REMEDIATION STATEMENT

Job name: The Bungalow, New Years Green Lane

Job No: M44477

Report No: M44477-JNP-XX-XX-RP-G-1003-P01

Date: 01/07/2024

Prepared by: Charlotte Grisby

Approved by: Hilary Ilsley

1. Introduction

1.1 JNP Group were instructed by London Borough of Hillingdon Council to produce a remediation statement to address the remediation requirements at:

The Bungalow Site,
New Years Green Lane,
Harefield,
UB9 6LX

1.2 Hereinafter referred to as 'the site'. This statement is subject to the limitations presented in Appendix A.

1.3 It is understood that the existing buildings are to be demolished or refurbished, and the site redeveloped with a one storey staff facility building, with access roads and areas of hardstanding for parking, and areas of soft landscaping to be retained and improved. New Years Green Lane is to be widened and an access road into the site constructed. The development is for the relocation of the current staff facilities for Harefield Re-use and Recycling Centre and creation of further car parking. The proposed redevelopment layout is shown on external Drawing Reference 2022/D/334/P/03 Rev C (Jan 2023) produced by London Borough of Hillingdon (Appendix B).

1.4 Any comments given are based on the understanding that the proposed redevelopment will be as detailed above.

1.5 Should there be any deviation from the agreed remediation approach outlined in this statement, then it may affect whether final discharge of any planning conditions pertaining to the site is granted by the Local Authority.

1.6 This report should be read in conjunction with the following JNP Group reports:

- M44477-JNP-XX-XX-RP-G-1001 P03 Phase I Geo-environmental Report. Dated November 2023;
- M44477-JNP-XX-XX-RP-G-1002 P02 Phase II Geo-environmental Report. Dated May 2024.

2. Remediation Requirements

2.1 The findings of the ground investigation (reference: M44477-JNP-XX-XX-RP-G-1002-P02) concluded that unacceptable concentrations of arsenic, asbestos, PAH and petroleum hydrocarbons were present within the made-ground with respect to commercial and public open space screening values.

2.2 Given the proposed layout, as shown on drawing 2022/D/334/P/03 Rev C (Jan 2023), different areas within the site will require differing levels if remediation:

- Exceedances in hydrocarbon concentrations at HP03 and HP04 in the western 'no dig' arm will not require remediation, assuming the proposed permeable surface is hardstanding. No source-pathway-receptor linkage will be present, removing the requirement for any remediation.
- Asbestos was recorded in WS04 at 0.25 m below ground level (bgl). The exceedance is within the footprint of the proposed building, therefore, it is assumed that during the demolition phase of the development the contamination will be removed off site following the correct duty of care procedures.
- Hydrocarbon contamination was identified within HP01, located in the vegetated, open space area to the east of the site, where no development is proposed and open landscaping will remain. Therefore, remediation is required whereby a 5.0 m x 5.0 m x 0.20 m (L x W x D) pit is excavated and is removed off site to an appropriate waste receiver. To delineate the extent of the contamination, further hand pits will be dug, during the validation stage, surrounding the excavation and tested for hydrocarbon contamination.

2.3 An assessment of the data from the gas monitoring period, as detailed in JNP Group report M44477-JNP-XX-XX-RP-G-1002, concludes due to the high concentrations of carbon dioxide in WS02, the likelihood of migration into WS03, and slightly elevated concentrations in WS01, it is prudent that gas protection measures to CS2 are used for all buildings within the proposed development as a result of the surrounding area being designated contaminated land.

2.4 It should be noted that, made ground containing deleterious material, including charcoal, brick, glass, plastic, pottery and concrete, was encountered in WS01 – WS04 (inclusive) where proposed hardstanding will be placed. However, if during the construction phase deleterious material is encountered in areas of proposed landscaping, remediation will be required. The deleterious material should either be screened out or the made ground removed in its entirety.

2.5 WS02 is located within an area of designated contaminated land. Exceedances in carbon dioxide, arsenic and beryllium concentrations were recorded. Should any development occur in this area, remediation will be required.

<u>Material Volumes</u>

2.6 From drawing reference M44477-JNP-XX-XX-DR-2004, the area requiring the removal of made ground due to hydrocarbon contamination is estimated to be 25 m^2. This equates to an estimated volume of 5 m^3 of material requiring remediation (excluding bulking factors). Given the anticipated small volume of material requiring remediation is likely to warrant on-site treatment methods unviable at the site.

2.7 Given the small volume of soils requiring remediation in this area, the easiest option is to excavate to the depth of the exceedance (0.20 m bgl) and remove to a suitable waste receiver, i.e. landfill or treatment centre.

2.8 A contingency should be allowed for in the event that unexpected contamination be identified.

Hazardous Waste Assessment

2.9 The concentrations of contaminants recorded during the ground investigation have been assessed using the HazWasteOnline classification tool. This classification tool is based on the methodology outlined in the Hazardous Waste Technical Guidance publication WM3 (EA, SEPA, NIA, NRW. May 2015).

2.10 The concentrations of waste in the made ground are considered to be non-hazardous with the exception of the areas of WS02 and WS04, which are hazardous due to the high concentrations of zinc.

2.11 From the asbestos concentrations recorded during the ground investigation, the soils in the vicinity of WS04 are classified as hazardous.

2.12 A copy of the hazardous waste assessment is given as Appendix C.

2.13 Where soils are classified as non-hazardous waste and are to be disposed of off-site, following the correct duty of care procedures.

3. Implementation Plan

3.1 The main works shall be undertaken by a suitably qualified earthworks Contractor and the works shall be supervised by JNP Group on an “as and when” required basis.

3.2 As there is asbestos present within the soils, all works undertaken must be in accordance with the guidance given in the CIRIA C733 (CIRIA 2014) and CL:AIRE Industry Guidance on Interpretation for Managing & Working with Asbestos in Soil and Construction and Demolition Materials (CL:AIRE 2016). The earthworks Contractor must be licensed to work with asbestos containing materials.

