architect immediately. This drawing should not be scaled.	
Drawing no: 6030/KIER/MMP/01	Revision: -

Our Ref J3410/16/E
22nd June 2016

Great Places Housing Group
c/o Carley Daines & Partners
Consulting Engineers
11 Bridgewater Road
Worsley
Manchester
M28 3JE

**Environmental
Geotechnical
Specialists**



For the attention of Mr. Carley,

Dear Chris,

Ref: Remediation Statement for New Church Street, Radcliffe.

Further to the site specific risk assessment provided within the geo-environmental report (J3410/16/E, April 2016), it is considered that some remediation will be required at this site. The strategy for the remediation is presented below.

Remediation Objectives

Based on the site specific risk assessment provided in the geo-environmental report, the object of remediation at the site is as follows:

- To protect the site operatives during the construction process from the ingestion of soil or dust, dermal contact with the soil and inhalation of dust and vapours.
- To protect the end user from the ingestion of soil or dust, dermal contact with the soil and inhalation of dust and vapours.
- To protect the neighbours from the ingestion of soil or dust, dermal contact with the soil and inhalation of dust.
- To protect the garden plants from contaminated ground and to protect site operatives, the end user and neighbours from the ingestion of contaminated fruit and vegetables.
- To ensure that contamination cannot leach from the made ground and reach controlled waters via permeable strata.
- To ensure that contamination cannot enter the former services occupying the site which may return to controlled waters.
- To protect plastic services from being penetrated by, or degrading due to the presence of, contamination in the soil or groundwater.

Development Requirements

The site is to be developed by the construction of a number of residential dwellings with associated gardens and driveways. In light of this, it is considered that the site may be classified as being a residential development with plant uptake.

Remediation Statement

In order to fulfill the objectives defined above the following remedial strategy will be utilised. A pragmatic approach will be undertaken, with observational techniques being employed at each stage of the work.

Ground-works

During the ground-works phase of the development, protection to the site operatives is required. The risk to site operatives is considered under the Health and Safety at Work Act 1974, together with regulations made under the act, which includes the Control of Substances Hazardous to Health (COSHH) regulations. Therefore the risks to site personnel will be considered under the Construction Design and Management (CDM) regulations at the planning stage and be included in the contractor's Health and Safety Plan and site specific Method Statements. These documents shall include the following main elements.

- Access to the site by the general public will be restricted until remediation has taken place.
- Any edible vegetation present at the site shall be removed and considered as contaminated. This will require the vegetation being disposed of to a licensed waste operator. Operatives will be made aware that such vegetation is hazardous and potentially harmful.
- Site operatives at all levels shall be made aware of the hazards of working with contaminated soils and in an environment where accumulations of carbon dioxide may occur.
- Personal hygiene facilities, including washing and messing, will be provided and site operatives will be encouraged to use them.
- Where work is undertaken in dry weather the site will be dampened down to avoid dust. In addition, dust masks will be provided to all site operatives for use in dry weather.
- Where vehicles are transferring soil to the landfill site they will be covered to prevent contamination of the surrounding area by dust.
- Any stockpiles of contaminated soil on site will be sheeted over to prevent excessive amounts of airborne dust.
- Where work is undertaken in wet weather, vehicle and wheel washing facilities will be provided to ensure that the vehicles leaving the site do not transfer contamination to surrounding areas.

On completion of the ground-works a careful site inspection of the sub-grade will take place. Should visual or olfactory evidence of contamination be revealed, then suitably qualified specialists will be consulted. Further testing and updates to the site specific ground model, risk assessment, and remediation strategy will be undertaken where necessary.

Construction

During the construction phase of the contract the following items are required to protect the end user from the potential contaminants revealed at this site.

- Beneath buildings, pavements and hard-standings clean inert granular sub-base shall be employed.
- Due to the presence of volatile PAHs, a vapour resistant membrane will be installed within the sub-structure of the properties.
- Plastic services will be constructed in a surround of clean inert material and a risk assessment will be carried as instructed by the statutory water authority for the

area. Where necessary testing as recommended in the United Kingdom Water Industry Research (UKWIR) website under Report Ref. No. 10/WM/03/21 - 'Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites' will be carried out.

- The redundant services revealed at this site will be de-commissioned and piped services sealed. Any existing services that are to be employed in the new development will be carefully inspected to ensure that they are serviceable and will not allow the ingress of contamination.
- Buried concrete placed at the site will conform to the guidance given in BRE Special Digest SD1 in accordance with a design sulphate class of DS-1.

Garden and Landscaped Areas

In view of the contamination at the site, it is considered that the gardens and landscaped areas will require some remediation. This will include the provision of a capping layer of 500mm of inert material, which will put the contaminated ground out of the end users' dig range. At the base of this layer a granular capillary break of 100mm of free draining granular soil will be placed in order to prevent contaminants rising upward. This expedient will also provide a suitable root barrier to isolate the plants from the underlying contaminated ground.

As a second option, subject to final site levels, a suitable barrier may be provided by appropriately disposing of 600mm of the current ground and replacing it with clean inert fill as described above. Whilst it is considered that this approach could be cost prohibitive it is an option available to the developer subject to site conditions.

Fill Materials

Any materials to be used as fill at the site, either site-won or imported, will be subjected to the following assessment to determine its suitability.

Fill materials will be initially screened, by a suitably qualified engineer, for the following.

- It is a suitable growing medium where is to be employed as such, including compliance with BS3883 (2007)
- It is free from obvious contamination i.e. visual or olfactory evidence
- It has not come from areas where Japanese Knotweed or other invasive or injurious plants are suspected to be growing
- It is not a statutory nuisance, such as being odorous
- It is free from unsuitable material i.e. whole bricks, brick ties, timber or glass.

It should also be appreciated that any fill will be subjected to validation testing to assess its suitability. The following table has been taken from YAHPAC¹ documentation and will be used in the first instance. Depending on the origin and nature of the material, not all fill will require the sampling frequency and testing indicated, although this will be in agreement with any regulatory bodies (such as the Local Authority).

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