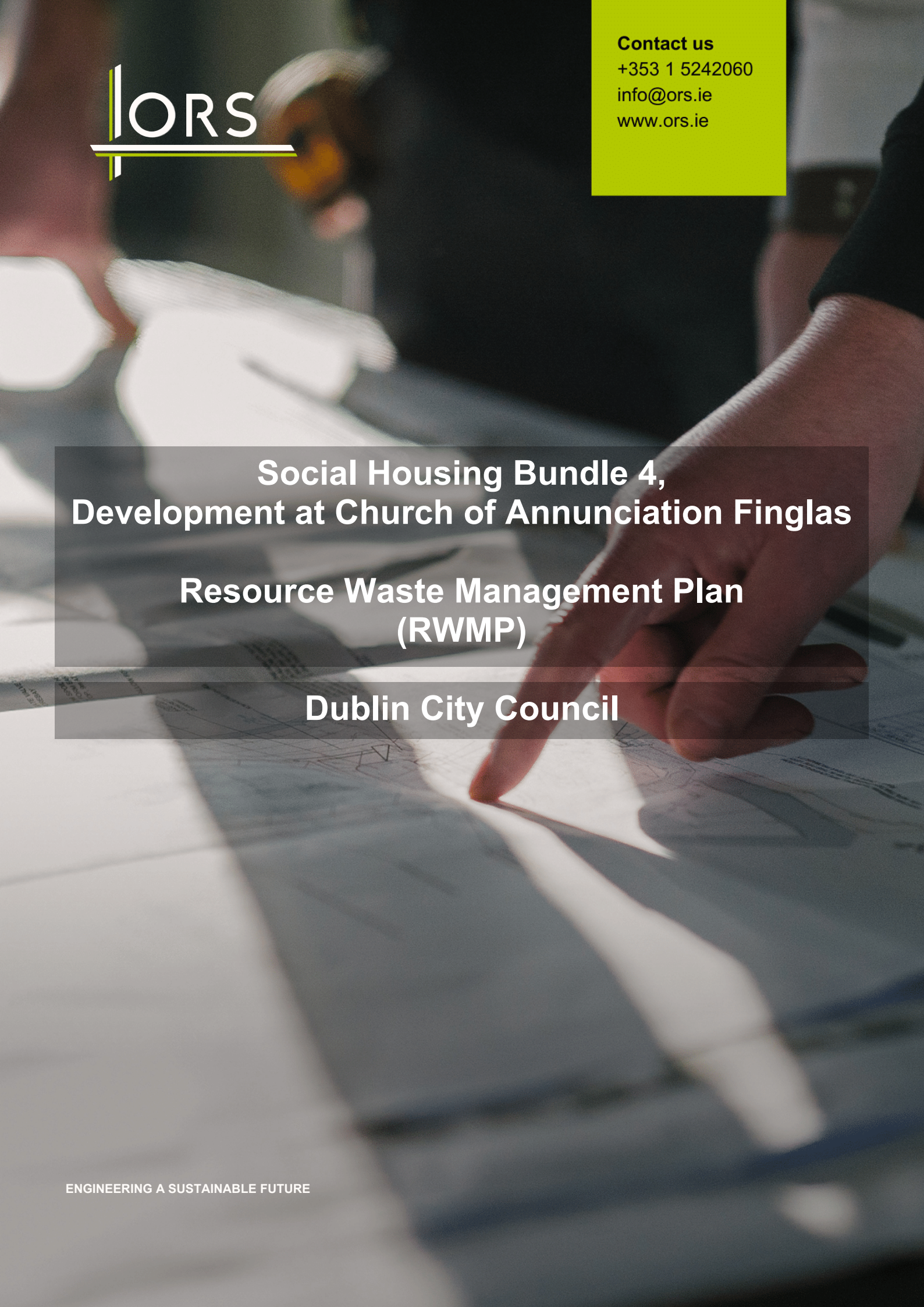

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Social Housing Bundle 4, Development at Church of Annunciation Finglas

Resource Waste Management Plan (RWMP)

Dublin City Council

ENGINEERING A SUSTAINABLE FUTURE

Church of the Annunciation, Finglas, Dublin.
Resource Waste Management Plan (RWMP)

Document Control Sheet

Client:	**Malone O'Regan**
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P04	S2	SB	LM	LM	07/06/2024

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1 Introduction

This report is prepared on behalf of Dublin County Council to accompany a Part 8 proposal for the development of 110 no. residential units at the site of the former Church of Annunciation on Cardiffsbridge Road, Finglas, Dublin 11.

The proposed development includes:

i. One apartment block ranging from 4 to 5-storeys, containing:
   - 110 residential units (106 no. 1-bed and 4 no. 2 bed); and
   - 434 sq.m. of community, arts and cultural facilities.

ii. 15 no. car parking spaces and 87 no. cycle spaces.
iii. 935 sq.m. of public open space and 609 sq.m. of communal open space
iv. One vehicular and pedestrian access and one dedicated pedestrian access off Cardiffsbridge Road
v. Boundary treatments, public lighting, site drainage works. Internal road surfacing and footpath, ESB meter rooms, plant rooms, stores, bin and bicycle storage, landscaping; and
vi. All ancillary site services and development works above and below ground.

1.1 Background and Purpose

Waste created during Construction and Demolition (C&D) work is the largest waste stream in the EU, accounting for one third of all waste generated. It is therefore pertinent to outline proper management procedures for construction and demolition (C&D) waste and resources that are in line with policies that fit a circular economic model. Several steps can be taken regarding material and waste management to adhere to the circular economic model, such as:

- Reducing the use of virgin resources.
- Keeping materials in the economy as long as possible.
- Maintaining intrinsic value/quality as high as possible.
- Reducing hazardous substances in products and waste.

This Resource & Waste Management Plan (RWMP) for the proposed development will address the following points:

- Analysis of waste arisings / material surpluses, to be recorded in the Waste Register **(see Appendix A)**
- Methods proposed for prevention, reuse and recycling of waste materials
- Waste handling procedures
- Waste storage procedures
- Waste disposal procedures
- Waste auditing
- Record keeping

1.2 Supporting Documentation, Policies, and Legislation

The principles and objectives to deliver sustainable waste management for this project have been incorporated in the preparation of this report and are based on the following strategic objectives:

- Environmental Protection Agency Act 1992
- Waste Management Acts 1996 to 2005
- Waste Management (Collection Permit) Regulations 2007 (SI No. 820 of 2007)
- Waste Management (Collection Permit) Amendment Regulations 2008 (SI No. 87 of 2008), as amended.
- The Waste Framework Directive (Directive 2008/98/EC)
- Department of the Environment, Heritage and Local Government – Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects – July 2006
- A Waste Action Plan for a Circular Economy 2020-2025
- Environmental Protection Agency Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects 2021
- Construction Environmental Management Plan (CEMP)
- Relevant Planning Conditions

In reference to the above legislation, the below hierarchy has been adapted for this site:

- Reduction of the amount of waste generated by the construction process.
- Segregation of waste will be implemented during the construction phase of the development to enable easy re-use and recycling, wherever possible.
- Recycle waste material where feasible, including the use of excess excavations as fill material, recycling of various waste fractions such as metals, packaging, etc.

1.3 Dublin City Development Management Standard

The development management standards for Dublin City are outlined in the Dublin City Development Plan 2022-2028. Of relevance to this report is **Chapter 9 – Sustainable Environmental Infrastructure and Flood Risk** which outlines policies in line with Dublin City Council waste management objectives. The policies relevant to the proposed development include:

- **SI 27:** Sustainable Waste Management: To support opportunities in the circular resource efficient economy in accordance with the National Policy Statement on Bioeconomy (2018).
- **SI 28:** Sustainable Waste Management: To prevent and minimise waste generation and disposal, and to prioritise prevention, recycling, preparation for reuse and recovery in order to develop Dublin as a circular city and safeguard against environmental pollution.
- **SI 30:** Waste Management in Apartment Schemes: To require that the storage and collection of mixed dry recyclables, organic and residual waste materials within proposed apartment schemes have regard to the Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities 2020 (or and any future updated versions of these guidelines produced during the lifetime of this plan).

Additionally, **Section 15.18.2 – Waste Management** outlines the overall approach of Dublin City Council with regards to waste generated during development. It states:

"*All planning applications in excess of 30 or more residential units and / or 1,000 sq. m. of commercial development shall be accompanied by both and Construction and Operational Waste Management Plan…The operational waste management plan shall set out the strategy for waste collection, storage and recycling. All applications shall clearly identify the waste storage and collection points and detail the anticipated waste collection schedule having regard to the impact on road users both within the development and the surrounding area"*

1.4 RWMP Review

This RWMP report serves as a live document and will be reviewed regularly to assess whether waste management practices are being adhered to. Likewise, it will be continuously updated as appropriate. Following completion of the project the RWMP will be updated with the final waste levels generated by the project. It is proposed that a review of waste management practices will form part of regular site inspection audits to be carried out by the construction contractor. This information should be forwarded to the RWM to assist in determining the best methods for waste minimisation, reduction, re-use, recycling, and disposal as the works progress.

2 Project Description

2.1 Site Location

The proposed site is located on Cardiffsbridge Road in Finglas, Co. Dublin. It is the site of the former church as shown in **Figure 2.1** below. The proposed development is located within land zoned as Z1 and Z15 by the Dublin City Council. The site is within a developed residential area in Finglas, Dublin. The site's current access point is through the carpark located on the northwestern border of the site, accessible via a gate.

The site is bounded by the Coláiste Eoin secondary school and St Brigid's Infant National School to the northeast and southeast, respectively. Leisure Point, a recreational centre, is directly south of the site, with residential area's bounding the southwest and northwest localities of the site. Kildonan Park is situated north of the site.

An approximate outline of the subject site and its environs is provided in **Figure 2.1** below.

Figure 2.1: Site location and environs (Source: Google Maps)

2.2 Site Characteristics

2.2.1 Topography

The proposed residential development is to be constructed on the site of the Church of Annunciation which is currently a vacant site. The topography ranges from 62.6m OD to the southeastern corner of the site, to 64.8m OD to centre of the site.

2.2.2 Site Access

The site's current access point is through the carpark located on the northwestern border of the site, accessible via a gate.

2.2.3 Historical Maps

The GeoHive Historic map viewer was consulted to assess previous land uses or developments within or in the vicinity of the proposed site boundaries. According to the First Edition 6" maps developed between 1829-1841, the location of the proposed site previously consisted of farmland which was adjacent to King William's Rampart. From black and white aerial survey maps generated in 1995, the structures of the Church of Annunciation can be seen alongside Coláiste Eoin, St. Fergal's Boys National School and St Brigid's Infant National School. From these 1995 aerial survey maps the area can be seen to be well developed in terms of residential units and urban fabric. area was already quite developed in terms of residential units. The surrounds of the proposed sites have remained relatively unchanged since the 1995 aerial survey maps, with minor density increases in housing estates and residential areas.

2.3 Environmental Sensitivities

2.3.1 Geology, Hydrology & Hydrogeology

Maps generated by the Environmental Protection Agency (EPA) and featuring data from the EU Water Framework Directive (WFD) were consulted to assess the extent and quality of waterbodies present in the vicinity of the proposed development. The closest waterbody to the site consists of the Scribblestown Stream which is ca. 680m southwest of the proposed site. The Bachelors Stream is ca. 780m east of the site, the Tolka River runs ca. 1.1km south of the site and the Finglaswood Steam runs ca. 1.2km southeast of the site.

Taking the scale and nature of the proposed development into consideration, only waterbodies within a 1.5km radius of the site were considered as potential receptors, and as such, only these waterbodies were included in this analysis. A summary of the nearest waterbodies can be found in **Table 2.1** below.

Table 2.1: Waterbodies in Proximity to Proposed Site

Waterbody	WFD Sub-basin Name	Code	Distance from Site	Direction from Site
Scribblestown Stream	TOLKA_050	IE_EA_09T011100	680 m	Southwest
Bachelor's Stream	TOLKA_050	IE_EA_09T011100	780 m	East
Tolka River	TOLKA_050	IE_EA_09T011100	1100 m	South
Finglaswood Stream	TOLKA_050	IE_EA_09T011100	1200 m	Southeast

The WFD runs in 6-year cycles with the most recent data being generated between 2016-2021. The Directive takes rivers, lakes, estuaries, groundwater and coastal waters into consideration and each waterbody can be assigned one of five statuses: High, Good, Moderate, Poor, and

Bad. Additionally, waterbodies can be assigned a risk level ("At Risk", "Not At Risk", "Review") which represents the risk of the waterbody of failing its WFD objectives by 2027.

The WFD Status of each of the waterbodies is in close proximity to the site is designated as "Poor" and have been assigned a risk level of "At Risk."

The Tolka River is the most significant waterbody in the Finglas area. The Tolka River rises east of Dunshaughlin, County Meath, and flows through Dunboyne, Mulhuddart, South Finglas and finally passes through North Dublin suburbs, Glasnevin and Drumcondra, following course directly into Dublin's North Bay. The river flows into Dublin Bay directly passed the North Bull Island Special Protection Area. The Tolka has many tributaries, including Castle Stream at Dunboyne and the Clonee Stream East of Clonee, which both fall within the borders of County Meath. Inside the Dublin border, it's estimated that there are at least fourteen tributaries flowing into the Tolka River before it discharges into the Irish Sea. 3 major tributaries are referenced in this RWMP – Scribblestown Stream, Bachelor's Stream and Finglaswood Stream.

The proposed site is located within WFD catchment 09, Liffey and Dublin Bay, and is located within sub-catchment "Tolka_SC_020". The 3rd Cycle Draft Liffey and Dublin Bay Catchment Report (HA 09) published in 2021 provides a summary of the quality assessment outcomes of waterbodies within the catchment. According to this report, The Liffey is deemed "At Risk" due to urban run-off and urban wastewater treatment agglomerations (combined sewer overflows). The closest waterbody consists of minor waterbodies within the perimeter of the Phoenix Park which are not considered to be lake waterbodies. The closest lake waterbody to the site development is the Leixlip Reservoir which is situated *ca.* 12.3km to the west. This is a heavily modified water body which serves dual purposes for power generation and drinking water supply. It possesses a WFD status of "Poor", and its risk level is currently "Under Review".

The site was cross-referenced with the Teagasc Soil Information System (SIS) soil profile map which states that the surface soil at the site location is classed as 'Urban'. Urban soils are formed from human construction and industrial activities along with fuel combustion, transport emissions and waste dumping and therefore contain manufactured materials and waste. The subsoil of the site is classed as "made". Subsoil classification within the confines of Dublin city is predominantly "made".

During the site investigation a programme of intrusive investigation specified by the Consulting Engineer was undertaken to determine the sub surface conditions at the proposed site. Trial Pits were excavated, Cable Percussion and Rotary Boreholes were drilled, and the exploratory hole locations and logs were recorded in the full Waste Classification report by *Ground Investigations Ireland* (*GII*) in the **Appendix C** of this report.

2.3.2 Groundwater Vulnerability

According to the Geological Survey of Ireland map viewer, the site is underlain by a Locally Important Aquifer consisting of made ground bedrock which is moderate to poorly productive in local zones only. The groundwater vulnerability is classed as 'High'.

2.3.3 Contaminated Land

"Guidance on waste acceptance criteria at authorised soil recovery facilities" published by the EPA in 2020 outlines guidance applicable to all soil recovery facilities authorised under the Waste Management Act and the Waste Management Regulations. **Figure 2.2** provides a flowchart indicating the waste acceptance protocols for soil recovery facilities as per the EPA guidance document.

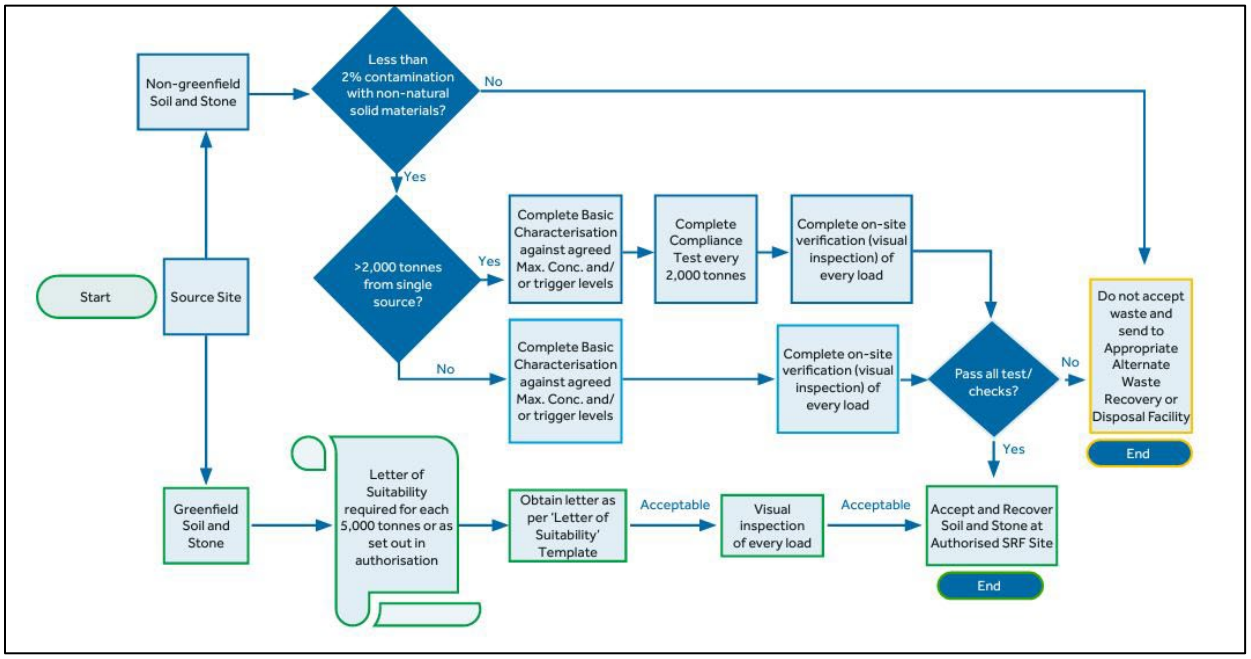

Figure 2.2: Waste acceptance criteria at soil recovery facilities. (Source: EPA)

The Waste Classification report by *GII* (**Appendix C**) assessed the suitability of the material sampled in line with the EPA 2020 Guidance on waste acceptance criteria at authorised soil recovery facilities. The waste classification was carried out in parallel with a wider geotechnical site investigation and was focused on a broad assessment of the subsoil quality across the site. The assessment did not extend to the identification of asbestos containing materials associated with any onsite structures, ground gases or groundwater.

Appendix D includes a map of areas where trial pits were dug and highlights the areas where WAC excavations were recorded. It is recommended that a colour-coded heatmap of the site is generated by the site engineer which can be used during the excavation process to properly identify and segregate each waste type to be removed to appropriately licensed waste facilities.

The final and most applicable waste category for each sample is summaried in **Figure 2.3**.

Sample ID	Sample Depth (m)	Material Type	Sample Date	LoW Code	Waste Category
TP-01	0.50	Made Ground <2% Anthropogenic Material	22/11/2023	17 05 04	Category B2 - Domain 2
TP-01	1.00	Clay	22/11/2023	17 05 04	Category A - Domain 2
TP-02	0.50	Made Ground <2% Anthropogenic Material	22/11/2023	17 05 04	Category A - Domain 2
TP-02	1.00	Made Ground <2% Anthropogenic Material	22/11/2023	17 05 04	Category B1 - Domain 2
TP-03	0.50	Made Ground <2% Anthropogenic Material	22/11/2023	17 05 04	Category B1 - Domain 2
TP-03	2.00	Clay	22/11/2023	17 05 04	Category A - Domain 2
BH-01	1.00	Clay	22/11/2023	17 05 04	Category A - Domain 2
BH-02	1.00	Clay	22/11/2023	17 05 04	Category B1 - Domain 2
BH-02	2.00	Clay	22/11/2023	17 05 04	Category A - Domain 2
BH-03	1.00	Clay	22/11/2023	17 05 04	Category A - Domain 2
BH-04	1.00	Clay	22/11/2023	17 05 04	Category A - Domain 2
BH-04	2.00	Clay	22/11/2023	17 05 04	Category A - Domain 2
BH-05	0.50	Made Ground <2% Anthropogenic Material	22/11/2023	17 05 04	Category B1 - Domain 2
BH-06	1.00	Clay	22/11/2023	17 05 04	Category A - Domain 2

Figure 2.3: Individual Sample Waste Category

Based on the results of the HazWasteOnLineTM tool conducted by GII, the material sampled across the site, if being considered a waste, can be classified as non-hazardous. **Table 2.2** below outlines the categories of waste for removal as well as potential waste facilities capable for accepting said wastes. The site heatmap may follow a similar colour-coding to those presented in the table.

Table 2.2: Waste Categories for Disposal or Recovery		
Waste Category	**Classification Criteria**	**Waste Facility**
Category A – Unlined Facilities	Soil and Stone only which are free from anthropogenic materials such as concrete, brick, timber. Soil must be free from "contamination" e.g. PAHs, Hydrocarbons.	Any suitable landfill/waste facility, including but not limited to those listed in **Appendix B**
Category B1 – Inert Landfill	Reported concentrations within inert waste limits, which are set out by the adopted EU Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 and Annex II of Directive 1999/31/EC (2002). Results also found to be non-hazardous using the HWOL application.	Any suitable landfill/waste facility, including but not limited to those listed in **Appendix B**
Category B2 – Inert Landfill	Reported concentrations greater than Category B1 criteria but less than IMS Hollywood Landfill acceptance criteria, as set out in their Waste Licence W0129-02. Results also found to be non-hazardous using the HWOL application.	Any suitable landfill/waste facility, including but not limited to those listed in **Appendix B**
Category C – Non- Haz Landfill	Reported concentrations greater than Category B2 criteria but within non-haz landfill waste acceptance limits set out by the adopted EU Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 and Annex II of Directive 1999/31/EC (2002). Results also found to be non-hazardous using the HWOL application.	Enva, Greenogue Facility
Category C1 – Non-Haz Landfill	As Category C but containing <0.001% w/w asbestos fibres.	Not applicable to site
Category C2 – Non-Haz Landfill	As Category C but containing >0.001% and <0.01% w/w asbestos fibres	Not applicable to site
Category C3 – Non-Haz Landfill	As Category C but containing >0.01% and <0.1% w/w asbestos fibres.	Not applicable to site
Category D – Hazardous Treatment	Results found to be hazardous using HWOL Application.	Not applicable to site
Category D1 – Hazardous Disposal	Results found to be hazardous due to the presence of asbestos (>0.1%).	Not applicable to site

2.3.4 Flood Risk

The OPW Floodinfo.ie website was consulted for high level information on any potential flood risk on or near the site. The nearest flood incident took place approximately 1.5km away from the planned location. This flood, which resulted in the accumulation of floodwaters in the

Glendhu Park vicinity, happened to the south of the site in October 2011. Additionally, another flood occurred in October 2011, approximately 1.7 kilometers to the east of the proposed site. **Table 2.3** summarises the sources of the nearest floods and their proximity to site.

Table 2.3: Flood Events in Proximity to Proposed Site

Flood Event Code	Location	Date	Flood Source	Distance from Site
ID-11602	Glendhu Park, Cabra	October 2011	Runoff from Surface Drainage Water	1500 m S
ID-11674	Ballygall Crescent and Fairways Green, Finglas	October 2011	Runoff from Surface Drainage Water	1700 m E
ID-5	Tolka Ballyboggan Road	November 2000	River	1800 m SE
ID-236	Tolka and Finglas Rivers	August 1984	River	2000 m SE

The proposed site itself is of sufficient distance from the projected flood risk area hence the fluvial flood risk is considered to be low. The site is not located within benefitting land associated with the Arterial Drainage or District Drainage Schemes. National Indicative Fluvial Mapping (NIFM) models the extent of land that might be flooded by rivers during a theoretical flood with an estimated probability of occurrence. The proposed site is ot within the range of a Medium Probability flood event (1 in 100 years) according to NIFM mapping. Based on current data available it is not foreseen that the development will present any significant increase in flooding risk either within the site or downstream of the site.

2.3.5 Archaeology

According to the Historic Environment map viewer there are no sites of archaeological importance within the proposed site boundaries nor in the nearby vicinity of the site. The nearest site of importance is Cardiff Castle, located *ca.* 300m east of the proposed site in ruins. Continuing east, there are several sites of historical and archaeological significance including a manor house, ritual site, section of ‘King William’s Rampart’ and St. Canice’s Church of Ireland. **Table 2.4** overleaf summarises the sources of historical and archaeological importance in a *ca.* 500m radius of the proposed site.

Table 2.4 Sites of Historical or Archaeological Significance				
Site Code	**Site Name**	**Location**	**Distance from Site**	**Description**
DU014-066003	Cardiff Castle	Cappagh Road, Finglas	Ca. 340m E	Named on the 1st edition OS 6-inch map (1837) as 'Cardiff castle in ruins'.
DU014-066005	Manor House	Patrickswell Place, Finglas	Ca. 480m E	A manor established by Archbishop Comyn in 1181.
50130002	Post Box	Mellowes Road, Finglas	Ca. 200m NE	n/a

An Archaeological Impact Assessment was completed by John Purcell Archaeological Consultancy in May 2024. The report is summarised as follows:

- The site does not contain any historic structures or archaeological remains.
- The potential for historic remains is low.
- Archaeological testing of the site is recommended for the development prior to commencement.

2.3.6 Ecological Receptors

According to the National Parks & Wildlife Service map viewer, the proposed site is located a sufficient distance (1.5km) from any designated sites such as Special Protection Areas (SPAs), Special Areas of Conservation (SACs) or Natural Heritage Areas (NHAs). The nearest designated sites consist of the Royal Canal proposed Natural Heritage Area (pNHA) located *ca.* 1.4km south of the proposed site. The next nearest designated site are oth over 4km from the proposed site. The Santry Demesne and Liffey Valley proposed NHA's are located *ca.* 4.2km NE and 4.5km SW of the site, respectively.

An Appropriate Assessment (AA) Screening Report was carried out by *NM Ecology Ltd*. on behalf of Dublin City Council and has determined that a Natura Impact Statement (Appropriate Assessment) is not required in respect of this proposed development.

A Preliminary Ecological Appraisal was also carried out by NM Ecology to assess whether any sensitive ecological receptors were present on site. Section 4 of this report summarises the relevant ecological assessment reports and outlines best practice measures for the mitigation of impacts to ecological receptors during the course of works. Given the scale and nature of the proposed development and its distance to ecological receptors, it is unlikely that any designated sites will be impacted as a result of the works.