3.3 All works on site shall be undertaken following the guidance given in C762 Environmental Good Practice on-site (CIRIA C762) and Construction Site Safety GE700E/18 (CITB 2018).

Programme of Works

3.4 In order to ensure the works are undertaken in a suitable order, the following are proposed:

- Vegetation removal and surface strip;
- Demolition of existing buildings (as required);
- Excavation verification testing;
- Excavation and removal of material to a designated waste receiver;
- Importation of topsoil / subsoil;
- Post remediation / earthworks monitoring;

- Piling / Drainage works / utility diversions;
- Construction phase including the provision of gas protection measures.

Vegetation removal and surface strip

3.5 Vegetation clearance and surface strip have been carried out by licensed and competent contractors following the ground investigation at the site.

Demolition of existing buildings

3.6 It is assumed that the demolition and asbestos clearance of the existing buildings on site will be carried out by licensed, competent contractors.

Material Requiring Excavation and Removal

3.7 The area of ground requiring excavation is shown on JNP Group drawing M44477-JNP-XX-XX-DR-2004 (included in Appendix B). If practicable the ground requiring excavation shall be directly excavated onto haulage lorries or if this is not achievable stockpiled in a designated area to await disposal. Any stockpiled material shall be placed on tarpaulin sheets to avoid any cross contamination.

3.8 Records shall be kept of any material removed off-site either for treatment and re-use or as a waste destined for landfill. The Waste License and Permit Register form, as given in Appendix D, detailing the waste codes, haulier and waste receiver details should be completed by the Contractor for each waste material generated requiring removal. In addition, all material removed off-site shall be logged on the Waste Disposal Log form given in Appendix E. The completed waste management form, duty of care and consignment notes shall be provided to JNP Group for inclusion in the Verification Report.

Imported Fill

3.9 Any imported fill such as subsoil or topsoil used at the site should be sourced from a suitable provider of such material, who should provide chemical testing certificates of the material for destined for the site. These certificates should be issued to JNP Group for approval prior to accepting the material. In addition, the imported fill should be free of any deleterious material such as glass fragments, wire, wood and a visual inspection should be undertaken once the material arrives on site.

3.10 Any topsoil and subsoil imported to site shall be classified and characterised in accordance with the requirements of BS3882:2015 [Specification for topsoil and requirements for use] and BS8601:2013 [Specification for subsoil and requirements for use] respectively as well as the chemical testing criteria given in Tables 4.1 and 4.2.

3.11 The reader is referred to Section 4 for chemical testing requirements.

3.12 Records of imported fill bought onto site should be documented using the form given in Appendix F.

Dealing with Unexpected Contamination

3.13 There is the potential for areas of previously unidentified and unexpected contamination to be present at the site, such as ashy soils, brightly coloured soils, oily or odorous materials..

3.14 If during the works such material is encountered, then the earthworks Contractor shall inform JNP Group immediately who shall then advise on the best course of action. Photographic and written records should be kept by the earthworks Contractor detailing any such material.

3.15 A copy of this strategy for dealing with unexpected contamination should be made available on site and ground workers should be made aware of it.

3.16 Construction Phase - gas protection measures

3.17 Following the guidance in BS 8485, the buildings on site require 3.5 points of protection which can be made up by any combination of structural, ventilation and / or gas membrane protection measures. Tables 5, 6 and 7 detail the different types of gas protection and allocated points. The final decision for protection type selection will be with the structural engineer.

4. Validation Plan

Validation Chemical Testing – open space excavation

4.1 Following the excavation of the contamination within the south-eastern open space area of the site, JNP Group shall attend site to test the base of the excavation to verify the absence of hydrocarbon contamination. Additionally, JNP group will undertake hand pits surrounding the excavation and test surface soils for any hydrocarbon (PAH) contamination only. Where further contamination is present, it is recommended that the excavation is expanded and the material is disposed of to an appropriate waste receiver following the correct duty of care.

4.2 All chemical testing shall be undertaken by a UKAS and MCERTS accredited testing laboratory.

Validation Chemical Testing – Imported Fill

4.3 Chemical testing certificates should be available for any imported fill including subsoil or topsoil, however, based on the NHBC guidance, each imported material used must have a minimum of five tests. This sampling shall be undertaken by JNP Group.

4.4 Where imported topsoil is placed within any excavations, over screened made ground, or anywhere else on site, JNP Group shall attend site to verify that the topsoil is free from any contamination.

4.5 Where applicable on site, namely the excavated pit at HP01, JNP Group shall attend site to validate the depth of the imported fill.

4.6 All chemical testing shall be undertaken by a UKAS and MCERTS accredited testing laboratory.

4.7 Any chemical testing results shall be compared to the screening values given in Table 4.1. As the final end use of the site is a residential apartment building without private gardens, current UK residential without plant uptake guideline values have been selected for use.

4.8 In addition, as copper, nickel and zinc are considered phytotoxic in nature the criteria given in Table 4.2 should be used (these values are less than the published UK screening values and hence are considered protective of human health).

Table 4-1: Imported Fill Screening Values

Determinant	Screening Criteria (mg/kg)	Source		Determinant	Screening Criteria (mg/kg)	Source
TPH Aliphatic $C_5 – C_6$	42	LQM S4UL		Acenaphthylene	5.0	Professional judgement[6]
TPH Aliphatic $C_6 – C_8$	100	LQM S4UL		Acenaphthene	5.0	Professional judgement[6]
TPH Aliphatic $C_8 – C_{10}$	27	LQM S4UL		Anthracene	5.0	Professional judgement[6]
TPH Aliphatic $C_{10} – C_{12}$	130	LQM S4UL		Benzo(a)anthracene	5.0	Professional judgement[6]
TPH Aliphatic $C_{12} – C_{16}$	250	Professional judgement[1]		Benzo(a)pyrene	5.0	Defra C4SL[4]
TPH Aliphatic $C_{16} – C_{21}$	250	Professional judgement[1]		Benzo(b)fluoranthene	2.6	LQM S4UL
TPH Aliphatic $C_{21} – C_{35}$	250	Professional judgement[1]		Benzo(k)fluoranthene	5.0	Professional judgement[6]
TPH Aromatic $C_5 – C_7$	0.87	Professional judgement[6]		Benzo(g,h,i)perylene	5.0	Professional judgement[6]
TPH Aromatic $C_7 – C_8$	130	LQM S4 UL		Chrysene	5.0	Professional judgement[6]
TPH Aromatic $C_8 – C_{10}$	34	LQM S4UL		Dibenzo(a,h)anthracene	0.24	LQM S4UL
TPH Aromatic $C_{10} – C_{12}$	74	LQM S4UL		Fluoranthene	5.0	Professional judgement[6]
TPH Aromatic $C_{12} – C_{16}$	140	LQM S4UL		Fluorene	5.0	Professional judgement[6]
TPH Aromatic $C_{16} – C_{21}$	250	Professional judgement[1]		Indeno(1,2,3,c-d)pyrene	5.0	Professional judgement[6]
TPH Aromatic $C_{21} – C_{35}$		Professional judgement[1]		Naphthalene	2.3	LQM S4UL
				Pyrene	5.0	Professional judgement[6]
Arsenic	37	Defra C4SL[4]		Phenanthrene	5.0	Professional judgement[6]
Cadmium	26	Defra C4SL[4]				
Chromium	910[2]	LQM S4UL		Nickel	pH dependent	Refer to Table 5.2
Mercury	40[3]	LQM S4UL		Selenium	430	LQM S4UL
Lead	200	Defra C4SL[4]		Benzene	0.87	Defra C4SL[4]
Copper	pH dependent	Refer to Table 5.2		Toluene	130	LQM S4UL
Zinc	pH dependent	Refer to Table 5.2		Ethylbenzene	47	LQM S4UL
asbestos	None present	CIRIA C733		Xylene	56[5]	LQM S4UL

LQM S4UL selected for organics based on 1% SOM for conservatism

1 Professional judgement – conservative value selected, less than LQM S4UL

2 Based on LQM S4UL for chromium III, assumes no chromium VI is likely to be present

3 Based on LQM S4UL for inorganic mercury, assumes that no elemental or methyl mercury is likely to be present

4 defra category 4 screening value

5 Based on LQM S4UL for p-xylene for conservatism

Table 4.2: Imported Fill Screening Values- phytotoxic metals

Determinant	Screening Criteria (mg/kg)			Source
	pH <6	pH 6-7	pH >7	
Copper (nitric acid extractable)	<100	<135	<200	BS 3882:2015 and BS 8601:2013
Nickel (nitric acid extractable)	<60	<75	<110	BS 3882:2015 and BS 8601:2013
Zinc (nitric acid extractable)	<200	<200	<300	BS 3882:2015 and BS 8601:2013

Gas Membrane Validation

4.9 Where gas protection measures are installed (in all buildings), verification is required whereby:

- All testing and verification of the membrane shall be in accordance with the good practice guide Table A3 given in CIRIA C735. Following the completion of all the installation work and integrity testing (where required), all records of work undertaken, photographs, integrity testing recorded, Certificates of Conformity, and copies of the CSWIP Approval Certificates for all relevant installation welders, shall be provided to JNP Group for inclusion in the Verification Plan.
- All work shall be verified in accordance with the requirements of the Gas Verification Report as given in in Appendix G. In addition, the Verification Proforma, also given in Appendix G shall be completed by the installer.
- A photographic record of the installation work shall be kept by the installer. In addition, appropriate records of all the Integrity Testing undertaken shall be produced by the installer.
- Independent verification of the gas membranes in all properties shall be undertaken by an appropriate third party. Following completion of the validation, copies of the validation report / certificates shall be submitted to JNP Group for inclusion in the Verification Report.

Verification Reporting

4.10 Following the completion of the remediation works a Verification Report shall be produced by JNP Group that details the remediation work undertaken, the validation testing undertaken, and the details of any material removed from or bought to the site.

Recommendations

4.11 It is recommended that a copy of this report is submitted to the regulatory authorities for their approval prior to any remediation work being undertaken.

Document Issue Record

Required changes	Rev	Date	Prepared	Reviewed	Approved
-	P01	07/2024	CG	HI	HI

List of Appendices

Appendix A

Limitations

1. Introduction

1.1 This report is confidential and has been prepared solely for the benefit of the client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from JNP Group; a charge may be levied against such approval. JNP Group accepts no responsibility or liability for the consequences of this document being used for any purpose or project other than for which it was commissioned, and: this document to any third party with whom and agreement has not been executed.

1.2 Any comments given within this report are based on the understanding that the proposed works to be undertaken will be as described in the introduction and the information referred to and provided by others and will be assumed to be correct and will not have been checked by JNP Group and JNP Group will not accept any liability or responsibility for any inaccuracy in such information.

1.3 Any deviation from the recommendations or conclusions contained in this report should be referred to JNP Group in writing for comment and JNP Group reserve the right to reconsider their recommendations and conclusions contained within. JNP Group will not accept any liability or responsibility for any changes or deviations from the recommendations noted in this report without prior consultation and our full approval.

1.4 The details contained within this report reflect the site conditions prevailing at the time of investigation. JNP Group warrants the accuracy of this report up to and including that date. Additional information, improved practice or changes in legislation may necessitate this report having to be reviewed in whole or in part after that date. If necessary, this report should be referred back to JNP Group for re-assessment and, if necessary, re-appraisal.

1.5 This report is only valid when used in its entirety. Any information or advice included in the report should not be relied upon until considered in the context of the whole report. Whilst this report and the opinion made herein are correct to the best of JNP Groups' belief, JNP Group cannot guarantee the accuracy or completeness of any information provided by third parties.