2.4 Phasing of the Development

This RWMP will outline the intended sequence of works. A construction program of 12 - 18 months serves as the agreed estimated timeline for the project. A layout plan of the development is detailed in **Figure 2.2** below.

The proposed development includes the following sequence of works:

- One apartment block ranging from 4 to 5-storeys, containing:

  - 110 residential units (106 no. 1-bed and 4 no. 2 bed); and
  - 434 sq.m. of community, arts and cultural facilities.
- 15 no. car parking spaces and 87 no. cycle spaces.
- 935 sq.m. of public open space and 609 sq.m. of communal open space
- One vehicular and pedestrian access and one dedicated pedestrian access off Cardiffsbridge Road.
- Boundary treatments, public lighting, site drainage works. Internal road surfacing and footpath, ESB meter rooms, plant rooms, stores, bin and bicycle storage, landscaping; and
- All ancillary site services and development works above and below ground.

Access to the development is proposed along Cardiffsbridge Road near the northwestern most corner of the site. North of the site Mellowes Road runs from west to east connecting the locality to the Finglas Bypass. **Figure 2.4** shows the proposed site plan.

Figure 2.4: Site Plan (A refinement of this site layout may be circulated by the architect)

The project is to be divided into several distinct phases as follows:

Pre-Construction Phase – Site clearance and preliminary works

- Site set-up, temporary services, site hoarding/fencing, staff welfare facilities
- Removal of any remnants of the Church of Annunciation buildings to facilitate the works.
- Ground works and landscaping.

Phase 1 – Construction

- 110 no. residential units in apartment style buildings.

Ancillary works – which will consist of:

- Sustainable Drainage System (SuDS)
- Surface water and foul sewer network and associated attenuation
- Car and bicycle parking spaces
- Electrical and telecom services
- Mains water supply connections
- Wastewater drainage connections
- Pedestrian access routes
- Permeable paving and green roads
- Landscaping of public and communal open areas

2.5 Pre-Construction Activities

The main contractor will conduct enabling works to establish site setup, for appropriate signing, hoarding, security fencing and welfare facilities.

2.5.1 Site Set-Up and Hoarding

Perimeter hoarding will be provided around the site to provide a barrier against unauthorized access from the public areas. Controlled access points to the site, in the form of gates or doors, will be kept locked at any time that these areas are not monitored (e.g., outside working hours).

The hoarding will be well-maintained and may be painted. Any hoardings may contain graphics portraying project information. The site hoarding may be branded using the appointed Contractors logos, etc. Some marketing images or information boards may also be placed on the hoarding. Access to site will be controlled and monitored outside of site working hours. All personnel working on site must have a valid Safe Pass card and the relevant CSCS cards.

A suitably secure site compound will be set up, wherever the restricted confines of the site will allow and will facilitate the efficient delivery of materials and personnel to the site. This compound is to include material storage, site office and meeting room, and staff welfare facilities.

Generators or connection to electricity and water services will be set up to facilitate site works.

2.6 Construction Sequence of New Structures

The exact construction specifications of the proposed residential units and associated infrastructure are yet to be finalised. This section of the RWMP will be updated once a main contractor is appointed and a definitive construction program is established, in advance of the commencement of the project.

A summary of operations for the construction phase is listed in **Table 2.5** below.

Table 2.5: Summary of Operations Expected

External envelope will or may require the following operations:	Internal work will or may require the following operations:
• Blockwork/Brickwork • Sand & cement rendering • Windows & doors • Roof Coverings – Concrete, Green/Blue Roofing • Flashing, Aprons and Tray – Leadwork/Powder coated metal	• Electrical installation • Mechanical installation • Fireproofing • Partitions and ceilings – use of gypsum based products • Painting • Plastering • Stairs • Joinery • Tiling • Air Tightness sealing and testing • Metal Work • Sanitary-ware installation • Vanity units • Reinforcement works • Insulation • Plumbing • Concreting/ floor slab • Carpet installation • Green/Blue Roofing
Above ground external operations:	
• Landscaping • Installation of manholes • Lamp posts • Permeable paving and green roads • Signs • Car parking and mobility compliant car parking	
Below ground operations:	
• Foul sewer, surface water, rainwater, and potable water networks • Stone water storage below permeable paving • Electrical ducting	

2.7 Asbestos-Containing Materials

An Asbestos Survey Report was conducted by *Phoenix Environmental Safety Ltd*. on behalf of the NDFA and Dublin City Council for the Church of Annunciation demolition site with the aim of finding asbestos containing materials within the scope of the asbestos survey.

The scope of the survey was confined to all accessible areas of the Church of Annunciation which has now been demolished.

GII's Waste Classification Report, **Appendix C**, surveyed the external areas of the site surrounding the now demolished Church of Annunciation building. The report found that Asbestos fibres were not detected in any samples. The laboratory analysis of excavated samples did not identify asbestos containing materials in the samples.

2.8 Design Changes

This section shall be updated during the construction phase to reflect any changes in design or practice that have an impact on resource and waste management.

3 Roles and Responsibilities

The EPA Best Practice Guidelines for RWMP outline typical responsibilities involved in projects such as the one proposed at the old Church of Annunciation site. This section outlines the responsibilities for stakeholders to ensure an effective RWMP is implement over the course of development.

3.1 Contractor (TBC)

The Main Contractor, once employed, will undertake construction operations and is responsible for the following:

- Implementing and reviewing the RWMP throughout the construction phase.
- Designating a suitably qualified Resource and Waste Manager (RWM) who will be responsible for implementing the RWMP.
- Identifying and coordinating with waste removal contractors responsible for removing
- resources and waste off site. Hauliers should be in possession of valid Waste Collection Permits.
- Identifying suitably licensed waste facilities capable of receiving waste from the proposed site.
- Compile full records of resources and wastes accrued over the course of development.

3.2 Communication

Information regarding resource and waste management will be communicated by the Main Contractor and RWM who will ensure that staff and subcontractors are operating with best practice waste management procedures in place.

4 Design Approach

4.1 Reuse and Recycling

The national waste policy of Ireland, titled 'A Waste Action Plan for A Circular Economy – Ireland's National Waste Policy 2020 – 2025,' aims to transition the country towards a circular economy model. This model emphasizes reducing waste disposal by promoting circularity and sustainability. The policy focuses on enhancing material value through improved design, durability, repair, and recycling practices. By prolonging the circulation of resources within the local economy, the policy anticipates both environmental and economic benefits. The implementation of the policy involves several strategies, including reusing excavated soils and stones on-site, purchasing construction materials as needed to prevent oversupply and potential damage, segregating construction waste streams for maximum reusability, minimizing waste volume through design and adopting take-back schemes for items like pallets and packaging.

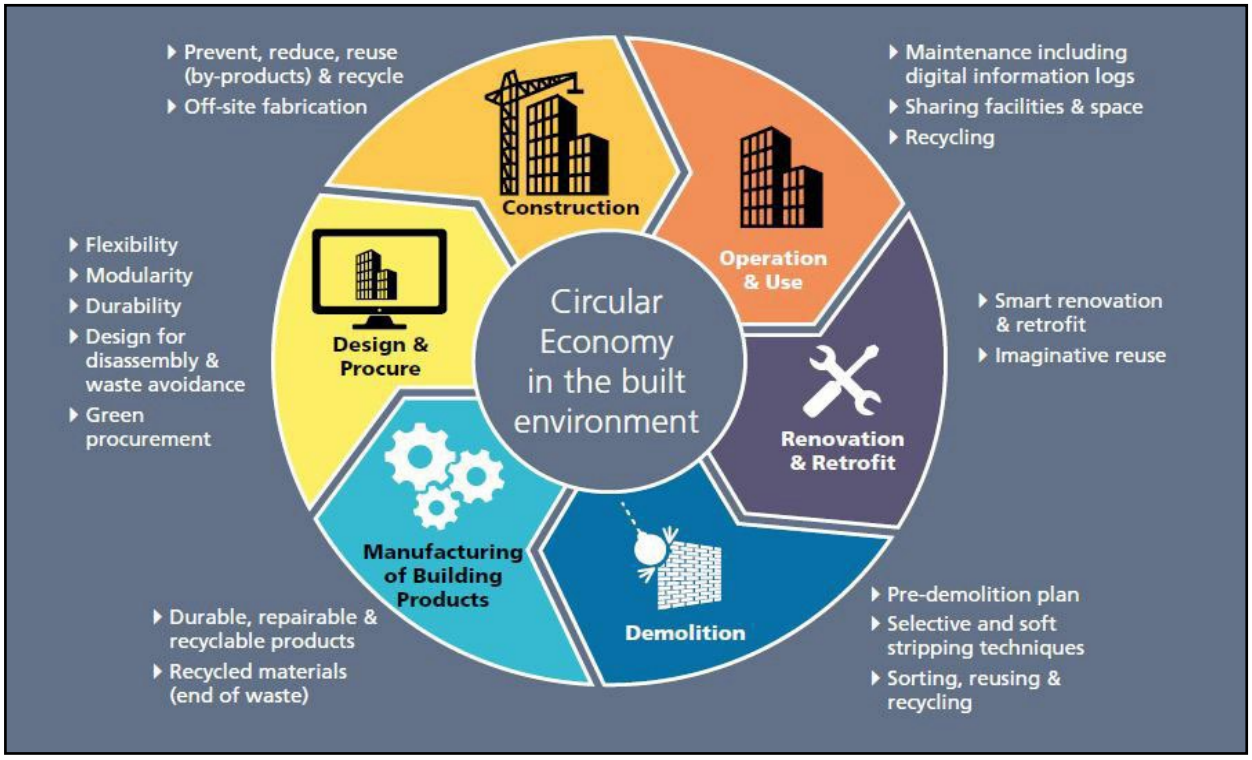

Figure 4.1: Circular Economic Model (Source: EPA Best Practice Guidelines)

4.2 Green Procurement

- The sourcing of goods and services should be conducted on an "as-needed" basis where possible which can reduce the need for packaging.
- Methods of waste prevention and minimisation shall be discussed with staff and subcontractors at an early stage of development, prior to procurement. Design solutions are to be agreed with an emphasis on sustainable practices.
- Project material specifications should consider allowing the use of reclaimed materials.

- Ordering procedures should be conducted with waste minimisation in mind, i.e., avoid over-ordering, identify take-back schemes for material surpluses and offcuts.

4.3 Off-Site Construction

- The use of precast materials (walls, concrete slabs, stairs, etc.) should be implemented where possible. The use of precast materials can have the following benefits:
    - Material quality and accuracy can be superior as factory fabrication is standardised and negative impacts from weather and site conditions are negated.
    - Over-ordering can be avoided as materials can be ordered from the factory and do not need to be produced on site.
    - The use of precast materials can lead to quicker construction times as floor levels can be established in short periods of time and facades can be closed in quickly, meaning internal works can be conducted earlier.
    - Precast materials reduce the production of waste.
    - Quality of precast materials is often better as fabrication occurs in a sheltered environment mitigating any potential environmental effects that may occur onsite.
    - Environmental contamination is reduced, particularly when precast concrete is used, as the chance of spillages is eliminated.

4.4 Materials Optimisation

- The optimisation of material use during construction will be established during the design phase. A rigorous project design will ensure that reworking and waste generation is reduced during construction.
- Effective communication between the Contractor, staff, and subcontractors will ensure that works are carried out efficiently and the use of material is optimised.
- The design of the proposed residential units is somewhat standardised, meaning the need for virgin resources is minimise.

4.5 Flexibility and Deconstruction

As the proposed development incorporates residential units, plans for deconstruction are not envisaged for the foreseeable future. As such, the flexibility of the proposed development is seen as sustainable as it will service long-to-medium term residents for years to come.

5 Key Materials and Quantities

Typical waste materials anticipated to be generated throughout the course of the project are classified under Section 17 – Construction and Demolition Wastes – of the List of Waste (LoW) as detailed in Table 5.1 below.

Table 5.1: Description of Waste

Description of Waste	EWC Code
Concrete, Bricks, Tiles and Ceramics	17 01
Concrete	17 01 01
Bricks	17 01 02
Tiles and Ceramics	17 01 03
Mixture of concrete, bricks tiles & ceramics	17 01 07
Wood, Glass and Plastic	17 02
Wood	17 02 01
Glass	17 02 02
Plastic	17 02 03
Bituminous mixtures, coal tar and products	17 03
Bituminous mixtures containing other than those mentioned in 17 03 01	17 03 02
Metals (including their alloys)	17 04
Copper, Bronze, Brass	17 04 01
Aluminium	17 04 02
Lead	17 04 03
Zinc	17 04 04
Iron and Steel	17 04 05
Tin	17 04 06
Mixed Metals	17 04 07
Cables containing oil, coal tar and other hazardous substances	17 04 10
Cables other than those mentioned in 17 04 10	17 04 11
Gypsum based construction Materials	17 08
Other Construction and Demolition Materials	17 09
Mixed Construction and Demolition Waste other than those mentioned in 17 09 01, 17 09 02, 17 09 03	17 09 04
Sewage Screenings	19 08 01
Paper and Cardboard	20 01 01
Wood containing hazardous substances	20 01 37
Wood other than that mentioned in 20 01 37	20.01 38
Soil and Stones	17 05 04
Mixed Municipal Waste	20 03 01
Paint, inks, adhesives and resins containing hazardous substances	20 01 27
WEEE	16 02

Batteries	16 06
Liquid Fuels	13 07

5.1 Waste Register

A Template has been developed for summarising the names and permit numbers of the waste collectors and waste facilities which will be utilised for off-site disposal of the various waste-streams arising from the development. This document will also outline the projected weight of any waste that has to be transported off-site as well as any wight destined for reuse or recycling. This templated is included in Appendix A and a digital copy has been sent in addition to this report.

5.2 Waste Removal Contractors

Appendix B includes a list of licenced waste facilities in the Dublin region which are capable of hauling the primary C&D waste streams associated with the development. Coordinating with the licenced waste facilities will be the responsibility of the Main Contractor. Waste facilities shall confirm he acceptance of waste prior to the removal from site, ensuring that the facility is suitable and that it has sufficient capacity. This is not an exhaustive list, and liaison with other suitable waste facilities will be conducted by the Contractor as the need arises.

5.3 Estimated Construction Waste Generated

Table 5.2 below includes a breakdown of the estimated percentages of construction and demolition waste expected to be generated from a typical site such as this. Additionally, **Table 5.3** outlines a list of estimated quantities of materials expected during development of apartment complex units such as the Church of Annunciation site.

It should be noted final quantities of materials and construction methodologies have yet to be confirmed so it is therefore difficult to estimate the exact materials and quantities generated with a high degree of accuracy. These materials and quantities will most likely be subject to change during the construction process.

Table 5.2: Estimated Waste Generated (Based on Typical Irish Construction Site)

Waste Type	%
Soil & Stones	83
Concrete, Bricks, Tiles, Plastics, etc	13
Asphalt, Tar/Tar products	1
Metals	1
Other	2
Total Waste	**100**

Taking the above estimation into account, **Table 5.3** below outlines target values for waste management at the site. The tonnage values for each waste type should be inputted by the contractor prior to starting on site once quantities are accurately measured.

Table 5.3: Estimated construction waste targets for the development							
Waste Types	Waste	Reuse/Recover		Recycle		Disposal	
	m^3	%	m^3	%	m^3	%	Tonnes
Soil & Stones	857	20	171	0	0	80	686
Concrete, Bricks, Tiles, Plastics, etc	134	0	0	80	107	20	27
Asphalt, Tar/Tar Products	10	0	0	20	2	80	8
Metals	10	5	0.5	90	9	5	0.5
Other	21	10	0.21	40	8.4	50	11
Total	1033	-	172	-	116	-	731

5.4 Onsite Waste Reuse and Recycling Management

The national target for preparing for reuse, recovery, and recycling of C&D waste (excluding soil and stone) is 70%, and the waste industry in Ireland as of 2019 was achieving 84%. The proposed development should aim to exceed the national target of 70% regarding the reuse, recovery, and recycling of C&D waste (excluding soil and stone). The main contractor will be made aware of this target and will liaise with suitably permitted / licensed waste contractors that are able to commit to achieving, or exceeding, this target.

5.5 Material Removal and Excavations

It is understood that as part of the proposed development there may be an excavation to accommodate foundations, services, pavements and carparking and as such the material which may be excavated and removed from site needs to be assessed in terms of waste disposal outlets.

The waste classification exercise conducted by *GII* and available in **Appendix C** is reflective of and applicable to the ground conditions on site at the time of the site investigation and sampling. Alterations to the ground conditions or any further excavations carried out on site following the investigation are not reflected in this report.

In order to assess materials, which may be excavated and removed from site, in terms of waste classification, a selection of samples collected were analysed for a suite of parameters which allows for the assessment of the soils in terms of total pollutant content for classification of materials as hazardous or non-hazardous. As outlined in **Section 2.2.3** all samples visible on the map in **Appendix D**, were classified as non-hazardous.

6 Site Management

6.1 Resource and Waste Manager

The Construction Project Manager will take on the role of RWM and shall take primary responsibility for the minimisation and prevention of waste generation. The following initiatives should be considered to assist in this task:

- Materials to be ordered on an “as needed” basis to prevent oversupply and material build up on site.
- Appropriate storage facilities should be provided to ensure materials are correctly handled and stored thus reducing damage to materials.
- Material ordering shall coincide with the program of works to reduce the need to store materials on site. However, given current industry issues with regards to labour and material shortages there may be incidents of materials needing to be stored on site to ensure continuate of materials and to streamline labour productivity.
- Sub-contractors will be responsible for the management of their wastes.
- Assess existing materials that will be recycled for use on site and estimate quantities, e.g., the use of roof tile and/or brick offcuts as a crushed rock sub-base under driveways.
- Specify materials with a lower environmental impact and specify new materials that contain a recommended percentage of recycled content, provided they meet functional, performance and regulatory requirements.
- Utilise the existing topography to minimise excavation and reuse any excavated materials on site where possible, e.g., rock for drainage layers, landscape fill, planting features or levelling spoil.
- Standardise design details and specified materials and reduce the number of materials specified where appropriate to facilitate process repeatability and minimise the number of variables and bespoke elements to enable manufacturing and installation efficiencies.
- Deliver training in relation to resource management, i.e., inductions and toolbox talks.
- Update the RWMP as required to reflect new resource streams, work practices, suppliers or resource management options.

Waste Auditing should be carried out at regular intervals by the Project Manager or Resident Engineer. This process will involve monitoring waste management practices and highlighting and correcting any instances of non-compliance.

6.2 Site Induction and Toolbox Talks

The Contractor will communicate with relevant stakeholders throughout the construction phase, as required. This may include:

- Communicating waste statistics to the Client, management team, and subcontractors to monitor targets and objectives.
- Engaging with the local authority on any site inspection or audits required on site. Reports of any corrective actions, if necessary, will be provided to the local authority.
- Engagement with other stakeholders (public, EPA, etc.) where appropriate on matters relating to resource and waste management.

- A post-project RWMP will be compiled at project completion summarising the resource management procedures adopted, reuse and recovery figures and final destination of resources taken off site.

6.3 Identifying Waste Collectors and Licensed Facilities

- As mentioned previously, the Main contractor is responsible for coordinating waste removal with suitable waste collectors and licensed waste facilities.
- Waste facilities must issue a letter of acceptance to the contractor indicating acceptance and sufficient capacity for waste arising.
- A list of authorised waste collectors can be found on the following website: https://www.nwcpo.ie/permitsearch.aspx
- Waste facility permits and Certificate of Registrations can be found on the following website: https://facilityregister.nwcpo.ie

6.4 Resource-Efficient Supply Chains

The Contractor will ensure that supply chain is organised in line with resource and waste best management practices. This will involve:

- Ensuring that contractors have sufficient resources to ensure supply chain competence (i.e., environmental policies and procedures, supervision, access to advice).
- Early collaboration with supply chain to avoid waste generation i.e., no over-ordering, implementing take-back schemes for pallets, packaging, etc.
- Implementing a 'continuous improvement' strategy on site by maintaining good communication with contractors in relation resource and waste management.

6.5 Record Keeping

It is the responsibility of the Construction Project Manager or his/ her delegate that a written record of all quantities and natures of wastes, including reused/ recycled, during the project are maintained in a waste file at the Project office. Details to be included are as follows:

- Contractors and subcontractors on Site every day.
- All visitors (including Health and Safety procedures) and any associated reports.
- Invoices showing standard of material installed adheres to specifications.
- Date of waste removal.
- List of Wastes and associated codes.
- Waste haulage details (name, address, permit no., vehicle registration).
- Waste Treatment contractor certificate of registration.
- Confirmation of waste removal.
- Final destination of waste.
- Safety statement and safety file.
- Site programme.

Much of the information outlined above will be included in the Waste Register **(Appendix A)** throughout development.

6.6 Communication with Local Authority/Stakeholders

The Contractor will communicate with relevant stakeholders throughout the construction phase, as required. This may include:

• Communicating waste statistics to the Client, management team, and subcontractors to monitor targets and objectives.
• Engaging with the local authority on any site inspection or audits required on site. Reports of any corrective actions, if necessary, will be provided to the local authority.
• Engagement with other stakeholders (public, EPA, etc.) where appropriate on matters relating to resource and waste management.
• A post-project RWMP will be compiled at project completion summarising the resource management procedures adopted, reuse and recovery figures and final destination of resources taken off site.

6.7 Inspections and Audits

- Daily checks shall be carried out by Contractor's management team to ensure compliance with the RWMP. This will involve checking waste storage areas, waste segregation measures, signage, subcontractor compliance, and review of waste documentation.
- Movement of waste transport vehicles will be monitored to ensure transfer note is signed and waste carrier is authorised.
- Formal EHS audits will be carried out by the Contractor on a regular basis.
- Findings from inspections and audits will be summarised in a monthly environmental report.

7 Site Infrastructure

7.1 Signage

It is the responsibility of the Contractor to ensure staff are aware of segregation by installing clear signage identifying waste collection areas and bins. Verbal instruction via training and toolbox talks will inform staff of proper housekeeping and waste management practices.

7.2 Resource Storage

A waste storage area will be established in the designated site compound (as detailed in the CEMP). The storage will provide adequate space for storage and handling of waste, with sign-posted bins/skips indicating where waste should be disposed of.

Non-Hazardous Waste

Dedicated bins/skips will be established, and potentially colour-coded, to provide storage of typical waste arising from construction including but not limited to:

- Mixed/General waste
- Bulky waste
- Metal
- Dry mixed waste
- Wood

Excavated soil material will be reused where possible. In the event of soil removal off site, the material shall be classified as inert, non-hazardous, or hazardous in accordance with the EPA's Waste Classification Guidance. It will then be transferred by an appropriately permitted waste collector and brought to a licensed waste facility for treatment or disposal. Burning or burial of waste will not be permitted on site.

Hazardous Waste

Hazardous materials may include:

- Fuel
- Oil
- WEEE
- Construction chemicals (cement, sealant, paints, etc.)
- Sewage
- Contaminated soil (resulting from fuel or oil spills)

Chemicals will be stored in bunded areas well away from surface water sources or gullies/surface water drainage leading off site. Hazardous waste will be removed from site by a permitted waste collector.