1.6 The report represents the finding and opinions of experience geotechnical and geo-environmental engineers. JNP Group does not provide legal advice and the advice of lawyers may also be required.

1.7 It should be noted that the following were not included as part of the agreed scope of works with the client: detailed ecological surveys and assessment.

1.8 JNP Group has provided advice and made recommendations based on the findings of the work undertaken, however this is subject to the approval / acceptance by the relevant regulatory authorities.

2. Objectives

2.1 The work undertaken to provide the basis of this report comprised a study of available documented information from a variety of sources (including the Client), together with (where appropriate) a brief walk over inspection of the site. The opinions given in this report have been dictated by the finite

data on which they are based and are relevant only to the purpose for which the report was commissioned. The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, JNP Group reserves the right to review such information and, if warranted, to modify the opinions accordingly. It should be noted that any risks identified in this report are perceived risks based on the information reviewed; actual risks can only be assessed following a physical investigation of the site.

3. Phase II Intrusive Investigations

3.1 The investigation of the site has been carried out to provide sufficient information concerning the type and degree of contamination, and ground and groundwater conditions to allow a reasonable risk assessment to be made.

3.2 Where intrusive investigations have been undertaken they have been designed to provide a reasonable level of assurance on the conditions. Given the discrete nature sampling, no investigation technique is capable of identifying all conditions present in all areas. The number of sampling points and the methods of sampling and testing do not preclude the existence of localised “hotspots” of contamination where concentrations may be significantly higher than those actually encountered. The risk assessment and opinions provided, inter alia, take into consideration currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values.

3.3 The objectives of the investigation have been linked to establishing the risks associated with potential human targets, building materials, the environment (including adjacent land), and to surface and ground water. The amount of exploratory work and chemical testing undertaken has necessarily been restricted by the short timescale available, and the locations of exploratory holes have been restricted to areas unoccupied by the building(s) on the site and by buried services.

3.4 Gas and groundwater levels may vary from those reported due to seasonal, or other effects.

3.5 It should also be noted that the assessment of soil results has been undertaken using data from a previous consultant; some of the gas monitoring and groundwater samples have been collected using existing monitoring wells not constructed by JNP Group.

4. Gas Membranes

4.1 Where JNP Group are commissioned to undertake the inspection and validation of a gas membrane, we, at the time of inspection, will ensure that the membrane is laid in accordance with the relevant arrangements and sections. At that time we will ensure that the venting media is laid correctly in preparation of the membrane and we will ensure that any tears in the membrane or bad workmanship is reported and instructions given to be rectified. Thereafter it is the duty of the Principal Contractor to ensure that tears and defects are rectified.

5. Remediation and Verification Reports Limitations

5.1 The risk assessment and opinions provided, inter alia, take into consideration currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values.

5.2 Where intrusive investigations have been undertaken they have been designed to provide a reasonable level of assurance on the conditions. Given the discrete nature sampling, no investigation technique is capable of identifying all conditions present in all areas. The number of sampling points and the methods of sampling and testing do not preclude the existence of localised “hotspots” of contamination where concentrations may be significantly higher than those actually encountered.

5.3 If costs have been included in relation to the site remediation these must be confirmed by a qualified quantity surveyor. The opinions given in this report have been dictated by the finite data on which they are based and are relevant only to the purpose for which the report was commissioned. The information reviewed from Third Party should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, JNP Group reserves the right to review such information and, if warranted, to modify the opinions accordingly.

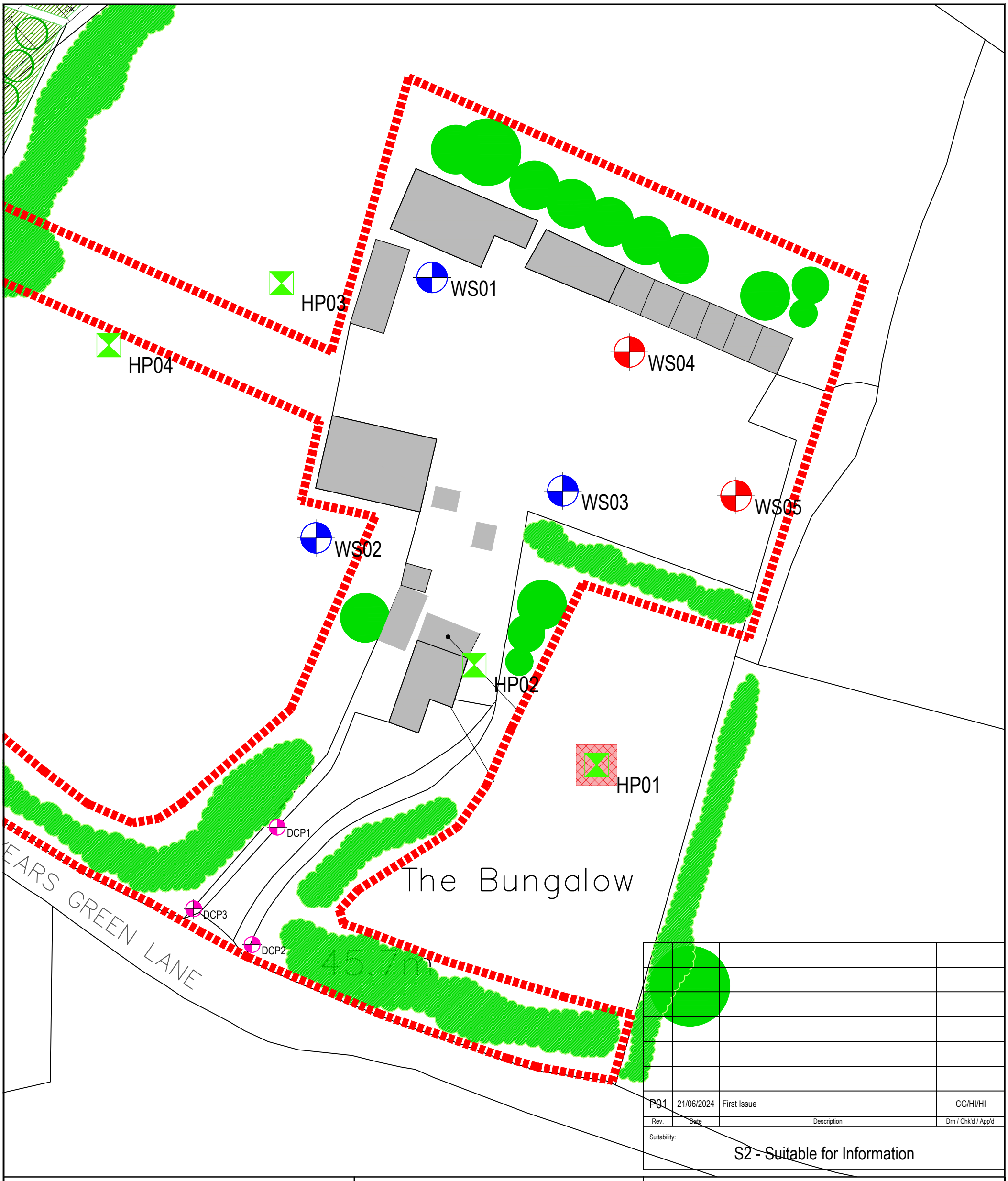
5.4 Whilst this report and the opinion made herein are correct to the best of JNP Groups’ belief, JNP Group cannot guarantee the accuracy or completeness of any information provided by third parties.

5.5 It should also be noted that the assessment of soil results has been undertaken using data from a previous consultant; some of the gas monitoring and groundwater samples have been collected using existing monitoring wells not constructed by JNP Group.

5.6 Gas and groundwater levels may vary from those reported due to seasonal, or other effects.

Appendix B

Drawings



Rev.	Date	Description	Drn / Chk'd / App'd
P01	21/06/2024	First Issue	CG/HI/HI

Suitability:

S2 - Suitable for Information

Area (5.0m x 5.0m) requiring excavation to 0.20m bgl to remove hydrcarbon contamination.

Client:

London Borough of Hillingdon Council

Job:

The Bungalow, New Years Green Lane

Title:

Remediation Plan

Classification: FI_60_20

Scale @ A3: As Shown

JNP GROUP
CONSULTING ENGINEERS

● Amersham ● Brighouse ● Bristol ● Glasgow
● Hartlepool ● Sheffield ● Warwick

www.jnpgroup.co.uk

Project - Originator - Volume/System - Level/Location - Type - Discipline - Number

M44477 - JNP - XX - XX - DR - G - 2004

Document/Drawing Number

Revision: P01

JNP Group Internal Project Number: M44477

Appendix C

Hazardous Waste Assessment and Chemical Testing Results

Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

a) understand the origin of the waste
b) select the correct List of Waste code(s)
c) confirm that the list of determinands, results and sampling plan are fit for purpose
d) select and justify the chosen metal species (Appendix B)
e) correctly apply moisture correction and other available corrections
f) add the meta data for their user-defined substances (Appendix A)
g) check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in pale yellow.

EDL82-TB4S3-FJACG

Job name

New Years Green Lane

Description/Comments

Project

M44477

Site

The Bungalow, New Years Green Lane

Classified by

Name:
Charlotte Grisby
Date:
26 Jun 2024 09:17 GMT
Telephone:
01926 889955

Company:
JNP Group
Portobello House, Portobello Way
Warwick
CV34 5GJ

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

HazWasteOnline™ Certification: -

Course	Date
Hazardous Waste Classification	-

Purpose of classification

2 - Material Characterisation

Address of the waste

The Bungalow, New Years Green Lane, Harefield **Post Code** UB9 6LX

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Demolition of existing buildings and the construction of new offices with hardstanding for new access.

Description of the specific process, sub-process and/or activity that created the waste

Waste created during the demolition and construction phases.

Description of the waste

Made Ground across the site contained deleterious material including charcoal, plastic, wood, glass, pottery and brick.

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	Made Ground (exc. WS02 and WS04)		Potentially Hazardous	HP 3(i)	3
2	Made Ground Max WS02		Hazardous	HP 14	5
3	Made Ground Max WS04		Hazardous	HP 14	7

Related documents

#	Name	Description
1	JNP Updated 2023 Standard	waste stream template used to create this Job

Report

Created by: Charlotte Grisby

Created date: 26 Jun 2024 09:17 GMT

Classification of sample: Made Ground (exc. WS02 and WS04)

Potentially Hazardous Waste
Classified as **17 05 04** or **17 05 03 ***
in the List of Waste

Sample details

Sample name:
Made Ground (exc. WS02 and WS04)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 or 17 05 03 * (Soil and stones other than those mentioned in 17 05 03 or Soil and stones containing hazardous substances)

Hazard properties (substances considered hazardous until shown otherwise)

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0137%)