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Appendix A: Waste Register

Resource & Waste Management Register

Waste Details		Resource & Waste Management								Waste Transfer Details			
										Waste Collector		Waste Facility	
Description of Waste	LoW Code	Volume Generated (Tonnes)	Prevention (non-waste) (Tonnes)	Reused (non waste) (Tonnes)	Recycled (waste) (Tonnes)	Recovered (Waste) (Tonnes)	Disposed (Waste) (Tonnes)	Unit Cost Rate (€ /Tonne)	Total Cost (€)	Name	NWCP	Name	WFP/ WL No.
Concrete, Bricks, Tiles and Ceramics	**17 01**												
Concrete	17 01 01												
Bricks	17 01 02												
Tiles and Ceramics	17 01 03												
Mixtures of, or separate fractions of concrete, bricks, tiles and ceramics containing hazardous substances	17 01 06*												
Mixture of concrete, bricks tiles & ceramics	17 01 07												
Wood, Glass, and Plastic	**17 02**												
Wood	17 02 01												
Glass	17 02 02												
Plastic	17 02 03												
Glass, plastic and wood containing or contaminated with hazardous substances	17 02 04*												
Bituminous Mixtures, Coal Tar and Products	**17 03**												
Bituminous mixtures containing coal tar	17 03 01												
Bituminous mixtures containing other than those mentioned in 17 03 01	17 03 02												
Metals (including their Alloys)	**17 04**												
Copper, Bronze, Brass	17 04 01												
Aluminium	17 04 02												
Lead	17 04 03												
Zinc	17 04 04												
Iron and Steel	17 04 05												
Tin	17 04 06												
Mixed Metals	17 04 07												
Metal waste contaminated with hazardous substances	17 04 09*												
Cables	17 04 11												
Soil (including excavated soil from contaminated sites, stones and dredging spoil)	**17 05**												
Soil and Stones	17 05 04												
Soil and Stones containing hazardous substances	17 05 03*												
Insulation and Asbestos-Containing Construction Materials	**17 06**												
Insulation Material	17 06 04												
Construction Materials Containing Asbestos	17 06 05*												
Gypsum based Construction Materials	**17 08**												
Gypsum	17 08 02												
Other Construction and Demolition Materials	**17 09**												
Mixed Construction and Demolition Waste other than those mentioned in 17 09 01, 17 09 02, 17 09 03	17 09 04												
Wastes of Liquid Fuels	**13 07**												
Fuel Oil & Diesel	13 07 01*												
Petrol	13 07 02*												
Other Fuels	13 07 03*												
Wastes from the Manufacture, Formulation. Supply and Use of Coatings	**08 01**												
Waste Paint & Varinish containing Organic Solvents or other Hazardous Materials	08 01 11*												
Waste Paint & Varinish other than those mentioned in 18 01 11	08 01 12												
Waste from waste water treatment plants	**19 08**												
Sewage Screenings	19 08 01												
Municipal Wastes	**20 01**												
Paper and Cardboard	20 01 01												
Wood other than that mentioned in 20 01 37	20.01 38												
Paint, inks, adhesives, and resins containing hazardous substances	20 01 27												
Electrical and electronic components	20 01 35-36												

Batteries and accumulators	20 01 33-34												
Chemicals (solvents, pesticides, paints, adhesives, detergents etc.)	20 01 13/19/27-30												
Other Municipal Wastes	**20 03**												
Mixed Municipal Waste	20 03 01												

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Appendix B: Licensed Waste Facilities

Licensed Waste Facilities				
Waste Type	**Waste Code**	**Licensed Waste Facility/Collector**	**Facility Code**	**Facility Address**
Soil & Stones	17 05 04	Everyday Hire Limited	WFP-DC-20-0051-01	Finglas Business Park, Tolka Valley Road, Finglas, Dublin 11
		Integrated Materials DC Ltd	WFP-DC-22-0056-01	Kylemore Business Park 2, Kylemore Way, Inchicore, Dublin 8
		Hegarty Demolition Ltd - Mobile Plant	WFP-DC-17-0038-02	Harcourt Square, Harcourt Street/ Charlotte way, Dublin2
Concrete	17 01 01	Everyday Hire Limited	WFP-DC-20-0051-01	Finglas Business Park, Tolka Valley Road, Finglas, Dublin 11
		Integrated Materials DC Ltd	WFP-DC-22-0056-01	Kylemore Business Park 2, Kylemore Way, Inchicore, Dublin 8
		Hegarty Demolition Ltd - Mobile Plant	WFP-DC-17-0038-02	Harcourt Square, Harcourt Street/ Charlotte way, Dublin2
Bricks	17 01 02	Everyday Hire Limited	WFP-DC-20-0051-01	Finglas Business Park, Tolka Valley Road, Finglas, Dublin 11
		Integrated Materials DC Ltd	WFP-DC-22-0056-01	Kylemore Business Park 2, Kylemore Way, Inchicore, Dublin 8
		Hegarty Demolition Ltd - Mobile Plant	WFP-DC-17-0038-02	Harcourt Square, Harcourt Street/ Charlotte way, Dublin2
Tiles and Ceramics	17 01 03	Everyday Hire Limited	WFP-DC-20-0051-01	Finglas Business Park, Tolka Valley Road, Finglas, Dublin 11
		Integrated Materials DC Ltd	WFP-DC-22-0056-01	Kylemore Business Park 2, Kylemore Way, Inchicore, Dublin 8
		Hegarty Demolition Ltd - Mobile Plant	WFP-DC-17-0038-02	Harcourt Square, Harcourt Street/ Charlotte way, Dublin2
Wood	17 02 01	Everyday Hire Limited	WFP-DC-20-0051-01	Finglas Business Park, Tolka Valley Road, Finglas, Dublin 11
		Integrated Materials DC Ltd	WFP-DC-22-0056-01	Kylemore Business Park 2, Kylemore Way, Inchicore, Dublin 8
		Everyday Waste & Skiphire	WFP-DC-10-0020-03	84E Pigeon House Road, Ringsend, Dublin 4, D04 R7N0
Glass	17 02 02	Everyday Hire Limited	WFP-DC-20-0051-01	Finglas Business Park, Tolka Valley Road, Finglas, Dublin 11
		Integrated Materials DC Ltd	WFP-DC-22-0056-01	Kylemore Business Park 2, Kylemore Way, Inchicore, Dublin 8
		Everyday Waste & Skiphire	WFP-DC-10-0020-03	84E Pigeon House Road, Ringsend, Dublin 4, D04 R7N0
Plastic	17 02 03	Everyday Hire Limited	WFP-DC-20-0051-01	Finglas Business Park, Tolka Valley Road, Finglas, Dublin 11
		Integrated Materials DC Ltd	WFP-DC-22-0056-01	Kylemore Business Park 2, Kylemore Way, Inchicore, Dublin 8
		Everyday Waste & Skiphire	WFP-DC-10-0020-03	84E Pigeon House Road, Ringsend, Dublin 4, D04 R7N0
Bituminous mixtures	17 03 02	GMC Utilities Group Ltd	COR-FG-21-0001-01	GMC House Millennium Business Park, Ballycoolin, Dublin 11
		Breffni Building & Civil Engineering Ltd	COR-FG-21-0003-01	Ballyhack Farm, Ballyhack, Kilsallaghan, Co.Dublin
		~	~	~
Mixed Metals	17 04 07	Integrated Materials DC Ltd	WFP-DC-22-0056-01	Kylemore Business Park 2, Kylemore Way, Inchicore, Dublin 8
		Everyday Waste & Skiphire	WFP-DC-10-0020-03	84E Pigeon House Road, Ringsend, Dublin 4, D04 R7N0
		G & T McGoverns Ltd	WFP-DC-08-0002-03	9 - 12 Prices Lane Rear 31, Ranelagh Road, Ranelagh, Dublin 6
Mixed Construction and Demolition Wastes	17 09 04	Integrated Materials DC Ltd	WFP-DC-22-0056-01	Kylemore Business Park 2, Kylemore Way, Inchicore, Dublin 8
		Everyday Waste & Skiphire	WFP-DC-10-0020-03	84E Pigeon House Road, Ringsend, Dublin 4, D04 R7N0
		McManus Crushing Ltd - Mobile Plant	WFP-DC-19-0049-01	Castleforbes Business Park, Sheriff Street Upper, Dublin 1

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Appendix C: GII Waste Classification Report

GROUND INVESTIGATIONS IRELAND
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Ground Investigations Ireland

Housing Bundle 4 & 5 - Lot 2 – Church of the Annunciation Finglas

National Development Finance Agency

Waste Classification Report

March 2024

GROUND INVESTIGATIONS IRELAND
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DOCUMENT CONTROL SHEET

Project Title	Housing Bundle 4 & 5 - Lot 2 – Church of the Annunciation Finglas
Engineer	Malone O'Regan Consulting Engineers
Client	National Development Finance Agency
Project No	13061-08-23
Document Title	Waste Classification Report

Rev.	Status	Author(s)	Reviewed By	Approved By	Office of Origin	Issue Date
A	Final	B Sexton	J Cashen	B Sexton	Dublin	25 March 2024

Ground Investigations Ireland Ltd. present the results of the fieldworks and laboratory testing in accordance with the specification and related documents provided by or on behalf of the client. The possibility of variation in the ground and/or groundwater conditions between or below exploratory locations or due to the investigation techniques employed must be taken into account when this report and the appendices inform designs or decisions where such variation may be considered relevant. Ground and/or groundwater conditions may vary due to seasonal, man-made or other activities not apparent during the fieldworks and no responsibility can be taken for such variation. The data presented and the recommendations included in this report and associated appendices are intended for the use of the client and the client's geotechnical representative only and any duty of care to others is excluded unless approved in writing.

GROUND INVESTIGATIONS IRELAND
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CONTENTS

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LIST OF TABLES

APPENDICES

1.0 Preamble

Ground Investigations Ireland (GII) was appointed by Malone O'Regan Consulting Engineers on behalf of the National Development Finance Agency to carry out a Waste Classification Assessment for a proposed residential development in Finglas, Dublin 11. All site investigation works were carried out under the supervision of a GII Geo-Environmental Engineer. The site investigation works were completed between November 2023 and February 2024.

2.0 Purpose & Scope

It is understood that as part of the proposed development there may be an excavation to accommodate foundations, services, pavements and carparking and as such the material which may be excavated and removed from site needs to be assessed in terms of waste disposal outlets. The waste classification was carried out in parallel with a wider geotechnical site investigation.

The purpose of the waste classification exercise was as follows.

- Assess the site in terms of historical use;
- Classification, in terms of waste management and final disposal outlets, of material that may require disposal following excavation during the construction phase; and
- Assessment of material against Soil Recovery Facility (SRF) criteria.

The scope of the work undertaken to facilitate the waste classification exercise included the following:

- Site walkover;
- Historical desk study;
- Excavation of six (6 No.) trial pits;
- Boring of six (6 No.) cable percussion boreholes;
- Boring of two (2 No.) follow on rotary core boreholes;
- Collection of subsoil samples for chemical analysis;
- Environmental laboratory testing;
- Waste classification; and
- SFR suitability.

The additional scope of the geotechnical investigation included the following:

- Carry out two (2 No.) soakaways to determine a soil infiltration value to BRE digest 365;
- Carry out one (1 No.) slit trench to identify existing services;
- Installation of three (3 No.) groundwater monitoring wells; and

- Geotechnical Laboratory testing.

The geotechnical site investigation is discussed in the GII Ground Investigation Report Dated March 2024.[1]

3.0 Limitations

This report is based on the waste classification regulatory requirements at the time of writing this report and the conclusions and recommendations may not be applicable where there have been amendments to these requirements subsequent to writing the report.

In all cases the reader of this report shall confirm that the waste categories are acceptable to the various waste facilities to which the material may be sent. The quantification of disposal costs shall not be completed prior to confirmation with the relevant waste facilities of the waste categories. It should be noted that the environmental regulator (in this case the EPA) and the waste acceptor (in this case a landfill operator) shall decide whether a waste is hazardous or non-hazardous and or suitable for disposal at their facility.

GII has prepared this report for the sole use of the National Development Finance Agency. No other warranty, express or implied, is made as to the professional advice included in this report or other services provided by GII.
The conclusions and recommendations contained in this report are based upon information provided by others and the assumption that all relevant information has been provided by those bodies from whom it has been requested. Information obtained from third parties has not been independently verified by GII, unless otherwise stated in this report.
This report has been prepared in line with best industry standards and within the project's budgetary and time constraints. The methodology adopted and the sources of information used by GII in providing its services are outlined in this report.
The work described was undertaken between November 2023 and February 2024, this report is based on the conditions encountered and the information available during that period. The scope of this Report and the services are accordingly factually limited by these circumstances.
Site investigation locations were selected by the consultant engineer.
GII disclaim any undertaking or obligation to advise any person of any change in any matter affecting the Report, which may come or be brought to GII's attention after the date of the Report.
The conclusions presented in this report represent GII's best professional judgement based on review of site conditions observed during any site visit and the relevant information available at the time of writing. The opinions and conclusions presented are valid only to the extent that the information provided was accurate and complete.

[1] Ground Investigations Ireland, Housing Bundle 4 & 5 - Lot 2 – Church of the Annunciation Finglas, Ground Investigation Report, March 2024.

The investigation was focused on a broad assessment of the subsoil quality across the site. The assessment did not extend to the identification of asbestos containing materials associated with any on-site structures, ground gases or groundwater.
The waste classification exercise is reflective of and applicable to the ground conditions on site at the time of the site investigation and sampling. Alterations to the ground conditions or any further excavations carried out on site following the investigation are not reflected in this report.

4.0 Site Location and Layout

The site is located at the site of the former Church of the Annunciation in Finglas, Dublin 11. The site had been cleared of the church and left level prior to the site assessment.

5.0 Site History

GII reviewed the aerial photographs and historical maps maintained by the Ordnance Survey of Ireland (OSI) and the google imagery records. These included the 6-inch maps that were produced between 1829 and 1842, the 25-inch maps that were produced between 1888 and 1913 and the 6-inch Cassini Maps that were produced between the 1830's and 1930's. The site is undeveloped on all historical maps reviewed.
Based on a review of the OSI and Google Imagery aerial photograph records the site had been occupied by the Church of the Annunciation until 2021 when it was demolished and the debris removed from site.

6.0 Subsurface Exploration

6.1. General

During the ground investigation a programme of intrusive investigation specified by the Consulting Engineer was undertaken to determine the sub surface conditions at the proposed site. Regular sampling and in-situ testing was undertaken in the exploratory holes to facilitate the geotechnical descriptions and to enable laboratory testing to be carried out on the soil samples recovered during excavation and drilling.
The procedures used in this site investigation are in accordance with Eurocode 7 Part 2: Ground Investigation and testing (ISEN 1997 – 2:2007) and B.S. 5930:2015.

6.2. Trial Pits

The trial pits were excavated using a JCB 3CX excavator at the locations shown in Figure 4. The locations were checked using a CAT scan to minimise the potential for encountering services during the excavation. The trial pits were sampled, logged and photographed by a Geotechnical Engineer/Engineering Geologist prior to backfilling with arisings. Notes were made of any services, inclusions, pit stability, groundwater

encountered and the characteristics of the strata encountered and are presented on the trial pit logs which are provided in Appendix 2 of this Report.

6.3. Cable Percussion Boreholes

The Cable Percussion Boreholes were drilled, at the locations shown in Figure 4, using a Dando 2000 drilling rig with regular in-situ testing and sampling undertaken to facilitate the production of geotechnical logs and laboratory testing.

The standard method of boring in soil for site investigation is known as the Cable Percussion method. It consists of using a Shell in non cohesive soils and a clay cutter in cohesive soils, both operated on a wire cable. Very hard soils, boulders and other hard obstructions are broken up by chiselling and the fragments removed with the Shell. Where ground conditions made it necessary, the borehole was lined with 200mm diameter steel casing. While the use of the Cable Percussion method of boring gives the maximum data on soil conditions, some mixing of laminated soil is inevitable. For this reason, thin lenses of granular material may not be noticed. Disturbed samples were taken from the boring tools at suitable depths, so that there is a representative sample at the top of each change in stratum and thereafter at regular intervals down the borehole until the next stratum was encountered. The disturbed samples were then sealed and sent to the laboratory where they were visually examined to confirm the description of the relevant strata.

Standard Penetration Tests were carried out in the boreholes. The results of these tests, together with the depths at which the tests were taken are shown on the accompanying borehole records. The test consists of a thick wall sampler tube, 50mm external diameter, being driven into the soil by a monkey weighing 63.5kg and with a free drop of 760mm. For gravels and glacial till the driving shoe was replaced by a solid 60º cone. The Standard Penetration Test number referred to as the 'N' value is the number of blows required to drive the tube 300mm, after an initial penetration of 150mm. The number gives a guide to the consistency of the soil and can also be used to estimate the relative strength/density at the depth of the test and also to estimate the bearing capacity and compressibility of the soil. The cable percussion borehole logs are provided in Appendix 3 of this Report.

6.4. Rotary Boreholes

The rotary coring was carried out by a track mounted T44 Beretta rig at the locations shown in Figure 4. The rotary boreholes were completed from the ground surface or alternatively, where noted on the individual borehole log, from the base of the cable percussion borehole where a temporary liner was installed to facilitate follow-on rotary coring.

The T44 Beretta is equipped with rubber tracks which allow for short travel on pavement surfaces avoiding any damage to the surface. The T44 Beretta utilises a triple tube core barrel system operated using a wireline drilling process. The outer barrel is rotated by the drill rods and at its lower end, carries the coring bit. The inner barrel is mounted on a swivel so that it does not rotate during the process. The third barrel or liner is placed within the second one to retain the core intact and to preserve as much as possible the fabric of the drilling stratum. The core is cut by the coring bit and passes to the inner liner. The core is brought up to the surface within the inner barrel on a small diameter wire rope or line attached to the "overshoot"

recovery tool which is then placed into a core box in order of recovery. A drilling fluid, typically air mist or water flush is passed from the surface through hollow drill rods to the drill bit and is used to cool the drill bit. Temporary casing is used in some situations to support unstable ground or to seal off fissures or voids. It should be noted that the rotary coring can only achieve limited recovery in overburden, particularly granular or weakly cemented strata due to the flushing medium washing away the cohesive fraction during coring. The recovery achieved, where required is noted on the borehole logs and core photographs are provided to allow assessment of the core recovered. The rotary borehole logs are provided in Appendix 4 of this Report.

6.5. Surveying

The exploratory hole locations have been recorded using a KQGeo M8 GNSS System which records the coordinates and elevation of the locations to ITM as required by the project specification. The coordinates and elevations are provided on the exploratory hole logs in the appendices of this Report.

7.0 Ground Conditions

7.1. General

The ground conditions encountered during the investigation are summarised below with reference to insitu and laboratory test results. The full details of the strata encountered during the ground investigation are provided in the exploratory hole logs included in the appendices of this report. For full geotechnical descriptions of the ground conditions refer to the geotechnical site investigation report referenced in Section 2.0.

The sequence of strata encountered was consistent across the site and generally comprised;

- Topsoil/Surfacing
- Made Ground
- Granular Deposits
- Cohesive Deposits
- Bedrock

TOPSOIL: Topsoil was encountered in several of the exploratory holes and was present to a maximum depth of 0.50m BGL. Tarmacadam surfacing was present typically to a depth of 0.08m to 0.18m BGL.

MADE GROUND: Made Ground deposits were encountered beneath the Topsoil/Surfacing and were present to variable depths of between 0.50m and 1.70m BGL. These deposits were described generally as *grey brown* or *brown slightly sandy slightly gravelly Clay with cobbles and boulders and contained occasional fragments of concrete, red brick and plastic* or *grey slightly sandy clayey fine to coarse subangular to subrounded Gravel* or *Crushed Rock Fill.*

COHESIVE DEPOSITS: Cohesive deposits were encountered beneath the Made Ground and were described typically as *yellowish brown* or *brown slightly sandy slightly gravelly CLAY with occasional cobbles and boulders* overlying a *stiff dark grey or black slightly sandy slightly gravelly CLAY with occasional cobbles and boulders*. The secondary sand and gravel constituents varied across the site and with depth, with granular lenses occasionally present in the glacial till matrix. These deposits had some, occasional or frequent cobble and boulder content, where noted on the exploratory hole logs.

GRANULAR DEPOSITS: Granular deposits were encountered within the cohesive deposits and were typically described as dark grey *medium to coarse angular clayey GRAVEL.* The secondary sand/gravel and silt/clay constituents varied across the site and with depth while occasional or frequent cobble and boulder content also present, where noted on the exploratory hole logs.

BEDROCK: The rotary core boreholes recovered *medium strong to strong dark grey fine grained massive LIMESTONE*. This is typical of the Lucan Formation, which is noted on the geological mapping underlying the site.

The depth to rock varies from 9.58m BGL in BH02 to a maximum of 10.50m BGL in BH01. The total core recovery is good, typically 100% with some of the uppermost runs dropping to 80 or 90%. The SCR and RQD both are relatively poor in the upper weathered zone, often recovered as non-intact, however both indices show an increase with depth in each of the boreholes.

8.0 Laboratory Analysis

8.1. Analysis Suite

In order to assess materials, which may be excavated and removed from site, in terms of waste classification, a selection of samples collected were analysed for a suite of parameters which allows for the assessment of the soils in terms of total pollutant content for classification of materials as *hazardous* or *non-hazardous* (RILTA Suite). The suite also allows for the assessment of the soils in terms of suitability for placement at various categories of landfill. The parameter list for the RILTA suite includes analysis of the solid samples for arsenic, barium, cadmium, chromium, copper, cyanide, lead, nickel, mercury, zinc, speciated aliphatic and aromatic petroleum hydrocarbons, pH, sulphate, sulphide, moisture content, soil organic matter and an asbestos screen.

The RILTA suite also includes those parameters specified in the EU Council Decision establishing criteria for the acceptance of waste at Landfills (Council Decision 2003/33/EC), which for the solid samples are pH, total organic carbon (TOC), speciated aliphatic and aromatic petroleum hydrocarbons, BTEX, phenol, polychlorinated biphenyls (PCB) and PAH.

In line with the requirement of Council Decision 2003/33/EC a leachate was generated from the solid samples which was in turn analysed for antimony, arsenic, barium, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, zinc, chloride, fluoride, soluble sulphate, sulphide, phenols, dissolved organic carbon (DOC) and total dissolved solids (TDS).

The laboratory testing was completed by Element Materials Technology (EMT) in the UK; EMT is a UKAS accredited laboratory. The full laboratory reports are included in Appendix 5.

8.2. Asbestos

Asbestos fibres were not detected in the samples. The laboratory did not identify asbestos containing materials (ACMs) in the samples.

9.0 Waste Classification

GII understands that any materials which may be excavated and removed from site would meet the definition of waste under the Waste Framework Directive. Due to the varying levels of anthropogenic materials encountered in the made ground there are potentially two sets of List of Waste (LoW)[2] codes with "mirror" entries which may be applied to excavated materials to be removed from site.

1. 17-05-03* (soil and stone containing dangerous substances, classified as hazardous) or 17-05-04 (soil and stone other than those mentioned in 17-05-03, not hazardous); or

2. 17-09-03* (other construction and demolition wastes (including mixed wastes) containing hazardous substances) or 17-09-04 (mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03).

Where waste is a mirror entry in the LoW, it can be classified via a process of analysis against standard criteria set out in the Waste Framework Directive. The assessment process is described in detail in guidance published by the Irish (EPA Waste Classification, List of Waste & Determining if Waste is Hazardous or Non-Hazardous, June 2015) and UK regulatory authorities (Guidance on the Classification and Assessment of Waste: Technical Guidance WM3, 2015). The assessment involves comparison of the concentration of various parameters against defined threshold values.

The specific LoW code which should be applied to the material at each sample location is summarised in Table 2 below. These codes are only applicable where the material is being removed from a site as a waste.

GII use HazWasteOnline™, a web-based commercial waste classification software tool which assists in the classification of potentially hazardous materials. This tool was used to determine whether the materials sampled are classified as hazardous or non-hazardous. The use of the online tool is accepted by the EPA (EPA 2014).

The conclusions presented in the report are based on GII's professional opinion. **It should be noted that the environmental regulator (in this case the EPA) and the waste acceptor (in this case a landfill**

[2] Formerly European Waste Catalogue Codes (EWC Codes)

operator) shall decide whether a waste is hazardous or non-hazardous and suitable for disposal at their facility.

9.1. HazWasteOnLineTM Results

In total, fourteen (14 No.) samples were assessed using the HazWasteOnLine™ Tool. All samples were classified as being non-hazardous. The complete HazWasteOnLine™ report for all samples is included in Appendix 6. The specific LoW code which should be applied to the material at each SI location is summarised in Table 2 below. The assigning of the LoW code is based on observations recorded in the trial pits and boreholes, an estimation of the % of anthropogenic material present and the results of the HazWasteOnline™ output. The final LoW codes applied at the time of disposal may vary due to variations in % of anthropogenic material observed in the excavation phase. Where there is in excess of 2%[3] anthropogenic material observed the LoW code 17 09 04 may be applied.

9.2. Landfill Waste Acceptance Criteria

Waste Acceptance Criteria (WAC) have been agreed by the EU (Council Decision 2003/33/EC) and are only applicable to material if it is to be disposed of as a waste at a landfill facility. Each individual member state and licensed operators of landfills may apply more stringent WAC. WAC limits and the associated laboratory analysis are not suitable for use in the determination of whether a waste is hazardous or non-hazardous. The data have been compared to the WAC limits set out in Council Decision 2003/33/EC as well as the specific increased WAC which the EPA have applied to a selection of EPA licenced landfills. These landfills have higher limits for a range of parameters while still operating under an inert landfill licence. The WAC data considered in combination with the waste classification outlined in Section 9.1 allows the most suitable waste category to be applied to the material tested. The potentially applicable waste categories are summarised in Table 1. A summary of the WAC data is presented in Appendix 7. The waste category assigned to each sample is summarised in Table 2.

Table 1 Potential Waste Categories for Disposal/Recovery

Waste Category	Classification Criteria
Category A Unlined Facilities	Soil and Stone only which are free from[4] anthropogenic materials such as concrete, brick, timber. Soil must be free from “contamination” e.g. PAHs, Hydrocarbons[5].
Category B1 Inert Landfill	Reported concentrations within inert waste limits, which are set out by the adopted EU Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 and Annex II of Directive 1999/31/EC (2002).

[3] EPA (2020) - Guidance on Waste Acceptance Criteria at Authorised Soil Recovery Facilities.
[4] Free from equates to less than 2%.
[5] Total BTEX 0.05mg/kg, Mineral Oil 50mg/kg, Total PAHs 1mg/kg, Total PCBs 0.05mg/kg and Asbestos No Asbestos Detected – EPA Guidance on Waste Acceptance Criteria at Authorised Soil Recovery Facilities, 2020.

Waste Category	Classification Criteria
	Results also found to be non-hazardous using the HWOL[6] application.
Category B2 Inert Landfill	Reported concentrations greater than Category B1 criteria but less than IMS Hollywood Landfill acceptance criteria, as set out in their Waste Licence W0129-02. Results also found to be non-hazardous using the HWOL application.
Category C Non-Haz Landfill	Reported concentrations greater than Category B2 criteria but within non-haz landfill waste acceptance limits set out by the adopted EU Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 and Annex II of Directive 1999/31/EC (2002). Results also found to be non-hazardous using the HWOL application.
Category C 1 Non-Haz Landfill	As Category C but containing < 0.001% w/w asbestos fibres.
Category C 2 Non-Haz Landfill	As Category C but containing >0.001% and <0.01% w/w asbestos fibres
Category C 3 Non-Haz Landfill	As Category C but containing >0.01% and <0.1% w/w asbestos fibres.
Category D Hazardous Treatment	Results found to be hazardous using HWOL Application.
Category D 1 Hazardous Disposal	Results found to be hazardous due to the presence of asbestos (>0.1%).

9.3. Final Waste Categorisation

All samples were assessed in terms of waste classification using the HazWasteOnLine™ tool and also the WAC set out in Council Decision 2003/33/EC and the EPA's increased WAC to give a final waste categorisation to determine the most appropriate disposal route for any waste generated. The final and most applicable waste category for each sample is summarised in Table 2.

10.0 Soil Recovery Facility Suitability

GII assessed the suitability of the material sampled in line with the EPA 2020 Guidance on waste acceptance criteria at authorised soil recovery facilities[7].
The guidance outlines a summary of Maximum Concentrations and/or Trigger Levels in Soil & Stone for SRFs based on the location of the facility or site in the country (Geochemical Domains).

[6] HazWasteOnLine™ Tool.
[7] Guidance on waste acceptance criteria at authorised soil recovery facilities 2020 - ENVIRONMENTAL PROTECTION AGENCY

The subject site is located within Domain 2 and as such the samples collected have been assessed against the SRF criteria for Domain 2. The waste categories assigned to each sample are based on the material being disposed of within Domain 2.

In the event that the material is disposed of outside of Domain 2 refer to Table 3 which assesses the suitability of each individual sample to be disposed of in each Domain.

In terms of their chemical properties one of the samples of the made ground material encountered on the site may be acceptable at a Domain 2 SRF following excavation and a visual assessment of the percentage of anthropogenic material contained within it. If there is less than 2% anthropogenic material present then it may be accepted by an SRF. This assessment is at the discretion of the SRF.