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		14 mg/kg	1.534	21.474 mg/kg	0.00215 %		
2	barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		270 mg/kg	1.233	333.043 mg/kg	0.0333 %		
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		0.89 mg/kg	2.775	2.47 mg/kg	0.000247 %		
4	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		2.4 mg/kg	3.22	7.728 mg/kg	0.000773 %		
5	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		1.2 mg/kg	1.855	2.225 mg/kg	0.000223 %		
6	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		170 mg/kg	1.462	248.464 mg/kg	0.0248 %		
7	copper { copper(II) oxide }	029-016-00-6	215-269-1	1317-38-0		62 mg/kg	1.252	77.61 mg/kg	0.00776 %		
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	240 mg/kg		240 mg/kg	0.024 %		
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	0.3 mg/kg		0.3 mg/kg	0.00003 %		
10	nickel { nickel sulfate }	028-009-00-5	232-104-9	7786-81-4		25 mg/kg	2.637	65.917 mg/kg	0.00659 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1 mg/kg	1.405	1.405 mg/kg	0.000141 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
12		vanadium { divanadium pentaoxide; vanadium pentoxide }				63	mg/kg	1.785	112.467	mg/kg	0.0112 %		
		023-001-00-8	215-239-8	1314-62-1									
13		zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				530	mg/kg	4.398	2330.901	mg/kg	0.233 %		
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
14		naphthalene				0.53	mg/kg		0.53	mg/kg	0.000053 %		
		601-052-00-2	202-049-5	91-20-3									
15		acenaphthylene				0.15	mg/kg		0.15	mg/kg	0.000015 %		
			205-917-1	208-96-8									
16		acenaphthene				0.42	mg/kg		0.42	mg/kg	0.000042 %		
			201-469-6	83-32-9									
17		fluorene				0.3	mg/kg		0.3	mg/kg	0.00003 %		
			201-695-5	86-73-7									
18		phenanthrene				6	mg/kg		6	mg/kg	0.0006 %		
			201-581-5	85-01-8									
19		anthracene				1.8	mg/kg		1.8	mg/kg	0.00018 %		
			204-371-1	120-12-7									
20		fluoranthene				13	mg/kg		13	mg/kg	0.0013 %		
			205-912-4	206-44-0									
21		pyrene				12	mg/kg		12	mg/kg	0.0012 %		
			204-927-3	129-00-0									
22		benz[a]anthracene				7.2	mg/kg		7.2	mg/kg	0.00072 %		
		601-033-00-9	200-280-6	56-55-3									
23		chrysene				6.8	mg/kg		6.8	mg/kg	0.00068 %		
		601-048-00-0	205-923-4	218-01-9									
24		benzo[b]fluoranthene				11	mg/kg		11	mg/kg	0.0011 %		
		601-034-00-4	205-911-9	205-99-2									
25		benzo[k]fluoranthene				4.3	mg/kg		4.3	mg/kg	0.00043 %		
		601-036-00-5	205-916-6	207-08-9									
26		benzo[a]pyrene; benzo[def]chrysene				9.1	mg/kg		9.1	mg/kg	0.00091 %		
		601-032-00-3	200-028-5	50-32-8									
27		dibenz[a,h]anthracene				1.3	mg/kg		1.3	mg/kg	0.00013 %		
		601-041-00-2	200-181-8	53-70-3									
28		benzo[ghi]perylene				5.3	mg/kg		5.3	mg/kg	0.00053 %		
			205-883-8	191-24-2									
29		indeno[123-cd]pyrene				4.6	mg/kg		4.6	mg/kg	0.00046 %		
			205-893-2	193-39-5									
30		TPH (C6 to C40) petroleum group				137	mg/kg		137	mg/kg	0.0137 %		
				TPH									
31		confirm TPH has NOT arisen from diesel or petrol				☑							
										Total:	0.366 %		

Key

	User supplied data
	Potentially Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: Made Ground Max WS02

Hazardous Waste
Classified as **17 05 03 ***
in the List of Waste

Sample details

Sample name:
Made Ground Max WS02

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 03 * (Soil and stones containing hazardous substances)

Hazard properties

HP 14: Ecotoxic "waste which presents or may present immediate or delayed risks for one or more sectors of the environment"

Hazard Statements hit:

Aquatic Chronic 1; H410 "Very toxic to aquatic life with long lasting effects."

Because of determinand:

zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2]: (compound conc.: 0.528%)

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		94 mg/kg	1.534	144.184 mg/kg	0.0144 %		
2	barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		860 mg/kg	1.233	1060.805 mg/kg	0.106 %		
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		8 mg/kg	2.775	22.203 mg/kg	0.00222 %		
4	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		1.4 mg/kg	3.22	4.508 mg/kg	0.000451 %		
5	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		3.9 mg/kg	1.855	7.233 mg/kg	0.000723 %		
6	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		84 mg/kg	1.462	122.771 mg/kg	0.0123 %		
7	copper { copper(II) oxide }	029-016-00-6	215-269-1	1317-38-0		310 mg/kg	1.252	388.051 mg/kg	0.0388 %		
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	390 mg/kg		390 mg/kg	0.039 %		
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	0.3 mg/kg		0.3 mg/kg	0.00003 %		
10	nickel { nickel sulfate }	028-009-00-5	232-104-9	7786-81-4		150 mg/kg	2.637	395.503 mg/kg	0.0396 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1 mg/kg	1.405	1.405 mg/kg	0.000141 %		
12	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		130 mg/kg	1.785	232.074 mg/kg	0.0232 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
13		zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				1200	mg/kg	4.398	5277.511	mg/kg	0.528 %		
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
14		naphthalene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
		601-052-00-2	202-049-5	91-20-3									
15		acenaphthylene				0.13	mg/kg		0.13	mg/kg	0.000013 %		
			205-917-1	208-96-8									
16		acenaphthene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			201-469-6	83-32-9									
17		fluorene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			201-695-5	86-73-7									
18		phenanthrene				0.35	mg/kg		0.35	mg/kg	0.000035 %		
			201-581-5	85-01-8									
19		anthracene				0.11	mg/kg		0.11	mg/kg	0.000011 %		
			204-371-1	120-12-7									
20		fluoranthene				1.1	mg/kg		1.1	mg/kg	0.00011 %		
			205-912-4	206-44-0									
21		pyrene				1.1	mg/kg		1.1	mg/kg	0.00011 %		
			204-927-3	129-00-0									
22		benz[a]anthracene				0.64	mg/kg		0.64	mg/kg	0.000064 %		
		601-033-00-9	200-280-6	56-55-3									
23		chrysene				0.78	mg/kg		0.78	mg/kg	0.000078 %		
		601-048-00-0	205-923-4	218-01-9									
24		benzo[b]fluoranthene				0.84	mg/kg		0.84	mg/kg	0.000084 %		
		601-034-00-4	205-911-9	205-99-2									
25		benzo[k]fluoranthene				0.37	mg/kg		0.37	mg/kg	0.000037 %		
		601-036-00-5	205-916-6	207-08-9									
26		benzo[a]pyrene; benzo[def]chrysene				0.58	mg/kg		0.58	mg/kg	0.000058 %		
		601-032-00-3	200-028-5	50-32-8									
27		dibenz[a,h]anthracene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
		601-041-00-2	200-181-8	53-70-3									
28		benzo[ghi]perylene				0.4	mg/kg		0.4	mg/kg	0.00004 %		
			205-883-8	191-24-2									
29		indeno[123-cd]pyrene				0.32	mg/kg		0.32	mg/kg	0.000032 %		
			205-893-2	193-39-5									
										Total:	0.805 %		

Key

	User supplied data
	Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: Made Ground Max WS04

Hazardous Waste
Classified as **17 05 03 ***
in the List of Waste

Sample details

Sample name:
Made Ground Max WS04

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 03 * (Soil and stones containing hazardous substances)

Hazard properties

HP 14: Ecotoxic "waste which presents or may present immediate or delayed risks for one or more sectors of the environment"

Hazard Statements hit:

Aquatic Chronic 1; H410 "Very toxic to aquatic life with long lasting effects."

Because of determinand:

zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2]: (compound conc.: 0.968%)

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		19 mg/kg	1.534	29.144 mg/kg	0.00291 %		
2	barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		470 mg/kg	1.233	579.742 mg/kg	0.058 %		
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		0.99 mg/kg	2.775	2.748 mg/kg	0.000275 %		
4	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		1.3 mg/kg	3.22	4.186 mg/kg	0.000419 %		
5	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		9 mg/kg	1.855	16.691 mg/kg	0.00167 %		
6	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		150 mg/kg	1.462	219.233 mg/kg	0.0219 %		
7	copper { copper(II) oxide }	029-016-00-6	215-269-1	1317-38-0		230 mg/kg	1.252	287.909 mg/kg	0.0288 %		
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	660 mg/kg		660 mg/kg	0.066 %		
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	1.2 mg/kg		1.2 mg/kg	0.00012 %		
10	nickel { nickel sulfate }	028-009-00-5	232-104-9	7786-81-4		42 mg/kg	2.637	110.741 mg/kg	0.0111 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1 mg/kg	1.405	1.405 mg/kg	0.000141 %		
12	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		44 mg/kg	1.785	78.548 mg/kg	0.00785 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
13		zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				2200	mg/kg	4.398	9675.437	mg/kg	0.968 %		
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
14		naphthalene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
		601-052-00-2	202-049-5	91-20-3									
15		acenaphthylene				0.11	mg/kg		0.11	mg/kg	0.000011 %		
			205-917-1	208-96-8									
16		acenaphthene				0.09	mg/kg		0.09	mg/kg	0.000009 %		
			201-469-6	83-32-9									
17		fluorene				0.08	mg/kg		0.08	mg/kg	0.000008 %		
			201-695-5	86-73-7									
18		phenanthrene				1.4	mg/kg		1.4	mg/kg	0.00014 %		
			201-581-5	85-01-8									
19		anthracene				0.42	mg/kg		0.42	mg/kg	0.000042 %		
			204-371-1	120-12-7									
20		fluoranthene				5.4	mg/kg		5.4	mg/kg	0.00054 %		
			205-912-4	206-44-0									
21		pyrene				4.9	mg/kg		4.9	mg/kg	0.00049 %		
			204-927-3	129-00-0									
22		benz[a]anthracene				3	mg/kg		3	mg/kg	0.0003 %		
		601-033-00-9	200-280-6	56-55-3									
23		chrysene				2.8	mg/kg		2.8	mg/kg	0.00028 %		
		601-048-00-0	205-923-4	218-01-9									
24		benzo[b]fluoranthene				4.3	mg/kg		4.3	mg/kg	0.00043 %		
		601-034-00-4	205-911-9	205-99-2									
25		benzo[k]fluoranthene				1.8	mg/kg		1.8	mg/kg	0.00018 %		
		601-036-00-5	205-916-6	207-08-9									
26		benzo[a]pyrene; benzo[def]chrysene				3.4	mg/kg		3.4	mg/kg	0.00034 %		
		601-032-00-3	200-028-5	50-32-8									
27		dibenz[a,h]anthracene				0.6	mg/kg		0.6	mg/kg	0.00006 %		
		601-041-00-2	200-181-8	53-70-3									
28		benzo[ghi]perylene				2.8	mg/kg		2.8	mg/kg	0.00028 %		
			205-883-8	191-24-2									
29		indeno[123-cd]pyrene				2.1	mg/kg		2.1	mg/kg	0.00021 %		
			205-893-2	193-39-5									
										Total:	1.17 %		

Key

	User supplied data
	Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
CLP: Note 1	Only the metal concentration has been used for classification

Appendix A: Classifier defined and non GB MCL determinands

- **barium sulphide** (EC Number: 244-214-4, CAS Number: 21109-95-5)

GB MCL index number: 016-002-00-X
Description/Comments:
Additional Hazard Statement(s): EUH031 >= 0.8 %
Reason for additional Hazards Statement(s):
20 Nov 2021 - EUH031 >= 0.8 % hazard statement sourced from: WM3, Table C12.2

- **chromium(III) oxide** (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from ECHA's C&L inventory database
Data source: https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806
Data source date: 30 Apr 2020
Hazard Statements: Acute Tox. 4; H302 , Skin Sens. 1; H317 , Eye Irrit. 2; H319

- **lead compounds with the exception of those specified elsewhere in this Annex (worst case)**