Table 2 Individual Sample Waste Category

Sample ID	Sample Depth (m)	Material Type	Sample Date	LoW Code	Waste Category
TP-01	0.50	Made Ground <2% Anthropogenic Material	22/11/2023	17 05 04	Category B2 - Domain 2
TP-01	1.00	Clay	22/11/2023	17 05 04	Category A - Domain 2
TP-02	0.50	Made Ground <2% Anthropogenic Material	22/11/2023	17 05 04	Category A - Domain 2
TP-02	1.00	Made Ground <2% Anthropogenic Material	22/11/2023	17 05 04	Category B1 - Domain 2
TP-03	0.50	Made Ground <2% Anthropogenic Material	22/11/2023	17 05 04	Category B1 - Domain 2
TP-03	2.00	Clay	22/11/2023	17 05 04	Category A - Domain 2
BH-01	1.00	Clay	22/11/2023	17 05 04	Category A - Domain 2
BH-02	1.00	Clay	22/11/2023	17 05 04	Category B1 - Domain 2
BH-02	2.00	Clay	22/11/2023	17 05 04	Category A - Domain 2
BH-03	1.00	Clay	22/11/2023	17 05 04	Category A - Domain 2
BH-04	1.00	Clay	22/11/2023	17 05 04	Category A - Domain 2
BH-04	2.00	Clay	22/11/2023	17 05 04	Category A - Domain 2
BH-05	0.50	Made Ground <2% Anthropogenic Material	22/11/2023	17 05 04	Category B1 - Domain 2

Sample ID	Sample Depth (m)	Material Type	Sample Date	LoW Code	Waste Category
BH-06	1.00	Clay	22/11/2023	17 05 04	Category A - Domain 2

Table 3 Geochemical Domain Suitability

ID	Depth	Material	Domain 1	Domain 2	Domain 3	Domain 4	Domain 5	Domain 6	Domain 7
TP-01	0.50	Made Ground <2% Anthropogenic Material	×	×	×	×	×	×	×
TP-01	1.00	Clay	×	✓	✓	×	×	×	×
TP-02	0.50	Made Ground <2% Anthropogenic Material	×	✓	✓	✓	✓	✓	×
TP-02	1.00	Made Ground <2% Anthropogenic Material	×	×	×	×	×	×	×
TP-03	0.50	Made Ground <2% Anthropogenic Material	×	×	×	×	×	×	×
TP-03	2.00	Clay	✓	✓	✓	×	✓	✓	×
BH-01	1.00	Clay	✓	✓	✓	✓	✓	✓	×
BH-02	1.00	Clay	×	×	×	×	×	×	×
BH-02	2.00	Clay	✓	✓	✓	×	✓	✓	×
BH-03	1.00	Clay	×	✓	✓	×	×	×	×
BH-04	1.00	Clay	×	✓	✓	×	×	×	×
BH-04	2.00	Clay	✓	✓	✓	×	✓	✓	×
BH-05	0.50	Made Ground <2% Anthropogenic Material	×	×	×	×	×	×	×
BH-06	1.00	Clay	✓	✓	✓	×	✓	×	×

× - not suitable for disposal in this domain

✓ - suitable for disposal in this domain

11.0 Conclusions & Recommendations

The conclusions and recommendations given and opinions expressed in this report are based on the findings of the site investigation works and laboratory testing undertaken. Where any opinion is expressed on the classification of material between site investigation locations, this is for guidance only and no liability

can be accepted for its accuracy. No responsibility can be accepted for conditions which have not been revealed by the findings at the site investigation locations.

11.1. Conclusions

11.1.1. Waste Classification

Based on the results of the HazWasteOnLine™ tool the material sampled across the site if being considered a waste can be classified as non-hazardous.

11.1.2. Asbestos

Asbestos was not detected in the soil samples.

11.1.3. Waste Categories

The most applicable waste categories for each of the samples if being considered a waste to be disposed of within Domain 2 have been presented in Table 2.

Where material is to be disposed of outside of the Geochemical Domain within which the site is located refer to Table 3 within this report.

11.2. Recommendations

11.2.1. Waste Transfer

In the event that material is excavated for removal from site, any firm engaged to transport waste material from site and the operator of any waste facility that will accept subsoils excavated from this site should be furnished with, at a minimum, copies of the **full unabridged** laboratory reports and HazWasteOnLine™ report for all samples presented in this report.

The non-hazardous material across the site if excavated should be removed from site to an appropriate facility under either the LoW codes 17 05 04 or 17 09 04. Where during excavation there is noted to be in excess of 2% anthropogenic material the appropriate LoW code which should be applied is 17 09 04.

12.0 References

Environment Agency (2013). *Waste Sampling and Testing for Disposal to Landfill.*

Environment Agency (2015). *Technical Guidance WM3 - Guidance on the classification and assessment of waste (1st edition 2015) Technical Guidance WM3*.

Environmental Protection Agency (EPA) (2014). Letter to Licences *Re: Waste Classification & Haz Waste On-Line™*.

Environmental Protection Agency (EPA) (2015). *Waste Classification List of Waste & Determining if Waste is Hazardous or Non-hazardous.*

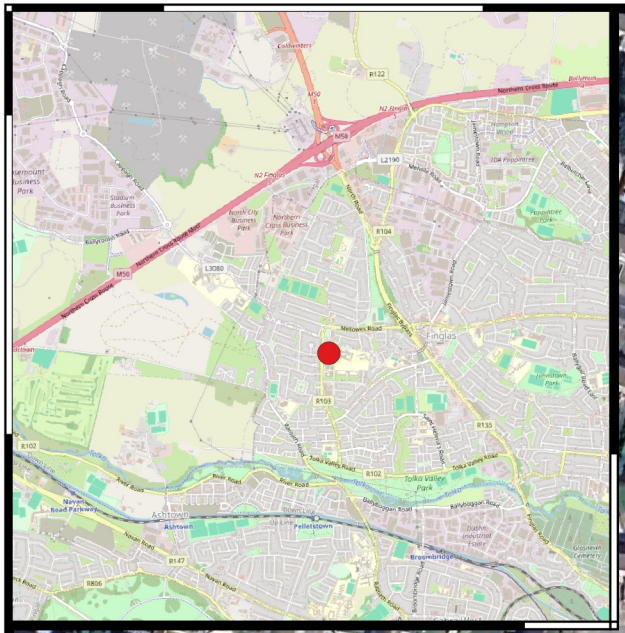
Environmental Protection Agency (EPA) (2020). *Guidance on Waste Acceptance Criteria at Authorised Soil Recovery Facilities*.

Association of Geotechnical and Geoenvironmental Specialists (2019). *Waste Classification for Soils – A Practitioners Guide.*

APPENDIX 1 - Figures

712000E 712100E 712200E 712300E 712400E 712500E

739100N
739000N
738900N
738800N
738700N



714000E

739000N

Site Location

Indicative Site Boundary

Client:

An Ghníomhaireacht Airgeadais d'Fhorbairt Náisiúnta
National Development Finance Agency

Project Code:

13061-08-23

Project Title:

Housing Bundle 4 & 5 - Lot 2 - Church of the Annunciation

Drawing Title:

Figure 1 Site Location

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Ground Investigations Ireland Ltd.
Catherinstown House,
Hazelhatch Road,
Newcastle, Co. Dublin
www.gii.ie 01-6015175/5176

0 20 40 60 80 100 m

Drawn By:	Date:
BS	21-03-2024

712000E 712100E 712200E 712300E 712400E 712500E

Indicative Site Location

Client:

An Ghníomhaireacht Airgeadais d'Fhorbairt Náisiúnta
National Development Finance Agency

Project Code:

13061-08-23

Project Title:

Housing Bundle 4 & 5 - Lot 2 - Church of the Annunciation

Drawing Title:

Figure 2 Google Aerial Image March 2021

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental
Ground Investigations Ireland Ltd.
Catherinstown House,
Hazelhatch Road,
Newcastle, Co. Dublin
www.gii.ie 01-6015175/5176

Drawn By:	Date:
BS	24-05-2023

Indicative Site Location

Client:

An Ghníomhaireacht Airgeadais d'Fhorbairt Náisiúnta
National Development Finance Agency

Project Code:

13061-08-23

Project Title:

Housing Bundle 4 & 5 - Lot 2 - Church of the Annunciation

Drawing Title:

Figure 3 Google Aerial Image August 2021

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental
Ground Investigations Ireland Ltd.
Catherinstown House,
Hazelhatch Road,
Newcastle, Co. Dublin
www.gii.ie 01-6015175/5176

Drawn By:	Date:
BS	24-05-2023

Indicative Site Boundary

Trial Pit

Borehole

Client:

An Ghníomhaireacht Airgeadais d'Fhorbairt Náisiúnta
National Development Finance Agency

Project Code:

13061-08-23

Project Title:

Housing Bundle 4 & 5 - Lot 2 - Church of the Annunciation

Drawing Title:

Figure 4 Trial Pit and Borehole Locations

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental
Ground Investigations Ireland Ltd.
Catherinstown House,
Hazelhatch Road,
Newcastle, Co. Dublin
www.gii.ie 01-6015175/5176

0 10 20 30 m

Drawn By:	Date:
BS	21-03-2024

APPENDIX 2 – Trial Pit Records

Ground Investigations Ireland Ltd
www.gii.ie

Site	Trial Pit Number
Housing Bundle 4&5- Lot 2- Finglas Church	SA01

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit	2.30m x 0.50m x 1.90m (L x W x D)	62.52	National Development Finance Agency	13061-08-23(2)
	Location 738860.4 E 712261 N	**Dates** 17/10/2023	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.50)	MADE GROUND grey slightly sandy clayey fine to coarse sub angular to sub rounded Gravel		
				62.02	0.50			
					(0.80)	Firm greyish brown slightly sandy gravelly CLAY with occasional sub angular to sub rounded cobbles		
				61.22	1.30			
					(0.60)	Firm to stiff brown slightly sandy gravelly CLAY		▽1
			Slow(1) at 1.80m.	60.62	1.90			
						Complete at 1.90m		

Plan

Remarks

Groundwater encountered at 1.80m BGL
Trial pit side walls stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	GGR	13061-08-23(2).SA01

Ground Investigations Ireland Ltd
www.gii.ie

Site	Trial Pit Number
Housing Bundle 4&5- Lot 2- Finglas Church	SA02

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit	2.80m x 0.50m x 1.90m (L x W x D)	63.86	National Development Finance Agency	13061-08-23(2)
	Location	**Dates**	**Engineer**	**Sheet**
	738901.1 E 712337.2 N	17/10/2023		1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Brown slightly sandy slightly gravelly TOPSOIL with grass and rootlets		
				63.56	0.30	Soft to firm brown slightly sandy slightly gravelly CLAY		
					(0.50)			
				63.06	0.80	Firm brown slightly sandy gravelly CLAY with occasional sub angular to sub rounded cobbles		
					(1.10)			
				61.96	1.90	Complete at 1.90m		

Plan

Remarks

No groundwater encountered
Trial pit side walls stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	GGR	13061-08-23(2).SA02

Ground Investigations Ireland Ltd
www.gii.ie

Site	Trial Pit Number
Housing Bundle 4&5- Lot 2- Finglas Church	TP01

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit	3.80m x 1.00m x 3.00m (L x W x D)	64.45	National Development Finance Agency	13061-08-23(2)
	Location	**Dates**	**Engineer**	**Sheet**
	738921.9 E 712300.3 N	17/10/2023		1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.50)	MADE GROUND grey slightly sandy very gravelly Clay with fragments of red brick and concrete		
0.50	B1		Slow(1) at 0.70m.	63.95	0.50	Soft to firm grey slightly sandy slightly gravelly CLAY		▽1
					(0.40)			
1.00	B2			63.55	0.90	Firm brown slightly sandy gravelly CLAY with occasional sub angular to sub rounded cobbles		
					(0.80)			
2.00	B3			62.75	1.70	Soft to firm brown slightly sandy gravelly CLAY with occasional sub angular to sub rounded cobbles		
					(0.90)			
			Slow(2) at 2.60m.	61.85	2.60	Firm to stiff dark grey slightly sandy gravelly CLAY with occasional sub angular to sub rounded cobbles		▽2
					(0.40)			
3.00	B4			61.45	3.00	Complete at 3.00m		

Plan

Remarks

Groundwater encountered at 0.70m and 2.60m BGL
Trial pit side walls stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	GGR	13061-08-23(2).TP01

Ground Investigations Ireland Ltd
www.gii.ie

Site	Trial Pit Number
Housing Bundle 4&5- Lot 2- Finglas Church	TP02

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit	5.00m x 1.00m x 3.10m (L x W x D)	64.47	National Development Finance Agency	13061-08-23(2)
	Location	**Dates**	**Engineer**	**Sheet**
	738881.1 E 712276.4 N	17/10/2023		1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	B1				(1.70)	MADE GROUND brown slightly sandy gravelly Clay with many fragments of red brick, slab and concrete		
1.00	B2							
			Slow(1) at 1.70m.	62.77	1.70	Firm to stiff dark grey slightly sandy gravelly CLAY with occasional sub angular to sub rounded cobbles		▽1
2.00	B3				(1.40)			
3.00	B4			61.37	3.10	Complete at 3.10m		

Plan

Remarks

Groundwater encountered at 1.70m BGL
Trial pit side walls stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	GGR	13061-08-23(2).TP01

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Site	Trial Pit Number
Housing Bundle 4&5- Lot 2- Finglas Church	TP03

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit	3.30m x 0.90m x 3.00m (L x W x D)	62.80	National Development Finance Agency	13061-08-23(2)
	Location	**Dates**	**Engineer**	**Sheet**
	738860.8 E 712324.4 N	17/10/2023		1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Brown slightly sandy slightly gravelly TOPSOIL with grass and rootlets		
				62.50	0.30			
0.50	B1				(0.50)	MADE GROUND dark brown slightly sandy gravelly Clay with occasional angular to sub angular cobbles and fragments of red brick and plastic		
				62.00	0.80			
1.00	B2				(0.50)	Soft to firm brown slightly sandy gravelly CLAY with occasional sub angular to sub rounded cobbles		
				61.50	1.30			
2.00	B3				(1.40)	Firm brown slightly sandy gravelly CLAY with some sub angular to sub rounded cobbles		
				60.10	2.70			
					(0.30)	Very stiff dark grey slightly sandy gravelly CLAY with some sub angular to sub rounded cobbles		
3.00	B4			59.80	3.00	Complete at 3.00m		

Plan

Remarks

No groundwater encountered
Trial pit side walls stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	GGR	13061-08-23(2).TP03

APPENDIX 3 – Cable Percussion Borehole Records

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Site Housing Bundle 4&5- Lot 2- Finglas Church			**Borehole Number** BH01
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 6.20m	**Ground Level (mOD)** 63.88	**Client** National Development Finance Agency	**Job Number** 13061-08-23(2)
	Location 738927.6 E 712347.6 N	**Dates** 03/11/2023-06/11/2023	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					63.80	0.08	MADE GROUND: Tarmac		
					63.68	0.20	MADE GROUND: Grey brown sandy gravelly CLAY		
						(0.30)			
					63.38	0.50	MADE GROUND: Grey sandy fill with concrete fragments		
				Water strike(1) at 0.60m, rose to 0.45m in 20 mins.		(0.50)	Stiff yellowish brown slightly sandy gravelly CLAY. Gravel is fine to coarse sub-angular to sub-rounded.		
1.00-1.45 1.00	SPT(C) N=23 B1			5,4/6,4,6,7	62.88	1.00	Stiff grey slightly sandy slightly gravelly CLAY gravel is fine to coarse sub-angular to sub-rounded.		
2.00-2.41 2.00	SPT(C) 50/260 B2			6,7/8,12,16,14 Water strike(2) at 2.20m, rose to 1.70m in 20 mins.		(2.00)			
3.00-3.45 3.00	SPT(C) N=50 B3			6,8/13,14,15,8	60.88	3.00	Very stiff dark grey slightly sandy slightly gravelly CLAY GRavel is sub-angular to sub-rounded.		
4.00-4.45 4.00	SPT(C) N=50 B4			4,9/12,16,16,6		(2.90)			
5.00-5.45 5.00	SPT(C) N=50 B5			8,9/14,16,20					
6.00	B6			Water strike(3) at 5.90m, rose to 5.80m in 20 mins.	57.98	5.90	Dense grey coarse sub-rounded to very angular GRAVEL with medium cobble content.		
6.00-6.45	SPT(C) N=50			10,13/50	57.68	(0.30) 6.20	Terminated at 6.20m		

Remarks
Cable percussion boring techniques carried out from ground level to 6.2m bGL.
Borehole terminated at 6.2m bGL due to obstruction - possible boulder or bedrock.
Borehole backfilled on completion.

Scale (approx)	Logged By
1:50	JI & JC

Figure No. 13061-08-23(2).BH01

Ground Investigations Ireland Ltd
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Site Housing Bundle 4&5- Lot 2- Finglas Church			**Borehole Number** BH02
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 6.30m	**Ground Level (mOD)** 64.05	**Client** National Development Finance Agency	**Job Number** 13061-08-23(2)
	Location 738925.9 E 712265.4 N	**Dates** 08/11/2023-09/11/2023	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					63.97	0.08 (0.22)	MADE GROUND Blue grey crushed rock fill (804)			
					63.75	0.30	MADE GROUND: Angular cobbles with concrete bricks			
							Stiff yellowish brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse sub-angular to sub-rounded.			
1.00-1.45 1.00	SPT(C) N=18 B1			2,3/4,5,5,4		(1.70)				
2.00-2.45 2.00	SPT(C) N=31 B2			4,5/6,8,8,9	62.05	2.00	Very stiff black/dark grey slightly sandy slightly gravelly CLAY gravel is fine to coarse sub-angular to sub-rounded.			
3.00-3.45 3.00	SPT(C) N=35 B3			3,4/7,9,9,10 Water strike(1) at 3.20m, rose to 3.10m in 20 mins.					▼1 ▽1	
4.00-4.45 4.00	SPT(C) N=48 B4			5,7/8,12,13,15		(4.00)				
5.00-5.45 5.10	SPT(C) N=50 B5			6,11/13,17,20						
6.00-6.45 6.00	SPT(C) N=50 B6			10,20/50	58.05	6.00 (0.30)	Dense dark grey medium to coarse angular to very angular clayey GRAVEL			
					57.75	6.30	Terminated at 6.30m			

Remarks
Cable percussion boring techniques carried out from ground level to 6.3m bGL.
Borehole terminated at 6.3m bGL due to obstruction - possible boulder or bedrock.

Scale (approx)	Logged By
1:50	JC

Figure No. 13061-08-23(2).BH02

Ground Investigations Ireland Ltd
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Site Housing Bundle 4&5- Lot 2- Finglas Church			**Borehole Number** BH03
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 6.20m	**Ground Level (mOD)** 63.29	**Client** National Development Finance Agency	**Job Number** 13061-08-23(2)
	Location 738887.9 E 712349.8 N	**Dates** 01/11/2023-02/11/2023	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.50)	TOPSOIL		
					62.79	0.50	Soft to firm yellowish brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse sub-angular to sub-rounded.		
1.00-1.45 1.00	SPT(C) N=8 B1			1,1/1,2,2,3		(1.50)			
2.00-2.45 2.30	SPT(C) N=35 B2			2,3/6,7,10,12	61.29	2.00	Very stiff dark grey/black slightly sandy slightly gravelly CLAY. Gravel is fine to medium angular to very angular.		
3.00-3.40 3.00	SPT(C) 50/250 B3			6,11/14,16,18,2 Water strike(1) at 3.40m, rose to 3.35m in 20 mins.					▼1 ▽1
4.00-4.40 4.00	SPT(C) 50/250 B4			4,8/12,14,19,5		(4.20)			
5.00-5.35 5.00	SPT(C) 50/200 B5			6,7/15,15,20 Water strike(2) at 5.60m, rose to 5.40m in 20 mins.					▼2 ▽2
6.00-6.18	SPT(C) 50/30			7,13/50	57.09	6.20	Terminated at 6.20m		

Remarks
Cable percussion boring techniques carried out from ground level to 6.2m bGL.
Borehole terminated at 6.2m bGL due to obstruction - possible boulder or bedrock.
Borehole backfilled on completion.
Chiselling from 6.20m for 0.417 hours.

Scale (approx)	Logged By
1:50	JI

Figure No. 13061-08-23(2).BH03

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Site Housing Bundle 4&5- Lot 2- Finglas Church			**Borehole Number** BH04
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 5.60m	**Ground Level (mOD)** 63.07	**Client** National Development Finance Agency	**Job Number** 13061-08-23(2)
	Location 738884.4 E 712263.1 N	**Dates** 07/11/2023-08/11/2023	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					62.89	(0.18) 0.18	MADE GROUND: Crushed rock fill (804)		
						(0.57)	MADE GROUND: Large angular stone fill		
					62.32	0.75			
						(0.25)	MADE GROUND: Dark grey slightly sandy slightly gravelly Clay. Gravel is fine to coarse angular.		
1.00-1.45 1.00	SPT(C) N=22 B1			3,34/6,5,5,6	62.07	1.00	Stiff yellowish brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse sub-angular to sub-rounded with low cobble content.		
2.00-2.45 2.00	SPT(C) N=34 B2			2,3/5,7,10,12		(2.00)			
3.00-3.45 3.00	SPT(C) N=50 B3			5,11/13,14,16,7	60.07	3.00	Very stiff slightly sandy gravelly CLAY Gravel is fine to coarse sub angular to angular with low cobble content.		
4.00-4.45 4.00	SPT(C) N=50 B4			6,7/19,21,10		(2.60)			
5.00-5.45 5.00	SPT(C) N=50 B5			4,10/20,30					
5.50 5.60-6.05	B6 SPT(C) N=50			20,20/50	57.47	5.60	Terminated at 5.60m		

Remarks
Borehole terminated at 5.6m bGL due to obstruction - possible boulder or bedrock.
Cable percussion boring techniques carried our from ground level to 5.6m bGL.
Borehole backfilled on completion.
Chiselling from 5.60m to 5.60m for 0.3 hours.

Scale (approx)	Logged By
1:50	JC

Figure No. 13061-08-23(2).BH04

Ground Investigations Ireland Ltd
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Site Housing Bundle 4&5- Lot 2- Finglas Church			**Borehole Number** BH05
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 6.80m	**Ground Level (mOD)** 62.82	**Client** National Development Finance Agency	**Job Number** 13061-08-23(2)
	Location 738862 E 712333.1 N	**Dates** 02/11/2023-03/11/2023	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.40)	Brown sandy TOPSOIL		
					62.42	0.40			
0.50	B1					(0.40)	MADE GROUND: Brown clay with fragments of red brick		
					62.02	0.80			
1.00-1.45	SPT(C) N=11			1,3/2,2,3,4			Firm yellowish brown slightly sandy gravelly CLAY. Gravel is fine to coarse sub-angular to sub-rounded.		
1.50	B2					(1.20)			
2.00-2.45	SPT(C) N=15			2,2/4,3,4,4	60.82	2.00	Stiff dark grey to black slightly sandy gravelly CLAY. Gravel is fine to coarse angular to very angular.		
2.70	B3					(1.50)			
3.00-3.45	SPT(C) N=29			3,5/5,6,8,10					
3.50	B4				59.32	3.50	Very stiff dark grey to black slightly sandy gravelly CLAY. Gravel is fine to coarse angular to very angular.		
4.00-4.41	SPT(C) 53/260			6,7/11,14,17,11					
4.50	B5								▼1
				Water strike(1) at 5.00m, rose to 4.90m in 20 mins.		(3.10)			▽1
5.00-5.33	SPT(C) 50/180			5,9/12,16,22					
5.50	B6								
6.00-6.25	SPT(C) 50/100			7,12/20,30					
					56.22	6.60			
6.60	B7					(0.20)	Dense dark grey coarse angular very clayey GRAVEL.		
6.80-6.88	SPT(C) 50*/75 50/0			50/50	56.02	6.80	Terminated at 6.80m		

Remarks
Cable percussion boring techniques carried out from ground level to 6.8m bGL.
Borehole backfilled on completion.
Borehole terminated at 6.8m bGL due to obstruction - possible boulder or bedrock.
Chiselling from 6.80m for 0.5 hours.

Scale (approx)	Logged By
1:50	JI

Figure No. 13061-08-23(2).BH05

Ground Investigations Ireland Ltd
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Site Housing Bundle 4&5- Lot 2- Finglas Church			**Borehole Number** BH06
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 5.10m	**Ground Level (mOD)** 64.40	**Client** National Development Finance Agency	**Job Number** 13061-08-23(2)
	Location 738884.1 E 712277.7 N	**Dates** 08/11/2023	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(1.00)	Pit excavated prior to drilling.		
1.00-1.45 1.00	SPT(C) N=9 B1			1,1/2,2,2,3	63.40	1.00 (0.60)	Soft to firm yellowish brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse sub-angular to sub rounded.		
					62.80	1.60 (0.40)	Firm to stiff black/dark grey slightly sandy slightly gravelly CLAY. Gravel is fine to coarse angular to very angular with low cobble content.		
2.00-2.45 2.00	SPT(C) N=15 B2			2,3/3,3,5,4	62.40	2.00	Stiff black/dark grey slightly sandy slightly gravelly CLAY. Gravel is fine to coarse angular to very angular with low cobble content.		
3.00-3.45 3.00	SPT(C) N=22 B3			3,3/3,4,6,9		(2.00)			
4.00-4.30 4.00	SPT(C) 53/150 B4			5,7/13,17,23	60.40	4.00 (1.10)	Very stiff black/dark grey slightly sandy slightly gravelly CLAY. Gravel is fine to coarse angular to very angular with low cobble content.		
5.00-5.00 5.00	SPT(C) 50*/0 50/0 B5			50/50	59.30	5.10	Complete at 5.10m		

Remarks
Cable percussion boring techniques carried out from ground level to 5.1m bGL.
Borehole terminated due to obstruction - possible boulder or bedrock.
Chiselling from 4.90m to 5.10m for 1 hour.

Scale (approx)	Logged By
1:50	JI

Figure No. 13061-08-23(2).BH06

APPENDIX 4 - Rotary Borehole Records

Ground Investigations Ireland Ltd
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Site Housing Bundle 4&5- Lot 2- Finglas Church			**Borehole Number** BH01
Machine : Dando 2000 and Baretha T-41 **Method :** Percussion with Rotary Core Follow-on	**Casing Diameter** 200mm cased to 6.20m 63.5mm cased to 16.00m	**Ground Level (mOD)** 63.88	**Client** National Development Finance Agency	**Job Number** 13061-08-23(2)
	Location 738927.6 E 712347.6 N	**Dates** 03/11/2023-30/01/2024	**Engineer**	**Sheet** 1/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					63.80	0.08	MADE GROUND: Tarmac		
					63.68	0.20	MADE GROUND: Grey brown sandy gravelly CLAY		
						(0.30)			
					63.38	0.50	MADE GROUND: Grey sandy fill with concrete fragments		▼1 ▽1
				Water strike(1) at 0.60m, rose to 0.45m in 20 mins.		(0.50)	Stiff yellowish brown slightly sandy gravelly CLAY. Gravel is fine to coarse sub-angular to sub-rounded.		
1.00-1.45 1.00	SPT(C) N=23 B1			5,4/6,4,6,7	62.88	1.00	Stiff grey slightly sandy slightly gravelly CLAY gravel is fine to coarse sub-angular to sub-rounded.		
									▼2
2.00-2.41 2.00	SPT(C) 50/260 B2			6,7/8,12,16,14 Water strike(2) at 2.20m, rose to 1.70m in 20 mins.		(2.00)			▽2
3.00-3.45 3.00	SPT(C) N=50 B3			6,8/13,14,15,8	60.88	3.00	Very stiff dark grey slightly sandy slightly gravelly CLAY GRavel is sub-angular to sub-rounded.		
	100 0	0							
4.00-4.45 4.00	SPT(C) N=50 B4			4,9/12,16,16,6		(2.90)			
5.00-5.45 5.00	SPT(C) N=50 B5		0	8,9/14,16,20					
				Water strike(3) at 5.90m, rose to 5.80m in 20 mins.	57.98	5.90			▼3 ▽3
6.00	B6			10,13/50		(0.30)	Dense grey coarse sub-rounded to very angular GRAVEL with medium cobble content.		
6.00-6.45	SPT(C) N=50				57.68	6.20	Dark grey slightly sandy very gravelly CLAY with occasional sub angular to sub rounded cobbles		
				7,9/11,12,14,13					
7.00-7.45 7.00	TCR SCR RQD FI 63 0 0			SPT(C) N=50					
						(3.80)			
8.50-8.95 8.50	59 0 0			9,12/15,18,17 SPT(C) N=50					
10.00									

Remarks
Cable percussion boring techniques carried out from ground level to 6.20 m BGL.
Rotary Coring techniques carried out to 16.00m BGL
No groundwater encountered
Borehole backfilled on completion.