GB MCL index number: 082-001-00-6
Description/Comments: Worst Case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following MCL protocols, considers lead compounds from smelting industries, flue dust and similar to be Carcinogenic category 1A
Additional Hazard Statement(s): Carc. 1A; H350
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html (worst case lead compounds). Review date 29/09/2015

- **acenaphthylene** (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H330 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

- **acenaphthene** (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Aquatic Chronic 2; H411

- **fluorene** (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **phenanthrene** (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

- **anthracene** (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **fluoranthene** (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **pyrene** (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **benzo[ghi]perylene** (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 23 Jul 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **indeno[123-cd]pyrene** (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Carc. 2; H351

- **TPH (C6 to C40) petroleum group** (CAS Number: TPH)

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

- **confirm TPH has NOT arisen from diesel or petrol**

Description/Comments: Chapter 3, section 4b requires a positive confirmation for benzo[a]pyrene to be used as a marker in evaluating Carc. 1B; H350 (HP 7) and Muta. 1B; H340 (HP 11)
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: None.

Appendix B: Rationale for selection of metal species

arsenic {arsenic pentoxide}

Worst case most likely species to be present

barium {barium sulphide}

Chromate less likley to be found on site

beryllium {beryllium oxide}

most likely species to be present on site

boron {diboron trioxide}

most likely species to be on site

cadmium {cadmium sulfate}

Worst case species (edit as required)

chromium in chromium(III) compounds {chromium(III) oxide}

most likely species to be present on site

copper {copper(II) oxide}

most likely species to be present on site

lead {lead compounds with the exception of those specified elsewhere in this Annex (worst case)}

Chromate unlikley to be found on site

mercury {inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex}

most likely species to be present on site

nickel {nickel sulfate}

worst case most likely species to be present on site

selenium {selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex}

most likely species to be present on site

vanadium {divanadium pentaoxide; vanadium pentoxide}

Only choice available

zinc {zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2]}

Chromate unlikley to be on site

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2024.158.6092.11254 (06 Jun 2024)
HazWasteOnline Database: 2024.158.6092.11254 (06 Jun 2024)

This classification utilises the following guidance and legislation:
WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017
13th ATP - Regulation (EU) 2018/1480 of 4 October 2018
14th ATP - Regulation (EU) 2020/217 of 4 October 2019
15th ATP - Regulation (EU) 2020/1182 of 19 May 2020
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020
The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020
GB MCL List - version 1.1 of 09 June 2021
GB MCL List v2.0 - version 2.0 of 20th October 2023
GB MCL List v3.0 - version 3.0 of 11th January 2024
GB MCL List v4.0 - version 4.0 of 2nd March 2024

Appendix D

Waste License and Permit Register

JNP GROUP
CONSULTING ENGINEERS

License and Permit Register

Material Description	EWC	Origin	Material carrier			Disposal site/Treatment works	
			Name	License Number	Expiry Date	Name	License No: Exemption Ref.

Appendix E

Waste Disposal Records

Waste Disposal Log

Waste Disposal Records

Date Removed	Waste Type	Identifying of the person removing the waste	Site the waste of being taken to and whether licensed or exempt	Waste carrier and registration number	Confirmation of delivery*

*Evidence of waste carrier registration and waste transfer or hazardous waste consignment notes for each removal of waste should be provided either as part of the plan, or filed and cross references

Appendix F

Imported Soil Documentation

IMPORTED SOIL DOCUMENTATION FORM

Stockpile Identification Reference	
Material Type	
Source Site	
Consignment Note Reference Numbers	
Volume of Stockpile (Or number of loads)	
Plots Material to be Used In	

Signed……..

Position……

Date…….....

Appendix G

Gas Verification Report

CHECKLIST FOR GAS VERIFICATION REPORTS

The Verification Report should include a summary of all the works undertaken, relating to gas protection measures including all elements detailed within the Remediation Strategy.

As a minimum, the report should include (but not limited to):

- Site details;
- Planning Application details;
- Summary of Gas Risk Assessment (including original CSM);
- Details of who carried out installation (qualifications/experience/training);
- Description of protection measures installed with reference to method statements and drawings and manufacturers specification of the materials used;
- Details of the verification inspection regime;
- Supporting information, plans, air vent installation, photographs, as built drawings;
- Summary of verification data (completed proformas, test results);
- Details of non-conformances and how they were rectified;
- Clear statement saying remedial objectives been achieved supported by lines of evidence including reference to CSM;
- Where necessary, further works and/or long term management.

Verification Proforma

Copied Directly from Appendix A5 CIRIA C735

Mallett, H, Cox (nee Taffel-Andureau), L, Wilson, S, Corban, M (2014) Good Practice on the Testing and Verification of Protection Systems for Buildings Against Hazardous Ground Gases, CIRIA, C735, London (ISBN: 978-0-86017-739-5) Go to: www.ciria.org

VISUAL INSPECTION OF GAS PROTECTION MEASURES

Site name:	Gas characteristic situation:
Job number:	Type of development and building/block checked: (residential commercial/other)
Date:	Building description:
Visit by:	Foundation type: (suspended floor/raft/other)
Weather at time of inspection:	Gas protection type: passive/active

1 Gas membrane		
1.1	Condition of sub-grade and underside of gas membrane	
1.2	Gas membrane type	
1.3	Gas membrane condition	
1.4	Joining tape product	
1.5	Lapping design	
1.6	Laps, welds and joints seals	
1.7	Service entries seals	
2 Passive venting		

2.1	Sub-floor void	
2.2	External wall airbricks	
2.3	Internal sleeper walls	
2.4	External vent trenches/ducts	
3 Active venting		
3.1	System details	
Additional notes:		

Notes: Inspection checklist

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

Photographs

No.	Description

The gas protection measures inspected:	A Are acceptable and comply with the specification
	B Are acceptable but attention is drawn to issues related to item no. xxx
	C Are not acceptable due to the issues related to item no. xxx

Name: **Signature:** **Date:**