Scale (approx)	Logged By
1:50	JI & JC & GGR

Figure No. 13061-08-23(2).BH01

Ground Investigations Ireland Ltd
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Site Housing Bundle 4&5- Lot 2- Finglas Church			**Borehole Number** BH01
Machine : Dando 2000 and Baretha T-41 **Flush :** **Core Dia :** mm **Method :** Percussion with Rotary Core Follow-on	**Casing Diameter** 200mm cased to 6.20m 63.5mm cased to 16.00m	**Ground Level (mOD)** 63.88	**Client** National Development Finance Agency	**Job Number** 13061-08-23(2)
	Location 738927.6 E 712347.6 N	**Dates** 03/11/2023-30/01/2024	**Engineer**	**Sheet** 2/2

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
10.00-10.45	89	26	7	24	SPT(C) N=50 8,15/24,26	53.88	10.00	Medium strong massive grey fine grained LIMESTONE with clay smearing moderately weathered		
11.50	100	80	53	23			(3.00)	10.00m to 13.00m BGL: Sequence consists of two fracture sets. F1: Dipping 0-30 degrees, close to wide spaced, planar smooth with clay smearing. F2: Dipping 70-90 Degrees, medium to wide spaced, planar smooth with clay smearing		
13.00	100	67	52	32		50.88	13.00	Strong to very strong massive dark grey fine grained LIMESTONE slightly weathered		
14.50	100	44	33				(3.00)	13.00m to 16.00m BGL: Sequence consists of two fracture sets. F1: Dipping 0-30 degrees, close to medium spaced, planar to undulating smooth . F2: Dipping 70-90 Degrees, medium to wide spaced, planar rough		
15.50				26						
16.00						47.88	16.00	Terminated at 16.00m		

Remarks

Scale (approx)	Logged By
1:50	JI & JC & GGR

Figure No. 13061-08-23(2).BH01

Ground Investigations Ireland Ltd
www.gii.ie

Site Housing Bundle 4&5- Lot 2- Finglas Church			**Borehole Number** BH02
Machine : Dando 2000 and Baretha T-41 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 6.30m 63.5mm cased to 13.00m	**Ground Level (mOD)** 64.05	**Client** National Development Finance Agency	**Job Number** 13061-08-23(2)
	Location 738925.9 E 712265.4 N	**Dates** 08/11/2023-31/01/2024	**Engineer**	**Sheet** 1/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					63.97	0.08 (0.22)	MADE GROUND Blue grey crushed rock fill (804)			
					63.75	0.30	MADE GROUND: Angular cobbles with concrete bricks			
							Stiff yellowish brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse sub-angular to sub-rounded.			
1.00-1.45 1.00	SPT(C) N=18 B1			2,3/4,5,5,4		(1.70)				
2.00-2.45 2.00	SPT(C) N=31 B2			4,5/6,8,8,9	62.05	2.00	Very stiff black/dark grey slightly sandy slightly gravelly CLAY gravel is fine to coarse sub-angular to sub-rounded.			
3.00-3.45 3.00	SPT(C) N=35 B3			3,4/7,9,9,10					▼1	
	100 0	0	0	Water strike(1) at 3.20m, rose to 3.10m in 20 mins.					▽1	
4.00-4.45 4.00	SPT(C) N=48 B4			5,7/8,12,13,15		(4.00)				
5.00-5.45 5.10	SPT(C) N=50 B5			6,11/13,17,20						
6.00-6.45 6.00	SPT(C) N=50 B6			10,20/50	58.05	6.00 (0.30)	Dense dark grey medium to coarse angular to very angular clayey GRAVEL			
					57.75	6.30	Very stiff grey slightly sandy very gravelly CLAY with occasional sub angular to sub rounded cobbles			
	TCR SCR	RQD	FI	9,12/15,20,15						
7.00-7.45 7.00				SPT(C) N=50						
	90 0	0	0			(3.28)				
8.50-8.95 8.50				10,14/20,30 SPT(C) N=50						
	93 27	20	6							
10.00					54.47	9.58	Strong to very strong massive dark grey fine grained LIMESTONE slightly weathered			

Remarks
Cable percussion boring techniques carried out from ground level to 6.30m BGL.
Rotary coring techniques carried out to 13.00m BGL
No groundwater encountered
Borehole backfilled upon completion

Scale (approx)	Logged By
1:50	JC & GGR

Figure No. 13061-08-23(2).BH02

Ground Investigations Ireland Ltd
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Site Housing Bundle 4&5- Lot 2- Finglas Church			**Borehole Number** BH02
Machine : Dando 2000 and Baretha T-41 **Flush :** **Core Dia :** mm **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 6.30m 63.5mm cased to 13.00m	**Ground Level (mOD)** 64.05	**Client** National Development Finance Agency	**Job Number** 13061-08-23(2)
	Location 738925.9 E 712265.4 N	**Dates** 08/11/2023-31/01/2024	**Engineer**	**Sheet** 2/2

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
	100	71	55	22			(3.42)				
11.50	100	89	67	18				9.58m to 13.00m BGL: Sequence consists of two fracture sets. F1: Dipping 0-30 degrees, close to medium spaced, planar smooth with clay smearing. F2: Dipping 60-80 degrees, medium to wide spaced,undulating rough to planar smooth.			
13.00						51.05	13.00	Terminated at 13.00m			

Remarks

Scale (approx)	Logged By
1:50	JC & GGR

Figure No. 13061-08-23(2).BH02

Ground Investigations Ireland Ltd
www.gii.ie

Site Housing Bundle 4&5- Lot 2- Finglas Church			**Borehole Number** BH03
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 6.20m	**Ground Level (mOD)** 63.29	**Client** National Development Finance Agency	**Job Number** 13061-08-23(2)
	Location 738887.9 E 712349.8 N	**Dates** 01/11/2023-02/11/2023	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.50)	TOPSOIL		
					62.79	0.50	Soft to firm yellowish brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse sub-angular to sub-rounded.		
1.00-1.45 1.00	SPT(C) N=8 B1			1,1/1,2,2,3		(1.50)			
2.00-2.45 2.30	SPT(C) N=35 B2			2,3/6,7,10,12	61.29	2.00	Very stiff dark grey/black slightly sandy slightly gravelly CLAY. Gravel is fine to medium angular to very angular.		
3.00-3.40 3.00	SPT(C) 50/250 B3			6,11/14,16,18,2 Water strike(1) at 3.40m, rose to 3.35m in 20 mins.					▼1 ▽1
4.00-4.40 4.00	SPT(C) 50/250 B4			4,8/12,14,19,5		(4.20)			
5.00-5.35 5.00	SPT(C) 50/200 B5			6,7/15,15,20 Water strike(2) at 5.60m, rose to 5.40m in 20 mins.					▼2 ▽2
6.00-6.18	SPT(C) 50/30			7,13/50	57.09	6.20	Terminated at 6.20m		

Remarks
Cable percussion boring techniques carried out from ground level to 6.2m bGL.
Borehole terminated at 6.2m bGL due to obstruction - possible boulder or bedrock.
Borehole backfilled on completion.
Chiselling from 6.20m for 0.417 hours.

Scale (approx)	Logged By
1:50	JI

Figure No. 13061-08-23(2).BH03

Ground Investigations Ireland Ltd
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Site Housing Bundle 4&5- Lot 2- Finglas Church			**Borehole Number** BH04
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 5.60m	**Ground Level (mOD)** 63.07	**Client** National Development Finance Agency	**Job Number** 13061-08-23(2)
	Location 738884.4 E 712263.1 N	**Dates** 07/11/2023-08/11/2023	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					62.89	(0.18) 0.18	MADE GROUND: Crushed rock fill (804)		
						(0.57)	MADE GROUND: Large angular stone fill		
					62.32	0.75			
						(0.25)	MADE GROUND: Dark grey slightly sandy slightly gravelly Clay. Gravel is fine to coarse angular.		
1.00-1.45 1.00	SPT(C) N=22 B1			3,34/6,5,5,6	62.07	1.00	Stiff yellowish brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse sub-angular to sub-rounded with low cobble content.		
2.00-2.45 2.00	SPT(C) N=34 B2			2,3/5,7,10,12		(2.00)			
3.00-3.45 3.00	SPT(C) N=50 B3			5,11/13,14,16,7	60.07	3.00	Very stiff slightly sandy gravelly CLAY Gravel is fine to coarse sub angular to angular with low cobble content.		
4.00-4.45 4.00	SPT(C) N=50 B4			6,7/19,21,10		(2.60)			
5.00-5.45 5.00	SPT(C) N=50 B5			4,10/20,30					
5.50 5.60-6.05	B6 SPT(C) N=50			20,20/50	57.47	5.60	Terminated at 5.60m		

Remarks
Borehole terminated at 5.6m bGL due to obstruction - possible boulder or bedrock.
Cable percussion boring techniques carried our from ground level to 5.6m bGL.
Borehole backfilled on completion.
Chiselling from 5.60m to 5.60m for 0.3 hours.

Scale (approx)	Logged By
1:50	JC

Figure No. 13061-08-23(2).BH04

Ground Investigations Ireland Ltd
www.gii.ie

Site Housing Bundle 4&5- Lot 2- Finglas Church			**Borehole Number** BH05
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 6.80m	**Ground Level (mOD)** 62.82	**Client** National Development Finance Agency	**Job Number** 13061-08-23(2)
	Location 738862 E 712333.1 N	**Dates** 02/11/2023-03/11/2023	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.40)	Brown sandy TOPSOIL		
					62.42	0.40			
0.50	B1					(0.40)	MADE GROUND: Brown clay with fragments of red brick		
					62.02	0.80			
1.00-1.45	SPT(C) N=11			1,3/2,2,3,4			Firm yellowish brown slightly sandy gravelly CLAY. Gravel is fine to coarse sub-angular to sub-rounded.		
1.50	B2					(1.20)			
2.00-2.45	SPT(C) N=15			2,2/4,3,4,4	60.82	2.00	Stiff dark grey to black slightly sandy gravelly CLAY. Gravel is fine to coarse angular to very angular.		
2.70	B3					(1.50)			
3.00-3.45	SPT(C) N=29			3,5/5,6,8,10					
3.50	B4				59.32	3.50	Very stiff dark grey to black slightly sandy gravelly CLAY. Gravel is fine to coarse angular to very angular.		
4.00-4.41	SPT(C) 53/260			6,7/11,14,17,11					
4.50	B5								▼1
				Water strike(1) at 5.00m, rose to 4.90m in 20 mins.		(3.10)			▽1
5.00-5.33	SPT(C) 50/180			5,9/12,16,22					
5.50	B6								
6.00-6.25	SPT(C) 50/100			7,12/20,30					
					56.22	6.60			
6.60	B7					(0.20)	Dense dark grey coarse angular very clayey GRAVEL.		
6.80-6.88	SPT(C) 50*/75 50/0			50/50	56.02	6.80	Terminated at 6.80m		

Remarks
Cable percussion boring techniques carried out from ground level to 6.8m bGL.
Borehole backfilled on completion.
Borehole terminated at 6.8m bGL due to obstruction - possible boulder or bedrock.
Chiselling from 6.80m for 0.5 hours.

Scale (approx)	Logged By
1:50	JI

Figure No. 13061-08-23(2).BH05

Ground Investigations Ireland Ltd
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Site Housing Bundle 4&5- Lot 2- Finglas Church			**Borehole Number** BH06
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 5.10m	**Ground Level (mOD)** 64.40	**Client** National Development Finance Agency	**Job Number** 13061-08-23(2)
	Location 738884.1 E 712277.7 N	**Dates** 08/11/2023	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(1.00)	Pit excavated prior to drilling.		
1.00-1.45 1.00	SPT(C) N=9 B1			1,1/2,2,2,3	63.40	1.00 (0.60)	Soft to firm yellowish brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse sub-angular to sub rounded.		
					62.80	1.60 (0.40)	Firm to stiff black/dark grey slightly sandy slightly gravelly CLAY. Gravel is fine to coarse angular to very angular with low cobble content.		
2.00-2.45 2.00	SPT(C) N=15 B2			2,3/3,3,5,4	62.40	2.00	Stiff black/dark grey slightly sandy slightly gravelly CLAY. Gravel is fine to coarse angular to very angular with low cobble content.		
3.00-3.45 3.00	SPT(C) N=22 B3			3,3/3,4,6,9		(2.00)			
4.00-4.30 4.00	SPT(C) 53/150 B4			5,7/13,17,23	60.40	4.00 (1.10)	Very stiff black/dark grey slightly sandy slightly gravelly CLAY. Gravel is fine to coarse angular to very angular with low cobble content.		
5.00-5.00 5.00	SPT(C) 50*/0 50/0 B5			50/50	59.30	5.10	Complete at 5.10m		

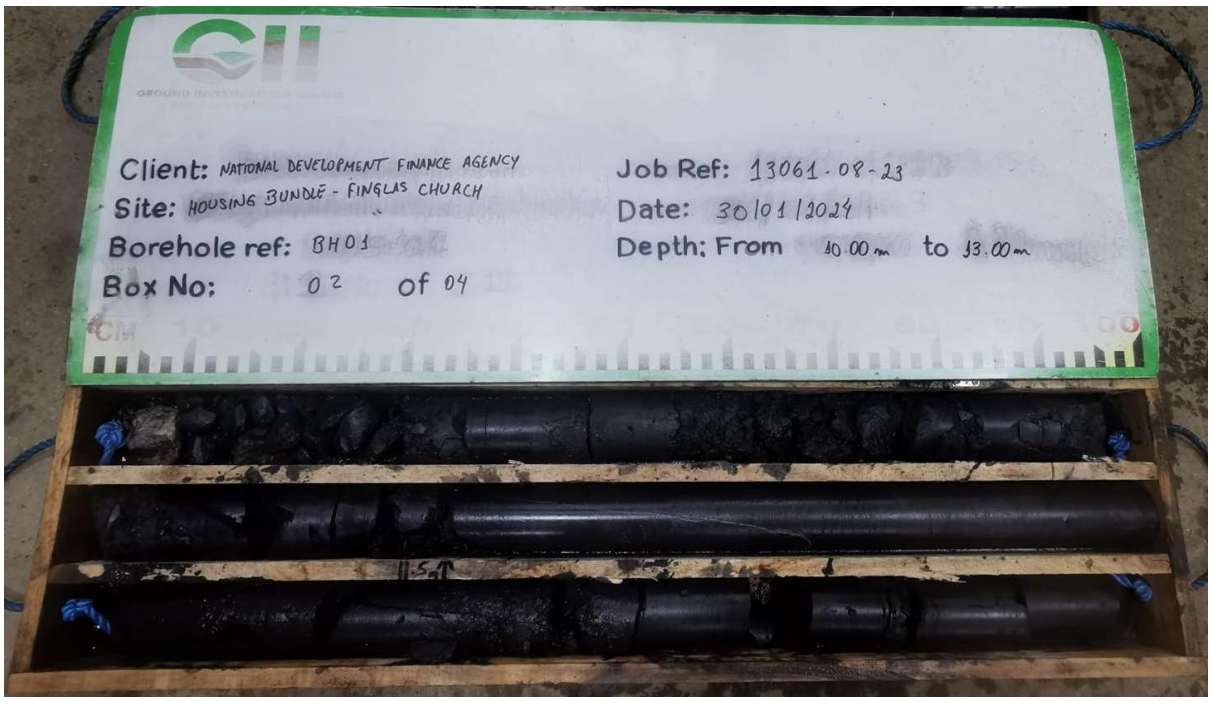
Remarks
Cable percussion boring techniques carried out from ground level to 5.1m bGL.
Borehole terminated due to obstruction - possible boulder or bedrock.
Chiselling from 4.90m to 5.10m for 1 hour.

Scale (approx)	Logged By
1:50	JI

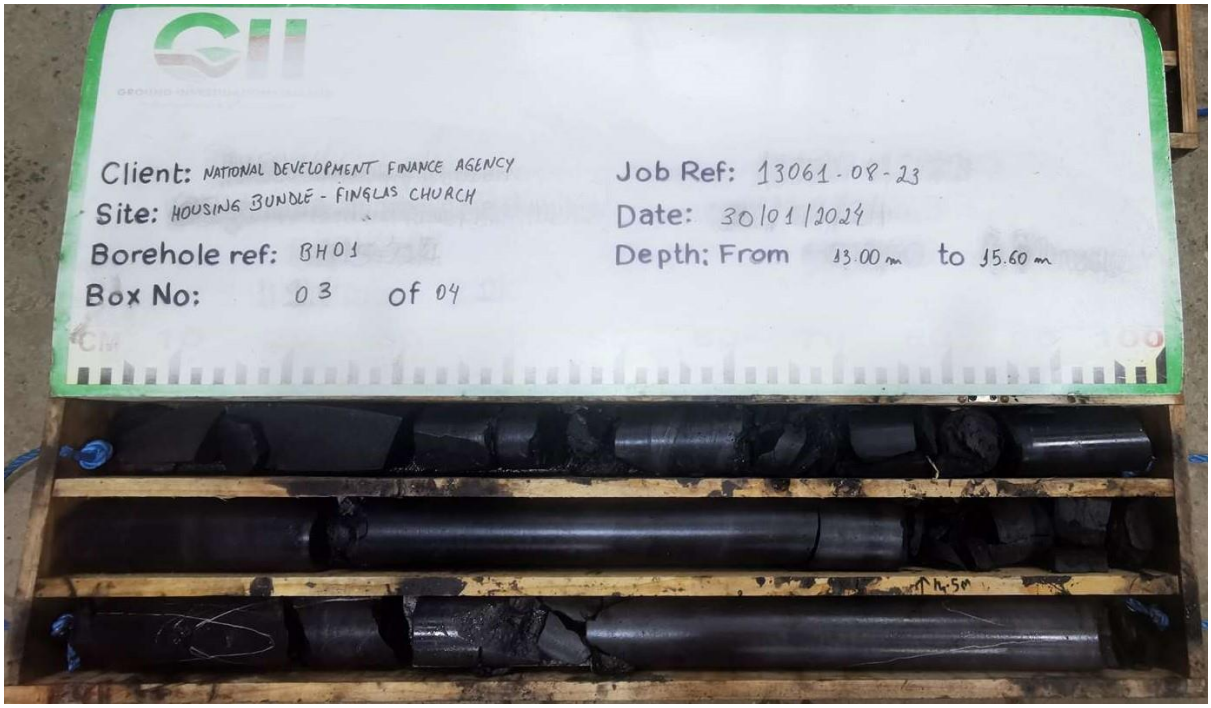
Figure No. 13061-08-23(2).BH06

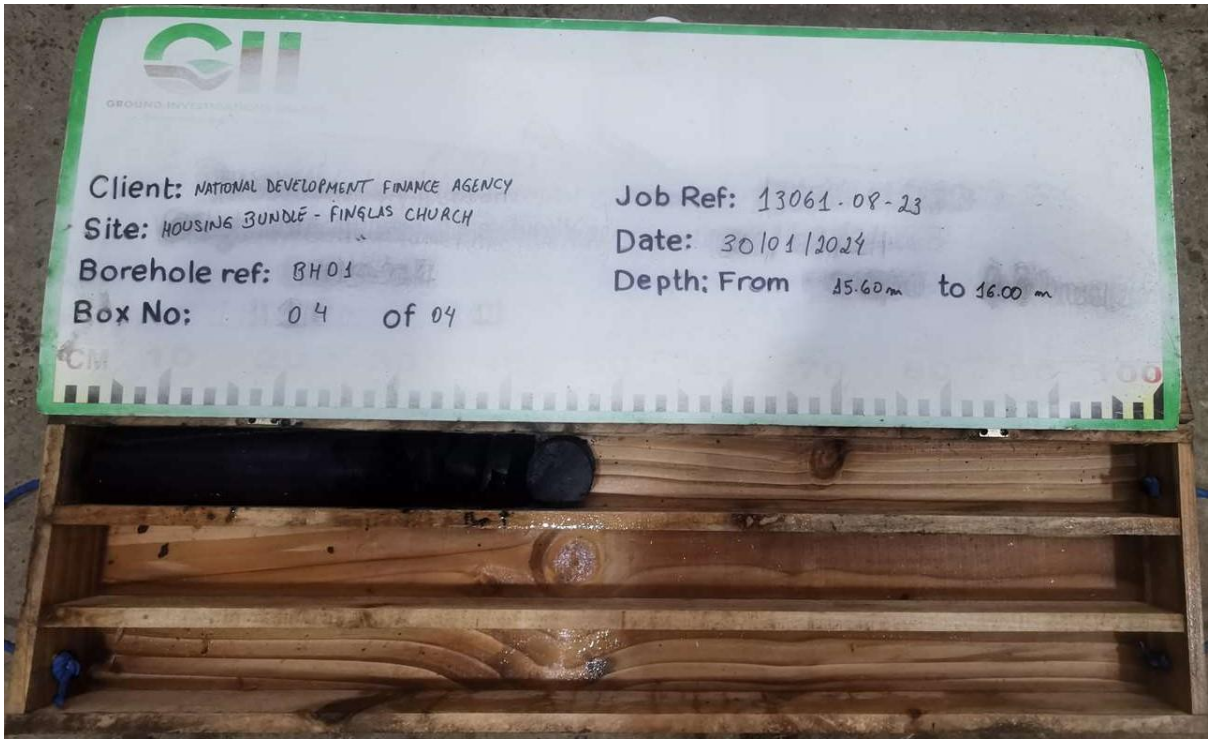
Housing Bundle_ Finglas Church_ Rotary Core Photos

BH01



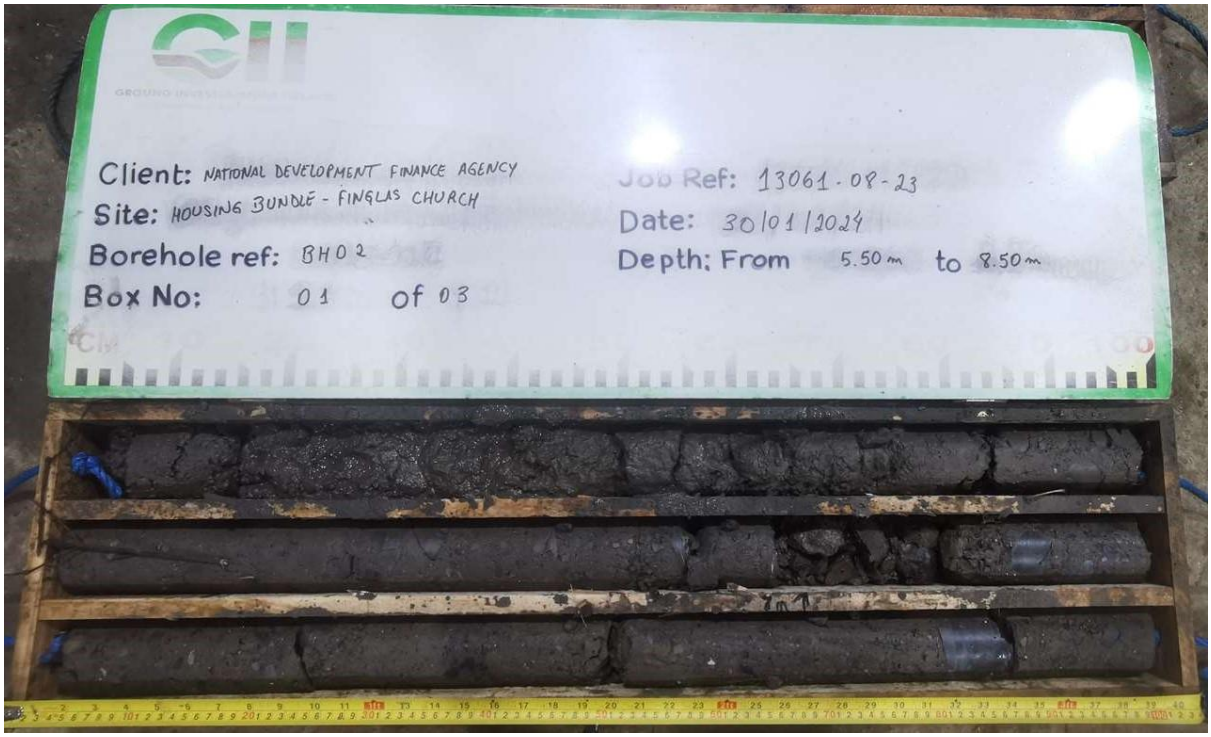
Housing Bundle_ Finglas Church_ Rotary Core Photos

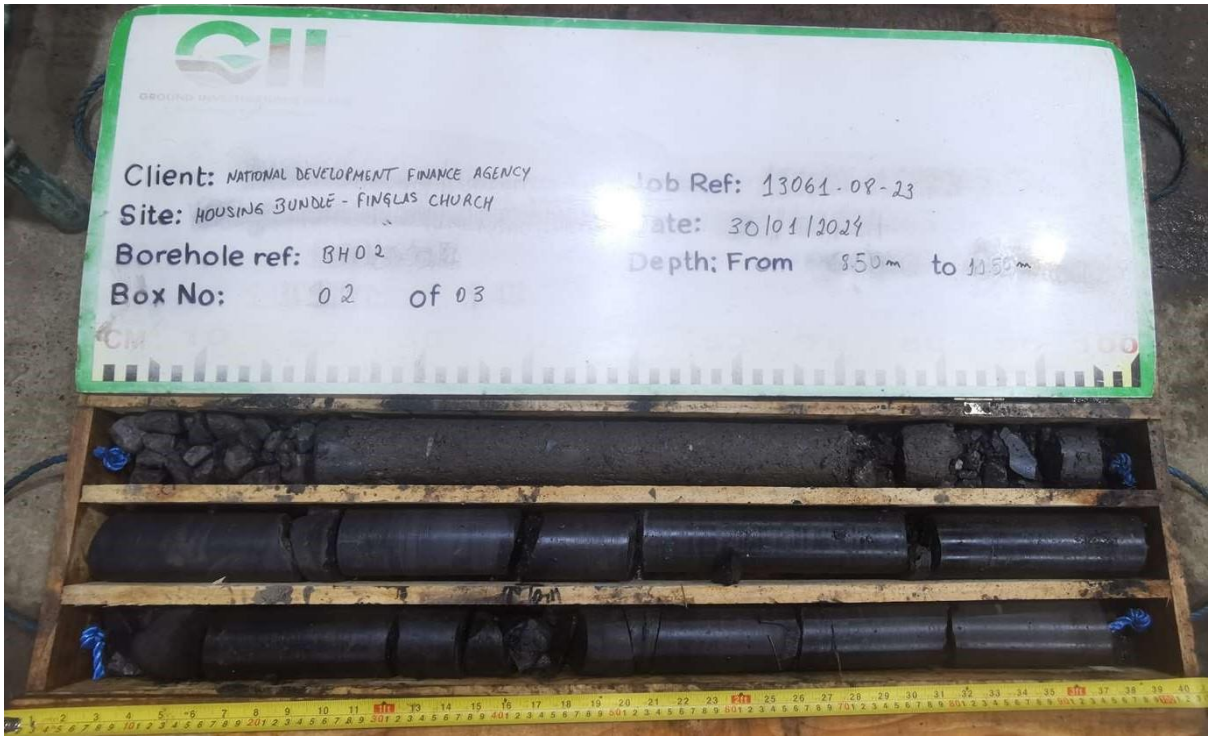




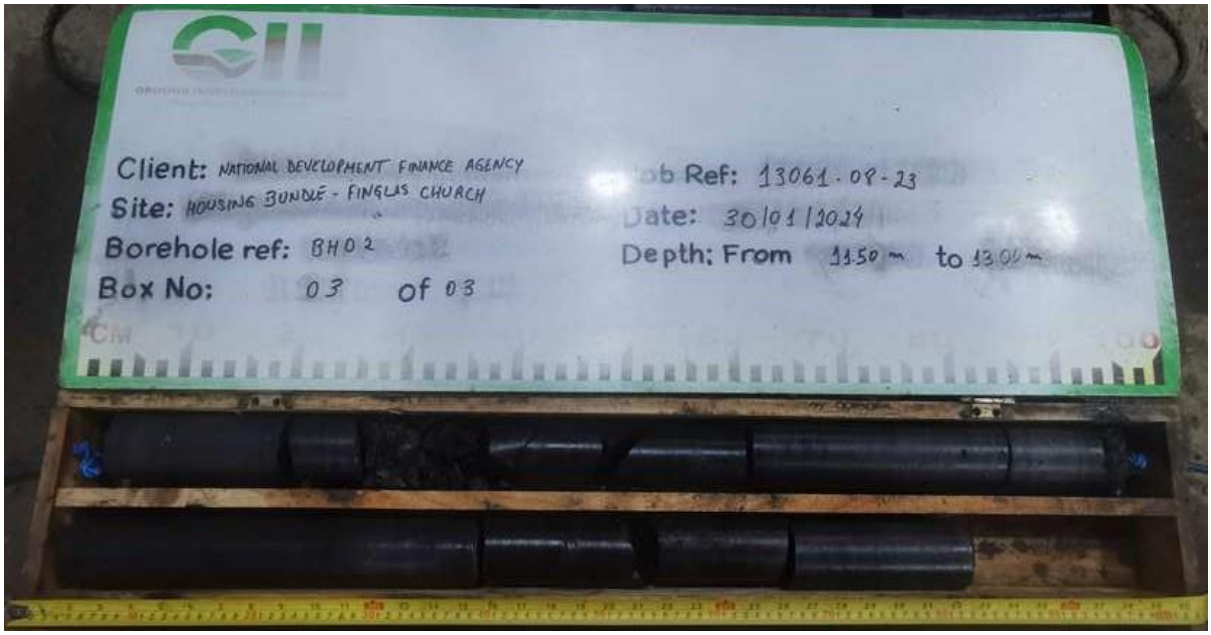
Housing Bundle_ Finglas Church_ Rotary Core Photos

BH02





Housing Bundle_ Finglas Church_ Rotary Core Photos



APPENDIX 5 – Laboratory Testing

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Ground Investigations Ireland
Catherinestown House
Hazelhatch Road
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Co. Dublin
Ireland
D22 K5P8

Attention :	Diarmaid MagLochlainn
Date :	21st March, 2024
Your reference :	13061-08-23
Our reference :	Test Report 23/19933 Batch 1
Location :	Housing Bundle- Finglas Church
Date samples received :	27th November, 2023
Status :	Final Report
Issue :	202403211254

Fourteen samples were received for analysis on 27th November, 2023 of which fourteen were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 65.739 kg of CO2

Scope 1&2&3 emissions - 155.359 kg of CO2

Authorised By:

Bruce Leslie
Project Manager

Client Name: Ground Investigations Ireland
Reference: 13061-08-23
Location: Housing Bundle- Finglas Church
Contact: Diarmaid MagLochlainn
EMT Job No: 23/19933

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40	LOD/LOR	Units	Method No.
Sample ID	TP-01	TP-01	TP-02	TP-02	TP-03	TP-03	BH-01	BH-02	BH-02	BH-03			
Depth	0.50	1.00	0.50	1.00	0.50	2.00	1.00	1.00	2.00	1.00			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023			
Antimony	2	2	1	3	3	2	<1	1	1	3	<1	mg/kg	TM30/PM15
Arsenic #	16.5	12.8	8.3	17.5	17.3	12.3	5.6	10.6	8.6	11.2	<0.5	mg/kg	TM30/PM15
Barium #	135	92	61	140	139	45	39	52	53	310	<1	mg/kg	TM30/PM15
Cadmium #	2.7	2.3	0.7	2.2	2.8	1.9	1.2	1.9	1.5	2.4	<0.1	mg/kg	TM30/PM15
Chromium #	31.3	17.4	32.0	30.2	26.6	15.3	12.5	15.5	19.5	20.2	<0.5	mg/kg	TM30/PM15
Copper #	52	37	24	49	52	27	13	28	21	30	<1	mg/kg	TM30/PM15
Lead #	91	19	92	241	113	20	13	15	15	18	<5	mg/kg	TM30/PM15
Mercury #	0.2	<0.1	<0.1	0.3	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM30/PM15
Molybdenum #	3.4	3.5	1.0	4.0	4.6	3.8	1.6	2.7	2.9	7.8	<0.1	mg/kg	TM30/PM15
Nickel #	49.3	51.0	18.1	50.7	61.0	38.9	14.9	36.1	34.6	45.2	<0.7	mg/kg	TM30/PM15
Selenium #	2	<1	<1	2	2	1	<1	<1	3	5	<1	mg/kg	TM30/PM15
Zinc #	103	89	59	124	135	75	49	66	62	76	<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Phenanthrene #	0.15	<0.03	0.08	<0.03	0.18	<0.03	<0.03	<0.03	0.06	<0.03	<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04	<0.04	0.06	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Fluoranthene #	0.14	<0.03	0.10	<0.03	0.43	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Pyrene #	0.13	<0.03	0.09	<0.03	0.35	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	0.10	<0.06	0.08	<0.06	0.26	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	mg/kg	TM4/PM8
Chrysene #	0.10	<0.02	0.06	<0.02	0.28	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	0.13	<0.07	0.09	<0.07	0.44	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	0.08	<0.04	0.04	<0.04	0.27	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	<0.04	<0.04	0.17	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	<0.04	<0.04	0.16	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Coronene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
PAH 6 Total #	0.35	<0.22	0.23	<0.22	1.47	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	mg/kg	TM4/PM8
PAH 17 Total	0.83	<0.64	<0.64	<0.64	2.60	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	0.09	<0.05	0.06	<0.05	0.32	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.04	<0.02	0.03	<0.02	0.12	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	104	105	104	68	90	98	84	95	96	97	<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30	<30	<30	<30	<30	<30	<30	321	<30	<30	<30	mg/kg	TM5/PM8/PM16

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13061-08-23
Location: Housing Bundle- Finglas Church
Contact: Diarmaid MagLochlainn
EMT Job No: 23/19933

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40	LOD/LOR	Units	Method No.
Sample ID	TP-01	TP-01	TP-02	TP-02	TP-03	TP-03	BH-01	BH-02	BH-02	BH-03			
Depth	0.50	1.00	0.50	1.00	0.50	2.00	1.00	1.00	2.00	1.00			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023			
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)#	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 [SV]	<0.1	<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL)#	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 [SV]	<0.1	<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1 [SV]	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL)#	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	12.0	0.8	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL)#	<4	<4	<4	<4	<4	<4	<4	75	6	<4	<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)#	<7	<7	<7	<7	<7	<7	<7	174	11	<7	<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)#	<7	<7	<7	<7	<7	<7	<7	60	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	<26	<26	<26	<26	<26	<26	<26	321	<26	<26	<26	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1 [SV]	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_CU_1D_AL)	<10	<10	<10	<10	<10	<10	<10	312	18	<10	<10	mg/kg	TM5/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7 (HS_1D_AR)#	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 [SV]	<0.1	<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR)#	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 [SV]	<0.1	<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR)#	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 [SV]	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)#	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.3	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR)#	<4	<4	<4	<4	<4	<4	<4	17	<4	<4	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR)#	<7	<7	<7	<7	<7	<7	<7	76	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)#	38	<7	<7	<7	<7	<7	<7	29	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	10	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	48	<26	<26	<26	<26	<26	<26	122	<26	<26	<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52	<52	<52	<52	<52	<52	<52	443	<52	<52	<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 (HS_1D_AR)#	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 [SV]	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC25 (EH_CU_1D_AR)	<10	<10	<10	<10	<10	<10	<10	120	<10	<10	<10	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	38	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
MTBE#	<5	<5	<5	<5	<5	<5	<5	<5	<5 [SV]	<5	<5	ug/kg	TM36/PM12
Benzene#	<5	<5	<5	<5	<5	<5	<5	<5	<5 [SV]	<5	<5	ug/kg	TM36/PM12
Toluene#	<5	<5	<5	<5	<5	<5	<5	<5	<5 [SV]	<5	<5	ug/kg	TM36/PM12
Ethylbenzene#	<5	<5	<5	<5	<5	<5	<5	<5	<5 [SV]	<5	<5	ug/kg	TM36/PM12
m/p-Xylene#	15	<5	<5	<5	<5	<5	<5	6	<5 [SV]	<5	<5	ug/kg	TM36/PM12
o-Xylene#	10	<5	<5	<5	<5	<5	<5	<5	<5 [SV]	<5	<5	ug/kg	TM36/PM12
PCB 28#	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 52#	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 101#	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 118#	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 138#	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 153#	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 180#	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
Total 7 PCBs#	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	ug/kg	TM17/PM8

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13061-08-23
Location: Housing Bundle- Finglas Church
Contact: Diarmaid MagLochlainn
EMT Job No: 23/19933

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40	LOD/LOR	Units	Method No.
Sample ID	TP-01	TP-01	TP-02	TP-02	TP-03	TP-03	BH-01	BH-02	BH-02	BH-03			
Depth	0.50	1.00	0.50	1.00	0.50	2.00	1.00	1.00	2.00	1.00			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023			
Natural Moisture Content	27.6	20.1	11.3	32.5	29.3	13.4	6.0	13.3	7.3	14.4	<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	21.6	16.7	10.1	24.5	22.6	11.8	5.6	11.8	6.8	12.6	<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.0735	-	0.0399	0.0209	-	0.0057	-	0.0151	-	0.0049	<0.0015	g/l	TM38/PM20
Chromium III	31.3	17.4	32.0	30.2	26.6	15.3	12.5	15.5	19.5	20.2	<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	3.75	0.47	0.32	1.87	1.39	0.46	0.28	0.27	0.48	0.69	<0.02	%	TM21/PM24
Organic Matter	6.5	-	0.6	-	-	0.8	-	0.5	-	1.2	<0.2	%	TM21/PM24
pH #	7.67	8.68	11.35	8.76	8.57	8.74	9.45	8.44	8.24	8.65	<0.01	pH units	TM73/PM11
Asbestos Type*	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD		None	Subcontracted

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13061-08-23
Location: Housing Bundle- Finglas Church
Contact: Diarmaid MagLochlainn
EMT Job No: 23/19933

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	41-44	45-48	49-52	53-56									
Sample ID	BH-04	BH-04	BH-05	BH-06									
Depth	1.00	2.00	0.50	1.00									
COC No / misc													
Containers	V J T	V J T	V J T	V J T									
Sample Date	22/11/2023	22/11/2023	22/11/2023	22/11/2023									
Sample Type	Soil	Soil	Soil	Soil									
Batch Number	1	1	1	1									
Date of Receipt	27/11/2023	27/11/2023	27/11/2023	27/11/2023									

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
Antimony	2	2	3	2							<1	mg/kg	TM30/PM15
Arsenic #	13.4	9.9	15.1	13.6							<0.5	mg/kg	TM30/PM15
Barium #	69	51	124	91							<1	mg/kg	TM30/PM15
Cadmium #	2.4	2.1	1.9	1.8							<0.1	mg/kg	TM30/PM15
Chromium #	18.2	17.3	22.8	42.0							<0.5	mg/kg	TM30/PM15
Copper #	41	27	61	35							<1	mg/kg	TM30/PM15
Lead #	18	16	133	23							<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	0.4	<0.1							<0.1	mg/kg	TM30/PM15
Molybdenum #	4.4	3.1	3.3	3.0							<0.1	mg/kg	TM30/PM15
Nickel #	50.8	39.9	42.1	54.7							<0.7	mg/kg	TM30/PM15
Selenium #	1	1	1	1							<1	mg/kg	TM30/PM15
Zinc #	95	75	114	98							<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04	0.05	<0.04							<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	<0.03	<0.03							<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	<0.05	<0.05							<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	<0.04	<0.04							<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03	<0.03	0.17	<0.03							<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04	<0.04							<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	<0.03	0.31	<0.03							<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03	0.27	<0.03							<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	0.19	<0.06							<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02	0.20	<0.02							<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	0.30	<0.07							<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	0.19	<0.04							<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	0.11	<0.04							<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	<0.04	<0.04							<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	0.11	<0.04							<0.04	mg/kg	TM4/PM8
Coronene	<0.04	<0.04	<0.04	<0.04							<0.04	mg/kg	TM4/PM8
PAH 6 Total #	<0.22	<0.22	1.02	<0.22							<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	<0.64	1.90	<0.64							<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	0.22	<0.05							<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	0.08	<0.02							<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1	<1	<1							<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	97	75	97	90							<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30	<30	<30	<30 SV							<30	mg/kg	TM5/PM8/PM16

Client Name: Ground Investigations Ireland
Reference: 13061-08-23
Location: Housing Bundle- Finglas Church
Contact: Diarmaid MagLochlainn
EMT Job No: 23/19933

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	41-44	45-48	49-52	53-56							LOD/LOR	Units	Method No.
Sample ID	BH-04	BH-04	BH-05	BH-06									
Depth	1.00	2.00	0.50	1.00									
COC No / misc													
Containers	V J T	V J T	V J T	V J T									
Sample Date	22/11/2023	22/11/2023	22/11/2023	22/11/2023									
Sample Type	Soil	Soil	Soil	Soil									
Batch Number	1	1	1	1									
Date of Receipt	27/11/2023	27/11/2023	27/11/2023	27/11/2023									
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)#	<0.1	<0.1	<0.1	<0.1							<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL)#	<0.1	<0.1	<0.1	<0.1							<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1							<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL)#	<0.2	<0.2	<0.2	<0.2 SV							<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL)#	<4	<4	<4	<4 SV							<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)#	<7	<7	<7	<7 SV							<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)#	<7	<7	<7	<7 SV							<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<7	<7	<7	<7 SV							<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	<26	<26	<26	<26 SV							<26	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1							<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_CU_1D_AL)	<10	<10	<10	<10 SV							<10	mg/kg	TM5/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	<10	<10	<10	<10 SV							<10	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7 (HS_1D_AR)#	<0.1	<0.1	<0.1	<0.1							<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR)#	<0.1	<0.1	<0.1	<0.1							<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR)#	<0.1	<0.1	<0.1	<0.1							<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)#	<0.2	<0.2	<0.2	<0.2 SV							<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR)#	<4	<4	<4	<4 SV							<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR)#	<7	<7	<7	<7 SV							<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)#	<7	<7	<7	35 SV							<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<7	<7	<7	12 SV							<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<26	<26	<26	47 SV							<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52	<52	<52	<52 SV							<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 (HS_1D_AR)#	<0.1	<0.1	<0.1	<0.1							<0.1	mg/kg	TM36/PM12
>EC10-EC25 (EH_CU_1D_AR)	<10	<10	<10	<10 SV							<10	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	<10	<10	<10	35 SV							<10	mg/kg	TM5/PM8/PM16
MTBE#	<5	<5	<5	<5							<5	ug/kg	TM36/PM12
Benzene#	<5	<5	<5	<5							<5	ug/kg	TM36/PM12
Toluene#	<5	<5	<5	<5							<5	ug/kg	TM36/PM12
Ethylbenzene#	<5	<5	<5	<5							<5	ug/kg	TM36/PM12
m/p-Xylene#	<5	<5	<5	<5							<5	ug/kg	TM36/PM12
o-Xylene#	<5	<5	<5	<5							<5	ug/kg	TM36/PM12
PCB 28#	<5	<5	<5	<5							<5	ug/kg	TM17/PM8
PCB 52#	<5	<5	<5	<5							<5	ug/kg	TM17/PM8
PCB 101#	<5	<5	<5	<5							<5	ug/kg	TM17/PM8
PCB 118#	<5	<5	<5	<5							<5	ug/kg	TM17/PM8
PCB 138#	<5	<5	<5	<5							<5	ug/kg	TM17/PM8
PCB 153#	<5	<5	<5	<5							<5	ug/kg	TM17/PM8
PCB 180#	<5	<5	<5	<5							<5	ug/kg	TM17/PM8
Total 7 PCBs#	<35	<35	<35	<35							<35	ug/kg	TM17/PM8

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13061-08-23
Location: Housing Bundle- Finglas Church
Contact: Diarmaid MagLochlainn
EMT Job No: 23/19933

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	41-44	45-48	49-52	53-56							LOD/LOR	Units	Method No.
Sample ID	BH-04	BH-04	BH-05	BH-06									
Depth	1.00	2.00	0.50	1.00									
COC No / misc													
Containers	V J T	V J T	V J T	V J T									
Sample Date	22/11/2023	22/11/2023	22/11/2023	22/11/2023									
Sample Type	Soil	Soil	Soil	Soil									
Batch Number	1	1	1	1									
Date of Receipt	27/11/2023	27/11/2023	27/11/2023	27/11/2023									
Natural Moisture Content	14.2	12.0	23.8	21.8							<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	12.4	10.7	19.2	17.9							<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3							<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.0129	-	0.0036	-							<0.0015	g/l	TM38/PM20
Chromium III	18.2	17.3	22.8	42.0							<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.41	0.37	2.59	0.75							<0.02	%	TM21/PM24
Organic Matter	0.7	-	4.5	-							<0.2	%	TM21/PM24
pH #	8.54	8.64	8.35	8.40							<0.01	pH units	TM73/PM11
Asbestos Type*	NAD	NAD	NAD	NAD								None	Subcontracted

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13061-08-23
Location: Housing Bundle- Finglas Church
Contact: Diarmaid MagLochlainn
EMT Job No: 23/19933

Report : CEN 10:1 1 Batch

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40	LOD/LOR	Units	Method No.
Sample ID	TP-01	TP-01	TP-02	TP-02	TP-03	TP-03	BH-01	BH-02	BH-02	BH-03			
Depth	0.50	1.00	0.50	1.00	0.50	2.00	1.00	1.00	2.00	1.00			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023			
Dissolved Antimony #	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.002	<0.002	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Arsenic #	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) #	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	mg/kg	TM30/PM17
Dissolved Barium #	0.029	0.004	0.026	0.007	0.007	<0.003	<0.003	0.010	0.026	0.003	<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	0.29	0.04	0.26	0.07	0.07	<0.03	<0.03	0.10	0.26	<0.03	<0.03	mg/kg	TM30/PM17
Dissolved Cadmium #	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	mg/l	TM30/PM17
Dissolved Cadmium (A10) #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/kg	TM30/PM17
Dissolved Chromium #	<0.0015	<0.0015	0.0236	0.0084	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) #	<0.015	<0.015	0.236	0.084	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	mg/kg	TM30/PM17
Dissolved Copper #	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	TM30/PM17
Dissolved Lead #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/l	TM30/PM17
Dissolved Lead (A10) #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum #	0.008	0.006	<0.002	0.012	0.007	0.010	0.023	0.015	0.021	0.008	<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.08	0.06	<0.02	0.12	0.07	0.10	0.23	0.15	0.21	0.08	<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Selenium #	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.033	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.33	<0.03	<0.03	mg/kg	TM30/PM17
Dissolved Zinc #	<0.003	0.003	<0.003	0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) #	<0.03	0.03	<0.03	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF #	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVAF #	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	mg/kg	TM61/PM0
Phenol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM26/PM0
Fluoride	<0.3	0.3	<0.3	0.6	0.4	<0.3	<0.3	0.3	<0.3	<0.3	<0.3	mg/l	TM173/PM0
Fluoride	<3	3	<3	6	4	<3	<3	3	<3	<3	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	18.7	1.9	19.7	5.9	<0.5	0.6	6.5	5.1	30.7	<0.5	<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	187	19	197	59	<5	6	65	51	307	<5	<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1201	0.1078	0.1074	0.1321	0.1198	0.1026	0.1049	0.1099	0.1004	0.1047		kg	NONE/PM17
Chloride #	3.7	1.0	0.6	<0.3	<0.3	<0.3	0.4	0.5	9.5	0.5	<0.3	mg/l	TM38/PM0
Chloride #	37	10	6	<3	<3	<3	4	5	95	5	<3	mg/kg	TM38/PM0
Mass of dried test portion	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09		kg	NONE/PM17
Dissolved Organic Carbon	4	<2	4	<2	<2	<2	<2	3	<2	<2	<2	mg/l	TM60/PM0
Dissolved Organic Carbon	40	<20	40	<20	<20	<20	<20	30	<20	<20	<20	mg/kg	TM60/PM0
pH	8.23	8.18	11.14	8.40	8.30	8.11	8.09	8.09	8.03	8.11	<0.01	pH units	TM73/PM0

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13061-08-23
Location: Housing Bundle- Finglas Church
Contact: Diarmaid MagLochlainn
EMT Job No: 23/19933

Report : CEN 10:1 1 Batch

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40	LOD/LOR	Units	Method No.
Sample ID	TP-01	TP-01	TP-02	TP-02	TP-03	TP-03	BH-01	BH-02	BH-02	BH-03			
Depth	0.50	1.00	0.50	1.00	0.50	2.00	1.00	1.00	2.00	1.00			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023			
Total Dissolved Solids #	131	49	140	83	74	44	47	81	107	45	<35	mg/l	TM20/PM0
Total Dissolved Solids #	1309	490	1400	830	740	440	470	810	1070	450	<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Ground Investigations Ireland
Reference: 13061-08-23
Location: Housing Bundle- Finglas Church
Contact: Diarmaid MagLochlainn
EMT Job No: 23/19933

Report : CEN 10:1 1 Batch

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	41-44	45-48	49-52	53-56							LOD/LOR	Units	Method No.
Sample ID	BH-04	BH-04	BH-05	BH-06									
Depth	1.00	2.00	0.50	1.00									
COC No / misc													
Containers	V J T	V J T	V J T	V J T									
Sample Date	22/11/2023	22/11/2023	22/11/2023	22/11/2023									
Sample Type	Soil	Soil	Soil	Soil									
Batch Number	1	1	1	1									
Date of Receipt	27/11/2023	27/11/2023	27/11/2023	27/11/2023									
Dissolved Antimony #	<0.002	<0.002	<0.002	<0.002							<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) #	<0.02	<0.02	<0.02	<0.02							<0.02	mg/kg	TM30/PM17
Dissolved Arsenic #	<0.0025	<0.0025	<0.0025	<0.0025							<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) #	<0.025	<0.025	<0.025	<0.025							<0.025	mg/kg	TM30/PM17
Dissolved Barium #	0.005	0.004	0.007	0.015							<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	0.05	0.04	0.07	0.15							<0.03	mg/kg	TM30/PM17
Dissolved Cadmium #	<0.0005	<0.0005	<0.0005	<0.0005							<0.0005	mg/l	TM30/PM17
Dissolved Cadmium (A10) #	<0.005	<0.005	<0.005	<0.005							<0.005	mg/kg	TM30/PM17
Dissolved Chromium #	<0.0015	<0.0015	<0.0015	<0.0015							<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) #	<0.015	<0.015	<0.015	<0.015							<0.015	mg/kg	TM30/PM17
Dissolved Copper #	<0.007	<0.007	<0.007	<0.007							<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) #	<0.07	<0.07	<0.07	<0.07							<0.07	mg/kg	TM30/PM17
Dissolved Lead #	<0.005	<0.005	<0.005	<0.005							<0.005	mg/l	TM30/PM17
Dissolved Lead (A10) #	<0.05	<0.05	<0.05	<0.05							<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum #	0.025	0.018	0.007	0.014							<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.25	0.18	0.07	0.14							<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	<0.002	<0.002	<0.002	0.002							<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) #	<0.02	<0.02	<0.02	0.02							<0.02	mg/kg	TM30/PM17
Dissolved Selenium #	<0.003	<0.003	<0.003	<0.003							<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) #	<0.03	<0.03	<0.03	<0.03							<0.03	mg/kg	TM30/PM17
Dissolved Zinc #	<0.003	<0.003	<0.003	<0.003							<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) #	<0.03	<0.03	<0.03	<0.03							<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF #	<0.00001	<0.00001	<0.00001	<0.00001							<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVAF #	<0.0001	<0.0001	<0.0001	<0.0001							<0.0001	mg/kg	TM61/PM0
Phenol	<0.01	<0.01	<0.01	<0.01							<0.01	mg/l	TM26/PM0
Phenol	<0.1	<0.1	<0.1	<0.1							<0.1	mg/kg	TM26/PM0
Fluoride	<0.3	<0.3	0.5	<0.3							<0.3	mg/l	TM173/PM0
Fluoride	<3	<3	5	<3							<3	mg/kg	TM173/PM0
Sulphate as SO4 #	2.1	2.0	0.6	1.4							<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	21	20	6	14							<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1015	0.1034	0.1138	0.114								kg	NONE/PM17
Chloride #	0.8	0.9	0.6	0.8							<0.3	mg/l	TM38/PM0
Chloride #	8	9	6	8							<3	mg/kg	TM38/PM0
Mass of dried test portion	0.09	0.09	0.09	0.09								kg	NONE/PM17
Dissolved Organic Carbon	<2	<2	3	2							<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20	30	20							<20	mg/kg	TM60/PM0
pH	8.02	8.03	8.08	8.16							<0.01	pH units	TM73/PM0

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13061-08-23
Location: Housing Bundle- Finglas Church
Contact: Diarmaid MagLochlainn
EMT Job No: 23/19933

Report : CEN 10:1 1 Batch

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	41-44	45-48	49-52	53-56									
Sample ID	BH-04	BH-04	BH-05	BH-06									
Depth	1.00	2.00	0.50	1.00									
COC No / misc													
Containers	V J T	V J T	V J T	V J T									
Sample Date	22/11/2023	22/11/2023	22/11/2023	22/11/2023									
Sample Type	Soil	Soil	Soil	Soil									
Batch Number	1	1	1	1									
Date of Receipt	27/11/2023	27/11/2023	27/11/2023	27/11/2023									
											LOD/LOR	Units	Method No.
Total Dissolved Solids #	56	46	81	88							<35	mg/l	TM20/PM0
Total Dissolved Solids #	560	460	810	880							<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13061-08-23
Location: Housing Bundle- Finglas Church
Contact: Diarmaid MagLochlainn
EMT Job No: 23/19933

Report : EN12457_2

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40						
Sample ID	TP-01	TP-01	TP-02	TP-02	TP-03	TP-03	BH-01	BH-02	BH-02	BH-03						
Depth	0.50	1.00	0.50	1.00	0.50	2.00	1.00	1.00	2.00	1.00						
COC No / misc																
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T						
Sample Date	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1	1	1	1						
Date of Receipt	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Solid Waste Analysis																
Total Organic Carbon #	3.75	0.47	0.32	1.87	1.39	0.46	0.28	0.27	0.48	0.69	3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025 SV	<0.025	6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30	<30	<30	<30	<30	321	<30	<30	500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	0.35	<0.22	0.23	<0.22	1.47	<0.22	<0.22	<0.22	<0.22	<0.22	-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	0.83	<0.64	<0.64	<0.64	2.60	<0.64	<0.64	<0.64	<0.64	<0.64	100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	0.29	0.04	0.26	0.07	0.07	<0.03	<0.03	0.10	0.26	<0.03	20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.04	1	5	<0.005	mg/kg	TM30/PM17
Chromium #	<0.015	<0.015	0.236	0.084	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	2	50	100	<0.07	mg/kg	TM30/PM17
Mercury #	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.08	0.06	<0.02	0.12	0.07	0.10	0.23	0.15	0.21	0.08	0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.4	10	40	<0.02	mg/kg	TM30/PM17
Lead #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.33	<0.03	0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	0.03	<0.03	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	1309	490	1400	830	740	440	470	810	1070	450	4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	40	<20	40	<20	<20	<20	<20	30	<20	<20	500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1201	0.1078	0.1074	0.1321	0.1198	0.1026	0.1049	0.1099	0.1004	0.1047	-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	74.7	83.3	83.6	68.1	74.9	87.6	86.2	82.3	89.8	86.1	-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.869	0.882	0.882	0.858	0.87	0.887	0.886	0.881	0.89	0.885	-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	33.9	20.0	19.7	46.8	33.4	14.1	16.0	21.5	11.4	16.2	-	-	-	<0.1	%	PM4/PM0
pH #	7.67	8.68	11.35	8.76	8.57	8.74	9.45	8.44	8.24	8.65	-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	<3	3	<3	6	4	<3	<3	3	<3	<3	10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	187	19	197	59	<5	6	65	51	307	<5	1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	37	10	6	<3	<3	<3	4	5	95	5	800	15000	25000	<3	mg/kg	TM38/PM0

All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Ground Investigations Ireland
Reference: 13061-08-23
Location: Housing Bundle- Finglas Church
Contact: Diarmaid MagLochlainn
EMT Job No: 23/19933

Report : EN12457_2

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	41-44	45-48	49-52	53-56							Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Sample ID	BH-04	BH-04	BH-05	BH-06												
Depth	1.00	2.00	0.50	1.00												
COC No / misc																
Containers	V J T	V J T	V J T	V J T												
Sample Date	22/11/2023	22/11/2023	22/11/2023	22/11/2023												
Sample Type	Soil	Soil	Soil	Soil												
Batch Number	1	1	1	1												
Date of Receipt	27/11/2023	27/11/2023	27/11/2023	27/11/2023												
Solid Waste Analysis																
Total Organic Carbon #	0.41	0.37	2.59	0.75							3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025	<0.025	<0.025							6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035	<0.035							1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30	<30 SV							500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	1.02	<0.22							-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	1.90	<0.64							100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025							0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	0.05	0.04	0.07	0.15							20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<0.005	<0.005	<0.005	<0.005							0.04	1	5	<0.005	mg/kg	TM30/PM17
Chromium #	<0.015	<0.015	<0.015	<0.015							0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper #	<0.07	<0.07	<0.07	<0.07							2	50	100	<0.07	mg/kg	TM30/PM17
Mercury #	<0.0001	<0.0001	<0.0001	<0.0001							0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.25	0.18	0.07	0.14							0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02	<0.02	<0.02	0.02							0.4	10	40	<0.02	mg/kg	TM30/PM17
Lead #	<0.05	<0.05	<0.05	<0.05							0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	<0.02	<0.02	<0.02	<0.02							0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium #	<0.03	<0.03	<0.03	<0.03							0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	<0.03	<0.03	<0.03							4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	560	460	810	880							4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	<20	30	20							500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1015	0.1034	0.1138	0.114							-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	89.0	87.1	78.8	78.6							-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.889	0.887	0.876	0.876							-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	12.4	14.8	26.8	27.2							-	-	-	<0.1	%	PM4/PM0
pH #	8.54	8.64	8.35	8.40							-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1							1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	<3	<3	5	<3							10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	21	20	6	14							1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	8	9	6	8							800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland

Reference: 13061-08-23

Location: Housing Bundle- Finglas Church

Contact: Diarmaid MagLochlainn

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
23/19933	1	TP-01	0.50	1-4	possible Naturally Occurring Compounds
23/19933	1	TP-01	1.00	5-8	No interpretation possible
23/19933	1	TP-02	0.50	9-12	No interpretation possible
23/19933	1	TP-02	1.00	13-16	No interpretation possible
23/19933	1	TP-03	0.50	17-20	No interpretation possible
23/19933	1	TP-03	2.00	21-24	No interpretation possible
23/19933	1	BH-01	1.00	25-28	No interpretation possible
23/19933	1	BH-02	1.00	29-32	Degraded Diesel
23/19933	1	BH-02	2.00	33-36	No interpretation possible
23/19933	1	BH-03	1.00	37-40	No interpretation possible
23/19933	1	BH-04	1.00	41-44	No interpretation possible
23/19933	1	BH-04	2.00	45-48	No interpretation possible
23/19933	1	BH-05	0.50	49-52	No interpretation possible
23/19933	1	BH-06	1.00	53-56	trace of possible Naturally Occurring Compounds

Client Name: Ground Investigations Ireland
Reference: 13061-08-23
Location: Housing Bundle- Finglas Church
Contact: Diarmaid MagLochlainn

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 23/19933						

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.
It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

EMT Job No.: 23/19933

SOILS and ASH

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

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 37°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a requirement of our Accreditation Body for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.
Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

Age of Diesel

The age of release estimation is based on the nC17/pristane ratio only as prescribed by Christensen and Larsen (1993) and Kaplan, Galperin, Alimi et al., (1996).
Age estimation should be treated with caution as it can be influenced by site specific factors of which the laboratory are not aware.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

HWOL ACRONYMS AND OPERATORS USED

HS	Headspace Analysis.
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent.
CU	Clean-up - e.g. by florisil, silica gel.
1D	GC - Single coil gas chromatography.
Total	Aliphatics & Aromatics.
AL	Aliphatics only.
AR	Aromatics only.
2D	GC-GC - Double coil gas chromatography.
#1	EH_Total but with humics mathematically subtracted
#2	EU_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +).
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total
MS	Mass Spectrometry.

EMT Job No: 23/19933

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM16	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM17	Modified US EPA method 8270D v5:2014. Determination of specific Polychlorinated Biphenyl congeners by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM20	Modified BS 1377-3:1990/USEPA 160.1/3 (TDS/TS: 1971) Gravimetric determination of Total Dissolved Solids/Total Solids	PM0	No preparation is required.	Yes		AR	Yes
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Preparation of Soil and Marine Sediment Samples for Total Organic Carbon.			AD	Yes

EMT Job No: 23/19933

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Preparation of Soil and Marine Sediment Samples for Total Organic Carbon.	Yes		AD	Yes
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM0	No preparation is required.			AR	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.			AD	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.	Yes		AD	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM17	Modified method BS EN12457-2:2002 As received solid samples are leached with water in a 10:1 water to soil ratio for 24 hours, the moisture content of the sample is included in the ratio.	Yes		AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013I	PM0	No preparation is required.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AR	Yes

EMT Job No: 23/19933

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060A (2002), APHA SMEWW 5310B:1999 22nd Edition, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.			AR	Yes
TM61	Determination of Mercury by Cold Vapour Atomic Fluorescence - WATERS: Modified USEPA Method 245.7, Rev 2, Feb 2005. SOILS: Modified USEPA Method 7471B, Rev.2, Feb 2007	PM0	No preparation is required.	Yes		AR	Yes
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.			AR	Yes
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM11	Extraction of as received solid samples using one part solid to 2.5 parts deionised water.	Yes		AR	No
TM173	Analysis of fluoride by ISE (Ion Selective Electrode) using modified ISE method 9214 - 340.2 (EPA 1998)	PM0	No preparation is required.			AR	Yes
NONE	No Method Code	NONE	No Method Code			AD	Yes
NONE	No Method Code	PM17	Modified method BS EN12457-2:2002 As received solid samples are leached with water in a 10:1 water to soil ratio for 24 hours, the moisture content of the sample is included in the ratio.				
NONE	No Method Code	PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	
Subcontracted	See attached subcontractor report for accreditation status and provider.					AR	

APPENDIX 6 – HazWasteOnLine™ Report

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

HazWasteOnline™

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.

CKBTG-YU3EW-J3KBW

Job name

Finglas Church

Description/Comments

Project

13061-08-23

Site

Finglas Church

Classified by

Name:
Barry Sexton
Date:
21 Mar 2024 07:40 GMT
Telephone:
353 (01) 601 5175 / 5176

Company:
Ground Investigations Ireland Ltd
Catherinestown House, Hazelhatch Road, Newcastle, Co. Dublin.

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: **CERTIFIED**

Course	Date
Hazardous Waste Classification	10 Apr 2019
Most recent 3 year Refresher	19 Apr 2022

Next 3 year Refresher due by Apr 2025

Purpose of classification

7 - Disposal of Waste

Address of the waste

Finglas Church Dublin **Post Code** N/A

Description of industry/producer giving rise to the waste

Construction

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

Foundation Excavation and Site Levelling

Description of the waste

Made Ground and Soil & Stone

Job summary

Related documents

#	Name	Description
1	Finglas Church.HWOL	Element .hwol file used to populate the Job
2	Example waste stream template for contaminated soils	waste stream template used to create this Job

Report

Created by: Barry Sexton

Created date: 21 Mar 2024 07:40 GMT

Classification of sample: TP-01-22/11/2023-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP-01-22/11/2023-0.50m
Moisture content:
21.6%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 21.6% Wet Weight 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	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	1.877 mg/kg	0.000188 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		16.5 mg/kg	1.32	17.08 mg/kg	0.00171 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.7 mg/kg	1.142	2.418 mg/kg	0.000242 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		31.3 mg/kg	1.462	35.865 mg/kg	0.00359 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		52 mg/kg	1.126	45.9 mg/kg	0.00459 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	91 mg/kg	1.56	111.283 mg/kg	0.00713 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.2 mg/kg	1.353	0.212 mg/kg	0.0000212 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.4 mg/kg	1.5	3.999 mg/kg	0.0004 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		49.3 mg/kg	2.976	115.036 mg/kg	0.0115 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2 mg/kg	2.554	4.004 mg/kg	0.0004 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		103 mg/kg	2.774	224.018 mg/kg	0.0224 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		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									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				0.025	mg/kg		0.0196	mg/kg	0.00000196 %	✓	
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				7.67	pH		7.67	pH	7.67 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				0.15	mg/kg		0.118	mg/kg	0.0000118 %	✓	
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				0.14	mg/kg		0.11	mg/kg	0.000011 %	✓	
			205-912-4	206-44-0									
27		pyrene				0.13	mg/kg		0.102	mg/kg	0.0000102 %	✓	
			204-927-3	129-00-0									
28		benzo[a]anthracene				0.1	mg/kg		0.0784	mg/kg	0.00000784 %	✓	
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				0.1	mg/kg		0.0784	mg/kg	0.00000784 %	✓	
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				0.09	mg/kg		0.0706	mg/kg	0.00000706 %	✓	
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				0.04	mg/kg		0.0314	mg/kg	0.00000314 %	✓	
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				0.08	mg/kg		0.0627	mg/kg	0.00000627 %	✓	
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				135	mg/kg	1.117	118.171	mg/kg	0.0118 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.0695 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	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
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

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"

Force this Hazardous property to non hazardous because Solid waste without liquid phase

Hazard Statements hit:

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

Because of determinand:

xylene: (conc.: 1.96e-06%)

Classification of sample: TP-01-22/11/2023-1.00m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP-01-22/11/2023-1.00m
Moisture content:
16.7%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 16.7% Wet Weight 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	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	1.994 mg/kg	0.000199 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		12.8 mg/kg	1.32	14.078 mg/kg	0.00141 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.3 mg/kg	1.142	2.189 mg/kg	0.000219 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		17.4 mg/kg	1.462	21.184 mg/kg	0.00212 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		37 mg/kg	1.126	34.701 mg/kg	0.00347 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	19 mg/kg	1.56	24.687 mg/kg	0.00158 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.5 mg/kg	1.5	4.374 mg/kg	0.000437 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		51 mg/kg	2.976	126.441 mg/kg	0.0126 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		89 mg/kg	2.774	205.667 mg/kg	0.0206 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		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
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.68	pH		8.68	pH	8.68 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		92	mg/kg	1.117	85.565	mg/kg	0.00856 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0569 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	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
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP-02-22/11/2023-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP-02-22/11/2023-0.50m
Moisture content:
10.1%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 10.1% Wet Weight 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	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		1 mg/kg	1.197	1.076 mg/kg	0.000108 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8.3 mg/kg	1.32	9.852 mg/kg	0.000985 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.7 mg/kg	1.142	0.719 mg/kg	0.0000719 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		32 mg/kg	1.462	42.046 mg/kg	0.0042 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		24 mg/kg	1.126	24.292 mg/kg	0.00243 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	92 mg/kg	1.56	129.009 mg/kg	0.00827 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		1 mg/kg	1.5	1.349 mg/kg	0.000135 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		18.1 mg/kg	2.976	48.429 mg/kg	0.00484 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		59 mg/kg	2.774	147.144 mg/kg	0.0147 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		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									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				11.35	pH		11.35	pH	11.35 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				0.08	mg/kg		0.0719	mg/kg	0.00000719 %	✓	
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				0.1	mg/kg		0.0899	mg/kg	0.00000899 %	✓	
			205-912-4	206-44-0									
27		pyrene				0.09	mg/kg		0.0809	mg/kg	0.00000809 %	✓	
			204-927-3	129-00-0									
28		benzo[a]anthracene				0.08	mg/kg		0.0719	mg/kg	0.00000719 %	✓	
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				0.06	mg/kg		0.0539	mg/kg	0.00000539 %	✓	
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				0.06	mg/kg		0.0539	mg/kg	0.00000539 %	✓	
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				0.03	mg/kg		0.027	mg/kg	0.0000027 %	✓	
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				0.04	mg/kg		0.036	mg/kg	0.0000036 %	✓	
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				61	mg/kg	1.117	61.228	mg/kg	0.00612 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.0476 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	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
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP-02-22/11/2023-1.00m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP-02-22/11/2023-1.00m
Moisture content:
24.5%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 24.5% Wet Weight 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	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		3 mg/kg	1.197	2.711 mg/kg	0.000271 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		17.5 mg/kg	1.32	17.445 mg/kg	0.00174 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.2 mg/kg	1.142	1.897 mg/kg	0.00019 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		30.2 mg/kg	1.462	33.325 mg/kg	0.00333 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		49 mg/kg	1.126	41.652 mg/kg	0.00417 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	241 mg/kg	1.56	283.816 mg/kg	0.0182 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.3 mg/kg	1.353	0.307 mg/kg	0.0000307 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		4 mg/kg	1.5	4.531 mg/kg	0.000453 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		50.7 mg/kg	2.976	113.927 mg/kg	0.0114 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2 mg/kg	2.554	3.856 mg/kg	0.000386 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		124 mg/kg	2.774	259.716 mg/kg	0.026 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		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
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.76	pH		8.76	pH	8.76 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		140	mg/kg	1.117	118.015	mg/kg	0.0118 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0834 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	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
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP-03-22/11/2023-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP-03-22/11/2023-0.50m
Moisture content:
22.6%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 22.6% Wet Weight 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	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		3 mg/kg	1.197	2.78 mg/kg	0.000278 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		17.3 mg/kg	1.32	17.679 mg/kg	0.00177 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.8 mg/kg	1.142	2.476 mg/kg	0.000248 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		26.6 mg/kg	1.462	30.091 mg/kg	0.00301 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		52 mg/kg	1.126	45.315 mg/kg	0.00453 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	113 mg/kg	1.56	136.425 mg/kg	0.00875 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.2 mg/kg	1.353	0.21 mg/kg	0.000021 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		4.6 mg/kg	1.5	5.341 mg/kg	0.000534 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		61 mg/kg	2.976	140.521 mg/kg	0.0141 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2 mg/kg	2.554	3.953 mg/kg	0.000395 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		135 mg/kg	2.774	289.871 mg/kg	0.029 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		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
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.57	pH		8.57	pH	8.57 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		0.18	mg/kg		0.139	mg/kg	0.0000139 %	✓	
25		anthracene		204-371-1	120-12-7		0.06	mg/kg		0.0464	mg/kg	0.00000464 %	✓	
26		fluoranthene		205-912-4	206-44-0		0.43	mg/kg		0.333	mg/kg	0.0000333 %	✓	
27		pyrene		204-927-3	129-00-0		0.35	mg/kg		0.271	mg/kg	0.0000271 %	✓	
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.26	mg/kg		0.201	mg/kg	0.0000201 %	✓	
29		chrysene	601-048-00-0	205-923-4	218-01-9		0.28	mg/kg		0.217	mg/kg	0.0000217 %	✓	
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.32	mg/kg		0.248	mg/kg	0.0000248 %	✓	
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.12	mg/kg		0.0929	mg/kg	0.00000929 %	✓	
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.27	mg/kg		0.209	mg/kg	0.0000209 %	✓	
33		indeno[123-cd]pyrene		205-893-2	193-39-5		0.17	mg/kg		0.132	mg/kg	0.0000132 %	✓	
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		0.16	mg/kg		0.124	mg/kg	0.0000124 %	✓	
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		139	mg/kg	1.117	120.12	mg/kg	0.012 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0802 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	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
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP-03-22/11/2023-2.00m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP-03-22/11/2023-2.00m
Moisture content:
11.8%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 11.8% Wet Weight 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	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.112 mg/kg	0.000211 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		12.3 mg/kg	1.32	14.324 mg/kg	0.00143 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.9 mg/kg	1.142	1.914 mg/kg	0.000191 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		15.3 mg/kg	1.462	19.723 mg/kg	0.00197 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		27 mg/kg	1.126	26.812 mg/kg	0.00268 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	20 mg/kg	1.56	27.515 mg/kg	0.00176 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.8 mg/kg	1.5	5.028 mg/kg	0.000503 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		38.9 mg/kg	2.976	102.115 mg/kg	0.0102 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.252 mg/kg	0.000225 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		75 mg/kg	2.774	183.51 mg/kg	0.0184 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		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
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.74	pH		8.74	pH	8.74 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		45	mg/kg	1.117	44.314	mg/kg	0.00443 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0474 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	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
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: BH-01-22/11/2023-1.00m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
BH-01-22/11/2023-1.00m
Moisture content:
5.6%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 5.6% Wet Weight 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	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		<1 mg/kg	1.197	<1.197 mg/kg	<0.00012 %		<LOD
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		5.6 mg/kg	1.32	6.98 mg/kg	0.000698 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.2 mg/kg	1.142	1.294 mg/kg	0.000129 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		12.5 mg/kg	1.462	17.246 mg/kg	0.00172 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		13 mg/kg	1.126	13.817 mg/kg	0.00138 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	13 mg/kg	1.56	19.142 mg/kg	0.00123 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		1.6 mg/kg	1.5	2.266 mg/kg	0.000227 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		14.9 mg/kg	2.976	41.863 mg/kg	0.00419 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		49 mg/kg	2.774	128.321 mg/kg	0.0128 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		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
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		9.45	pH		9.45	pH	9.45 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		39	mg/kg	1.117	41.105	mg/kg	0.00411 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0323 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	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
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: BH-02-22/11/2023-1.00m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
BH-02-22/11/2023-1.00m
Moisture content:
11.8%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 11.8% Wet Weight 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	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		1 mg/kg	1.197	1.056 mg/kg	0.000106 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10.6 mg/kg	1.32	12.344 mg/kg	0.00123 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.9 mg/kg	1.142	1.914 mg/kg	0.000191 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		15.5 mg/kg	1.462	19.981 mg/kg	0.002 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		28 mg/kg	1.126	27.805 mg/kg	0.00278 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	15 mg/kg	1.56	20.636 mg/kg	0.00132 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		2.7 mg/kg	1.5	3.573 mg/kg	0.000357 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		36.1 mg/kg	2.976	94.765 mg/kg	0.00948 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		66 mg/kg	2.774	161.489 mg/kg	0.0161 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		443 mg/kg		390.726 mg/kg	0.0391 %	✓	
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		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									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				0.006	mg/kg		0.0052	mg/kg	0.000000529 %	✓	
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				8.44	pH		8.44	pH	8.44 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
27		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				52	mg/kg	1.117	51.207	mg/kg	0.00512 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.0783 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	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
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

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"

Force this Hazardous property to non hazardous because Solid waste without liquid phase

Hazard Statements hit:

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

Because of determinands:

TPH (C6 to C40) petroleum group: (conc.: 0.0391%)
xylene: (conc.: 5.29e-07%)

Classification of sample: BH-02-22/11/2023-2.00m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
BH-02-22/11/2023-2.00m
Moisture content:
6.8%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 6.8% Wet Weight 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	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		1 mg/kg	1.197	1.116 mg/kg	0.000112 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8.6 mg/kg	1.32	10.583 mg/kg	0.00106 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.5 mg/kg	1.142	1.597 mg/kg	0.00016 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		19.5 mg/kg	1.462	26.562 mg/kg	0.00266 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		21 mg/kg	1.126	22.036 mg/kg	0.0022 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	15 mg/kg	1.56	21.806 mg/kg	0.0014 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		2.9 mg/kg	1.5	4.055 mg/kg	0.000405 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		34.6 mg/kg	2.976	95.976 mg/kg	0.0096 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		3 mg/kg	2.554	7.141 mg/kg	0.000714 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		62 mg/kg	2.774	160.301 mg/kg	0.016 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		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									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				8.24	pH		8.24	pH	8.24 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				0.06	mg/kg		0.0559	mg/kg	0.00000559 %	✓	
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
27		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				0.05	mg/kg		0.0466	mg/kg	0.00000466 %	✓	
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				53	mg/kg	1.117	55.151	mg/kg	0.00552 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.0453 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	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
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: BH-03-22/11/2023-1.00m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
BH-03-22/11/2023-1.00m
Moisture content:
12.6%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 12.6% Wet Weight 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	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		3 mg/kg	1.197	3.139 mg/kg	0.000314 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		11.2 mg/kg	1.32	12.924 mg/kg	0.00129 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.4 mg/kg	1.142	2.396 mg/kg	0.00024 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		20.2 mg/kg	1.462	25.803 mg/kg	0.00258 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		30 mg/kg	1.126	29.521 mg/kg	0.00295 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	18 mg/kg	1.56	24.539 mg/kg	0.00157 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		7.8 mg/kg	1.5	10.227 mg/kg	0.00102 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		45.2 mg/kg	2.976	117.577 mg/kg	0.0118 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		5 mg/kg	2.554	11.16 mg/kg	0.00112 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		76 mg/kg	2.774	184.27 mg/kg	0.0184 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		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									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				8.65	pH		8.65	pH	8.65 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
27		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				310	mg/kg	1.117	302.506	mg/kg	0.0303 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.077 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	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
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: BH-04-22/11/2023-1.00m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
BH-04-22/11/2023-1.00m
Moisture content:
12.4%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 12.4% Wet Weight 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	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.097 mg/kg	0.00021 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		13.4 mg/kg	1.32	15.499 mg/kg	0.00155 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.4 mg/kg	1.142	2.402 mg/kg	0.00024 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		18.2 mg/kg	1.462	23.302 mg/kg	0.00233 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		41 mg/kg	1.126	40.437 mg/kg	0.00404 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	18 mg/kg	1.56	24.595 mg/kg	0.00158 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		4.4 mg/kg	1.5	5.782 mg/kg	0.000578 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		50.8 mg/kg	2.976	132.446 mg/kg	0.0132 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.237 mg/kg	0.000224 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		95 mg/kg	2.774	230.864 mg/kg	0.0231 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		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									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				8.54	pH		8.54	pH	8.54 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
27		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				69	mg/kg	1.117	67.486	mg/kg	0.00675 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.0593 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	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
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: BH-04-22/11/2023-2.00m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
BH-04-22/11/2023-2.00m
Moisture content:
10.7%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 10.7% Wet Weight 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	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.138 mg/kg	0.000214 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.9 mg/kg	1.32	11.673 mg/kg	0.00117 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.1 mg/kg	1.142	2.142 mg/kg	0.000214 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		17.3 mg/kg	1.462	22.579 mg/kg	0.00226 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		27 mg/kg	1.126	27.146 mg/kg	0.00271 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	16 mg/kg	1.56	22.287 mg/kg	0.00143 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.1 mg/kg	1.5	4.153 mg/kg	0.000415 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		39.9 mg/kg	2.976	106.046 mg/kg	0.0106 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.281 mg/kg	0.000228 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		75 mg/kg	2.774	185.798 mg/kg	0.0186 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		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									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				8.64	pH		8.64	pH	8.64 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
27		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				51	mg/kg	1.117	50.849	mg/kg	0.00508 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.0484 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	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
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: BH-05-22/11/2023-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
BH-05-22/11/2023-0.50m
Moisture content:
19.2%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 19.2% Wet Weight 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	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		3 mg/kg	1.197	2.902 mg/kg	0.00029 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		15.1 mg/kg	1.32	16.109 mg/kg	0.00161 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.9 mg/kg	1.142	1.754 mg/kg	0.000175 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		22.8 mg/kg	1.462	26.925 mg/kg	0.00269 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		61 mg/kg	1.126	55.493 mg/kg	0.00555 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	133 mg/kg	1.56	167.624 mg/kg	0.0107 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.4 mg/kg	1.353	0.437 mg/kg	0.0000437 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.3 mg/kg	1.5	4 mg/kg	0.0004 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		42.1 mg/kg	2.976	101.243 mg/kg	0.0101 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.064 mg/kg	0.000206 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		114 mg/kg	2.774	255.532 mg/kg	0.0256 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		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									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				8.35	pH		8.35	pH	8.35 pH		
				PH									
20		naphthalene				0.05	mg/kg		0.0404	mg/kg	0.00000404 %	✓	
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				0.17	mg/kg		0.137	mg/kg	0.0000137 %	✓	
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				0.31	mg/kg		0.25	mg/kg	0.000025 %	✓	
			205-912-4	206-44-0									
27		pyrene				0.27	mg/kg		0.218	mg/kg	0.0000218 %	✓	
			204-927-3	129-00-0									
28		benzo[a]anthracene				0.19	mg/kg		0.154	mg/kg	0.0000154 %	✓	
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				0.2	mg/kg		0.162	mg/kg	0.0000162 %	✓	
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				0.22	mg/kg		0.178	mg/kg	0.0000178 %	✓	
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				0.08	mg/kg		0.0646	mg/kg	0.00000646 %	✓	
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				0.19	mg/kg		0.154	mg/kg	0.0000154 %	✓	
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				0.11	mg/kg		0.0889	mg/kg	0.00000889 %	✓	
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				0.11	mg/kg		0.0889	mg/kg	0.00000889 %	✓	
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				124	mg/kg	1.117	111.865	mg/kg	0.0112 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.0741 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	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
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: BH-06-22/11/2023-1.00m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
BH-06-22/11/2023-1.00m
Moisture content:
17.9%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 17.9% Wet Weight 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		antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2	mg/kg	1.197	1.966	mg/kg	0.000197 %	✓	
2		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		13.6	mg/kg	1.32	14.742	mg/kg	0.00147 %	✓	
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.8	mg/kg	1.142	1.688	mg/kg	0.000169 %	✓	
4		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		42	mg/kg	1.462	50.397	mg/kg	0.00504 %	✓	
5		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<**LOD**
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		35	mg/kg	1.126	32.352	mg/kg	0.00324 %	✓	
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	23	mg/kg	1.56	29.454	mg/kg	0.00189 %	✓	
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<**LOD**
9		molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3	mg/kg	1.5	3.695	mg/kg	0.000369 %	✓	
10		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		54.7	mg/kg	2.976	133.66	mg/kg	0.0134 %	✓	
11		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1	mg/kg	2.554	2.097	mg/kg	0.00021 %	✓	
12		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		98	mg/kg	2.774	223.202	mg/kg	0.0223 %	✓	
13		TPH (C6 to C40) petroleum group			TPH		<52	mg/kg		<52	mg/kg	<0.0052 %		<**LOD**
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
15		benzene	601-020-00-8	200-753-7	71-43-2		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
16		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**

#		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									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				8.4	pH		8.4	pH	8.4 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
27		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				91	mg/kg	1.117	83.415	mg/kg	0.00834 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.0621 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	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
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Appendix A: Classifier defined and non EU CLP determinands

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

Description/Comments: Data from C&L Inventory Database
Data source: https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H332 , Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Resp. Sens. 1; H334 , Skin Sens. 1; H317 , Repr. 1B; H360FD , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **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

- **ethylbenzene** (EC Number: 202-849-4, CAS Number: 100-41-4)

EU CLP index number: 601-023-00-4
Description/Comments:
Additional Hazard Statement(s): Carc. 2; H351
Reason for additional Hazards Statement(s):
03 Jun 2015 - Carc. 2; H351 hazard statement sourced from: IARC Group 2B (77) 2000

- **pH** (CAS Number: PH)

Description/Comments: Appendix C4
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: None.

- **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

- **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

- **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

- **polychlorobiphenyls; PCB** (EC Number: 215-648-1, CAS Number: 1336-36-3)

EU CLP index number: 602-039-00-4
Description/Comments: Worst Case: IARC considers PCB Group 1; Carcinogenic to humans;

POP specific threshold from ATP1 (Regulation 756/2010/EU) to POPs Regulation (Regulation 850/2004/EC). Where applicable, the calculation method laid down in European standards EN 12766-1 and EN 12766-2 shall be applied.
Additional Hazard Statement(s): Carc. 1A; H350
Reason for additional Hazards Statement(s):
29 Sep 2015 - Carc. 1A; H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

- **barium oxide** (EC Number: 215-127-9, CAS Number: 1304-28-5)

Description/Comments: Data from ECHA's C&L Inventory Database, Sigma Aldrich SDS dated 6/2/20
Data source: https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/88825
Data source date: 02 Apr 2020
Hazard Statements: Acute Tox. 3; H301 , Skin Corr. 1B; H314 , Eye Dam. 1; H318 , Acute Tox. 1; H332

- **coronene** (EC Number: 205-881-7, CAS Number: 191-07-1)

Description/Comments: Data from C&L Inventory Database; no entries in Registered Substances or Pesticides Properties databases; SDS: Sigma Aldrich, 1907/2006 compliant, dated 2012 - no entries; IARC – Group 3, not carcinogenic.
Data source: http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=17010&HarmOnly=no?fc=true&lang=en
Data source date: 16 Jun 2014
Hazard Statements: STOT SE 2; H371

Appendix B: Rationale for selection of metal species

antimony {antimony trioxide}

Worst case CLP species based on hazard statements/molecular weight and low solubility. Industrial sources include: flame retardants in electrical apparatus, textiles and coatings (edit as required)

arsenic {arsenic trioxide}

Reasonable case CLP species based on hazard statements/molecular weight and most common (stable) oxide of arsenic. Industrial sources include: smelting; main precursor to other arsenic compounds (edit as required)

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. (edit as required) Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history (edit as required)

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

Reasonable case species based on hazard statements/molecular weight. Industrial sources include: tanning, pigment in paint, inks and glass (edit as required)

chromium in chromium(VI) compounds {chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex}

Worst case species based on hazard statements/molecular weight (edit as required)

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. (edit as required) Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected. (edit as required)

lead {lead chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

molybdenum {molybdenum(VI) oxide}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

nickel {nickel chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

selenium {nickel selenate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

zinc {zinc chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

barium {barium oxide}

Cr VI not detected

Appendix C: Version

HazWasteOnline Classification Engine: EU WM3 1st Edition v1.1.NI using the EU LoW
HazWasteOnline Classification Engine Version: 2024.80.5988.11077 (20 Mar 2024)
HazWasteOnline Database: 2024.80.5988.11077 (20 Mar 2024)

This classification utilises the following guidance and legislation:
WM3 v1.1.NI - Waste Classification - 1st Edition v1.1.NI - Jan 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
17th ATP - Regulation (EU) 2021/849 of 11 March 2021
18th ATP - Regulation (EU) 2022/692 of 16 February 2022
POPs Amendment 2022 - Regulation (EU) 2022/2400 of 23 November 2022
19th ATP - Regulation (EU) 2023/1434 of 25 April 2023
20th ATP - Regulation (EU) 2023/1435 of 2 May 2023

APPENDIX 7 – Waste Category Summary Data

Waste Categorisation Summary Table

Finglas Church

Sample ID	TP-01	TP-01	TP-02	TP-02	TP-03	TP-03	BH-01	BH-02	BH-02	BH-03	BH-04	BH-04	BH-05	BH-06					
Sample Depth (m)	0.50	1.00	0.50	1.00	0.50	2.00	1.00	1.00	2.00	1.00	1.00	2.00	0.50	1.00					
Material Description	Made Ground <2% Anthropogenic Material	Clay	Made Ground <2% Anthropogenic Material	Made Ground <2% Anthropogenic Material	Made Ground <2% Anthropogenic Material	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Made Ground <2% Anthropogenic Material	Clay					
Sample Date	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023					
LoW Code	17 05 04	17 05 04	17 05 04	17 05 04	17 05 04	17 05 04	17 05 04	17 05 04	17 05 04	17 05 04	17 05 04	17 05 04	17 05 04	17 05 04					
Waste Category	Category B2 - Domain 2	Category A - Domain 2	Category A - Domain 2	Category B1 - Domain 2	Category B1 - Domain 2	Category A - Domain 2	Category A - Domain 2	Category B1 - Domain 2	Category A - Domain 2	Category A - Domain 2	Category A - Domain 2	Category A - Domain 2	Category B1 - Domain 2	Category A - Domain 2	Domain 2 (1.5 limit)	Category B1 Criteria	Category B2 Criteria	Hazardous Criteria	LOD LOR	Units
Metals																				
Antimony	2	2	1	3	3	2	<1	1	1	3	2	2	3	2	-	-	-	HazWaste	<1	mg/kg
Arsenic	16.5	12.8	8.3	17.5	17.3	12.3	5.6	10.6	8.6	11.2	13.4	9.9	15.1	13.6	37.35	-	-	HazWaste	<0.5	mg/kg
Barium	135	92	61	140	139	45	39	52	53	310	69	51	124	91	-	-	-	HazWaste	<1	mg/kg
Cadmium	2.7	2.3	0.7	2.2	2.8	1.9	1.2	1.9	1.5	2.4	2.4	2.1	1.9	1.8	4.92	-	-	HazWaste	<0.1	mg/kg
Chromium	31.3	17.4	32	30.2	26.6	15.3	12.5	15.5	19.5	20.2	18.2	17.3	22.8	42	75.45	-	-	HazWaste	<0.5	mg/kg
Copper	52	37	24	49	52	27	13	28	21	30	41	27	61	35	95.25	-	-	HazWaste	<1	mg/kg
Lead	91	19	92	241	113	20	13	15	15	18	18	16	133	23	129.15	-	-	HazWaste	<5	mg/kg
Mercury	0.2	<0.1	<0.1	0.3	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	0.54	-	-	HazWaste	<0.1	mg/kg
Molybdenum	3.4	3.5	1	4	4.6	3.8	1.6	2.7	2.9	7.8	4.4	3.1	3.3	3	-	-	-	HazWaste	<0.1	mg/kg
Nickel	49.3	51	18.1	50.7	61	38.9	14.9	36.1	34.6	45.2	50.8	39.9	42.1	54.7	92.85	-	-	HazWaste	<0.7	mg/kg
Selenium	2	<1	<1	2	2	1	<1	<1	3	5	1	1	1	1	-	-	-	HazWaste	<1	mg/kg
Zinc	103	89	59	124	135	75	49	66	62	76	95	75	114	98	295.5	-	-	HazWaste	<5	mg/kg
Hexavalent Chromium	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	-	-	-	HazWaste	<0.3	mg/kg
pH (solid sample)	7.67	8.68	11.35	8.76	8.57	8.74	9.45	8.44	8.24	8.65	8.54	8.64	8.35	8.4	-	-	-	HazWaste	<0.01	pH units
alkali reserve	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000	gNaOH/100g
Asbestos																				
Asbestos (Dry Weight)	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	-	-	0.1	<0.001	%
Asbestos (Moisture Corrected Weight)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	%
ACM Detected	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Presence	Presence
PAHs																				
Naphthalene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.05	<0.04	-	-	-	HazWaste	<0.04	mg/kg
Acenaphthylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	-	-	HazWaste	<0.03	mg/kg
Acenaphthene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-	HazWaste	<0.05	mg/kg
Fluorene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	-	HazWaste	<0.04	mg/kg
Phenanthrene	0.15	<0.03	0.08	<0.03	0.18	<0.03	<0.03	<0.03	0.06	<0.03	<0.03	<0.03	0.17	<0.03	-	-	-	HazWaste	<0.03	mg/kg
Anthracene	<0.04	<0.04	<0.04	<0.04	0.06	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	-	HazWaste	<0.04	mg/kg
Fluoranthene	0.14	<0.03	0.1	<0.03	0.43	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.31	<0.03	-	-	-	HazWaste	<0.03	mg/kg
Pyrene	0.13	<0.03	0.09	<0.03	0.35	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.27	<0.03	-	-	-	HazWaste	<0.03	mg/kg
Benzo(a)anthracene	0.1	<0.06	0.08	<0.06	0.26	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	0.19	<0.06	-	-	-	HazWaste	<0.06	mg/kg
Chrysene	0.1	<0.02	0.06	<0.02	0.28	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	0.2	<0.02	-	-	-	HazWaste	<0.02	mg/kg
Benzo(bk)fluoranthene	0.13	<0.07	0.09	<0.07	0.44	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	0.3	<0.07	-	-	-	HazWaste	<0.07	mg/kg
Benzo(a)pyrene	0.08	<0.04	0.04	<0.04	0.27	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.19	<0.04	-	-	-	HazWaste	<0.04	mg/kg
Indeno(123cd)pyrene	<0.04	<0.04	<0.04	<0.04	0.17	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.11	<0.04	-	-	-	HazWaste	<0.04	mg/kg
Dibenzo(ah)anthracene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	-	HazWaste	<0.04	mg/kg
Benzo(ghi)perylene	<0.04	<0.04	<0.04	<0.04	0.16	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.11	<0.04	-	-	-	HazWaste	<0.04	mg/kg
Coronene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	-	HazWaste	<0.04	mg/kg
PAH 6 Total	0.35	<0.22	0.23	<0.22	1.47	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	1.02	<0.22	-	-	-		<0.22	mg/kg
PAH 17 Total	0.83	<0.64	<0.64	<0.64	2.60	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	1.9	<0.64	1	100	100	-	<0.64	mg/kg
Benzo(b)fluoranthene	0.09	<0.05	0.06	<0.05	0.32	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.22	<0.05	-	-	-	HazWaste	<0.05	mg/kg
Benzo(k)fluoranthene	0.04	<0.02	0.03	<0.02	0.12	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	<0.02	-	-	-	HazWaste	<0.02	mg/kg
Benzo(j)fluoranthene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	HazWaste	<1	mg/kg
Hydrocarbons																				
TPH (C5-40)	<52	<52	<52	<52	<52	<52	<52	443	<52	<52	<52	<52	<52	<52	-	-	-	HazWaste	<52	mg/kg
MTBE	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	-	HazWaste	<5	ug/kg
Benzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	-	HazWaste	<5	ug/kg
Toluene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	-	HazWaste	<5	ug/kg
Ethylbenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	-	HazWaste	<5	ug/kg
m/p-Xylene	15	<5	<5	<5	<5	<5	<5	6	<5	<5	<5	<5	<5	<5	-	-	-	HazWaste	<5	ug/kg
o-Xylene	10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	-	HazWaste	<5	ug/kg
Total 7 PCBs	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	50	1,000	1,000	HazWaste	<35	ug/kg
WAC Solid Sample Summary**																				
Total Organic Carbon *	3.75	0.47	0.32	1.87	1.39	0.46	0.28	0.27	0.48	0.69	0.41	0.37	2.59	0.75	3	3	6	-	<0.02	%
Sum of BTEX	0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.05	6	6	-	<0.025	mg/kg
Sum of 7 PCBs	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	0.05	1	1	-	<0.035	mg/kg
Mineral Oil	<30	<30	<30	<30	<30	<30	<30	321	<30	<30	<30	<30	<30	<30	50	500	500	-	<30	mg/kg
PAH Sum of 6	0.35	<0.22	0.23	<0.22	1.47	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	1.02	<0.22	-	-	-	-	<0.22	mg/kg
PAH Sum of 17	0.83	<0.64	<0.64	<0.64	2.60	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	1.90	<0.64	1	100	100	-	<0.64	mg/kg
WAC Leachate Data**																				
Arsenic	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	-	0.5	1.5	-	<0.025	mg/kg
Barium	0.29	0.04	0.26	0.07	0.07	<0.03	<0.03	0.10	0.26	<0.03	0.05	0.04	0.07	0.15	-	20	20	-	<0.03	mg/kg
Cadmium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	0.04	0.04	-	<0.005	mg/kg
Chromium	<0.015	<0.015	0.236	0.084	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	-	0.5	0.5	-	<0.015	mg/kg
Copper	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	-	2	2	-	<0.07	mg/kg
Mercury	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	0.01	0.01	-	<0.0001	mg/kg
Molybdenum	0.08	0.06	<0.02	0.12	0.07	0.10	0.23	0.15	0.21	0.08	0.25	0.18	0.07	0.14	-	0.5	1.5	-	<0.02	mg/kg
Nickel	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	0.4	0.4	-	<0.02	mg/kg
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	0.5	0.5	-	<0.05	mg/kg
Antimony	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	0.06	0.18	-	<0.02	mg/kg
Selenium	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.33	<0.03	<0.03	<0.03	<0.03	<0.03	-	0.1	0.3	-	<0.03	mg/kg
Zinc	<0.03	0.03	<0.03	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	4	4	-	<0.03	mg/kg
Total Dissolved Solids	1309	490	1400	830	740	440	470	810	1070	450	560	460	810	880	-	4000	12,000	-	<350	mg/kg
Dissolved Organic Carbon	40	<20	40	<20	<20	<20	<20	30	<20	<20	<20	<20	30	20	-	500	500	-	<20	mg/kg
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	1	1	-	<0.1	mg/kg
Fluoride	<3	3	<3	6	4	<3	<3	3	<3	<3	<3	<3	5	<3	-	10	10	-	<3	mg/kg
Sulphate as SO4	187	19	197	59	<5	6	65	51	307	<5	21	20	6	14	-	1000	3,000	-	<0.5	mg/kg
Chloride	37	10	6	<3	<3	<3	4	5	95	5	8	9	6	8	-	800	2,400	-	<3	mg/kg

NAD- no asbestos detected

* - Integrated Materials Solutions Landfill, Hollywood Great, Nag's Head, The Naul, Co. Dublin

** - limits as specified in Council Decision 2003/33/EC

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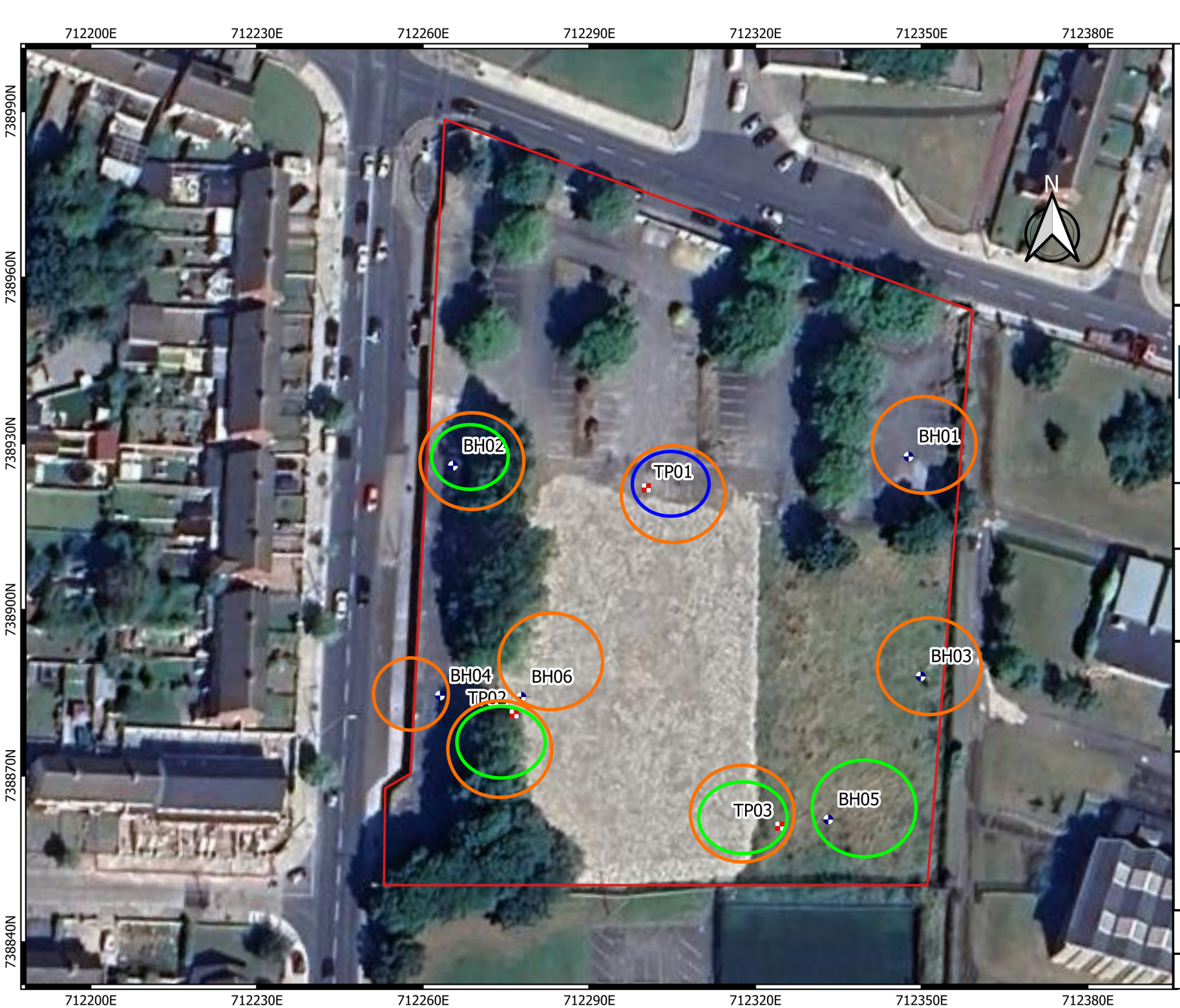
Appendix D: WAC Tested Areas And Classification Results



Indicative Site Boundary

Trial Pit

Borehole

Client:

An Ghníomhaireacht Airgeadais d'Fhorbairt Náisiúnta
National Development Finance Agency

Project Code:

13061-08-23

Project Title:

Housing Bundle 4 & 5 - Lot 2 - Church of the Annunciation

Drawing Title:

Figure 4 Trial Pit and Borehole Locations

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental
Ground Investigations Ireland Ltd.
Catherinstown House,
Hazelhatch Road,
Newcastle, Co. Dublin
www.gii.ie 01-6015175/5176

0 10 20 30 m

Drawn By:	Date:
BS	21-03-2024

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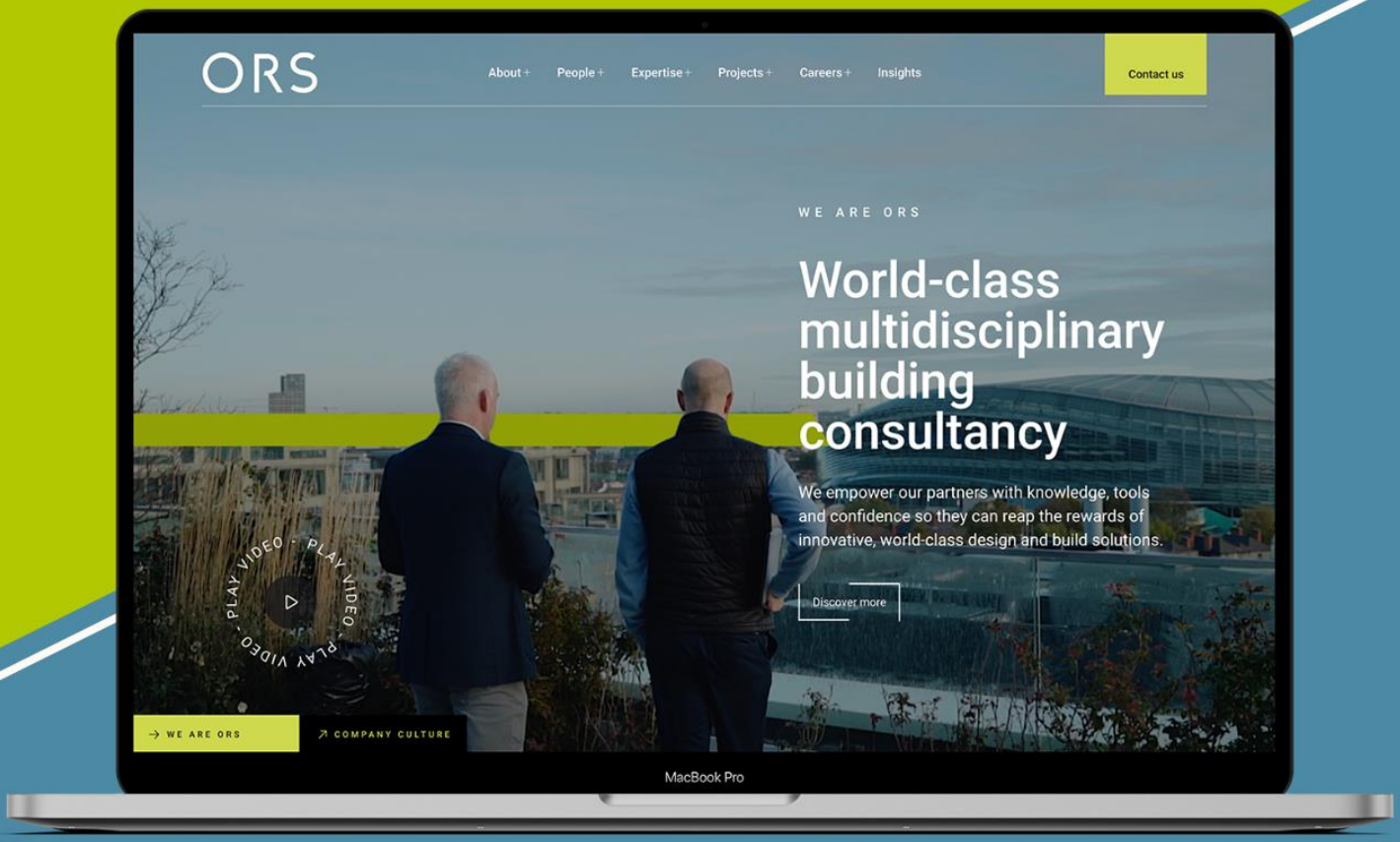

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