EAST ROAD STRATEGIC HOUSING DEVELOPMENT: 1-4 EAST ROAD, DUBLIN 3

Environmental Impact Assessment Report (EIAR) Volume 3- Appendices

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Built. Environment.

Environmental Assessment
Built Environment

Client: Glenveagh Living Ltd.

Date: 29 April 2019

DOCUMENT CONTROL SHEET

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Appendices Contents

A8.1 RELEVANT LEGISLATION

A8.1 Appendix

A8.1.1 Relevant Legislation

A8.1.1.1National Monuments Legislation (1930-2004)

The National Monument Act, 1930 (as amended) provides the formal legal mechanism to protect monuments in Ireland. Protection of a monument is provided via:

- Record of Monuments and Places (RMP);
- National Monument in the ownership or guardianship of the Minister for Arts, Heritage, Regional, Rural & Gaeltacht Affairs or a Local Authority;
- National Monument subject to a Preservation Order (or temporary Preservation Order);
- Register of Historic Monuments (RHM).

The definition of a monument is specified as:

- any artificial or partly artificial building, structure or erection or group of such buildings, structures or erections;
- any artificial cave, stone or natural product, whether forming part of the ground, that has been artificially carved, sculptured or worked upon or which (where it does not form part of the place where it is) appears to have been purposely put or arranged in position;
- any, or any part of any, prehistoric or ancient tomb, grave or burial deposit, or (ii) ritual, industrial or habitation site; and
- any place comprising the remains or traces of any such building, structure or erection, any cave, stone or natural product or any such tomb, grave, burial deposit or ritual, industrial or habitation site.

Under Section 14 of the Principal Act (1930):

It shall be unlawful...

> *to demolish or remove wholly or in part or to disfigure, deface, alter, or in any manner injure or interfere with any such national monument without or otherwise than in accordance with the consent hereinafter mentioned (a licence issued by the Office of Public Works National Monuments Branch),*
>
> or
>
> *to excavate, dig, plough or otherwise disturb the ground within, around, or in the proximity to any such national monument without or otherwise than in accordance...*

Under Amendment to Section 23 of the Principal Act (1930):

A person who finds an archaeological object shall, within four days after the finding, make a report of it to a member of the Garda Síochána...or the Director of the National Museum...

The latter is of relevance to any finds made during a watching brief.

In the 1994 Amendment of Section 12 of the Principal Act (1930), all the sites and 'places' recorded by the Sites and Monuments Record of the Office of Public Works are provided with a new status in law. This new status provides a level of protection to the listed sites that is equivalent to that accorded to 'registered' sites [Section 8(1), National Monuments Amendment Act 1954] as follows:

> The Commissioners shall establish and maintain a record of monuments and places where they believe there are monuments and the record shall be comprised of a list of monuments and such

places and a map or maps showing each monument and such place in respect of each county in the State.

The Commissioners shall cause to be exhibited in a prescribed manner in each county the list and map or maps of the county drawn up and publish in a prescribed manner information about when and where the lists and maps may be consulted.

In addition, when the owner or occupier (not being the Commissioners) of a monument or place which has been recorded, or any person proposes to carry out, or to cause or permit the carrying out of, any work at or in relation to such monument or place, he shall give notice in writing of his proposal to carry out the work to the Commissioners and shall not, except in the case of urgent necessity and with the consent of the Commissioners, commence the work for a period of two months after having given the notice.

The National Monuments Amendment Act enacted in 2004 provides clarification in relation to the division of responsibilities between the Minister of Environment, Heritage and Local Government, Finance and Arts, Sports and Tourism together with the Commissioners of Public Works. The Minister of Environment, Heritage and Local Government will issue directions relating to archaeological works and will be advised by the National Monuments Section and the National Museum of Ireland. The Act gives discretion to the Minister of Environment, Heritage and Local Government to grant consent or issue directions in relation to road developments (Section 49 and 51) approved by An Bord Pleanála and/or in relation to the discovery of National Monuments.

14A. (1) The consent of the Minister under section 14 of this Act and any further consent or licence under any other provision of the National Monuments Acts 1930 to 2004 shall not be required where the works involved are connected with an approved road development.

14A. (2) Any works of an archaeological nature that are carried out in respect of an approved road development shall be carried out in accordance with the directions of the Minister, which directions shall be issued following consultation by the minister with the Director of the National Museum of Ireland.

Subsection 14A (4) Where a national monument has been discovered to which subsection (3) of this section relates, then the road authority carrying out the road development shall report the discovery to the Minister subject to subsection (7) of this section, and pending any directions by the Minister under paragraph (d) of this subsection, no works which would interfere with the monument shall be carried out, except works urgently required to secure its preservation carried out in accordance with such measures as may be specified by the Minister.

The Minister will consult with the Director of the National Museum of Ireland for a period not longer than 14 days before issuing further directions in relation to the national monument.

The Minister will not be restricted to archaeological considerations alone, but will also consider the wider public interest.

A8.1.1.2Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act, 1999

This Act provides for the establishment of a national inventory of architectural heritage and historic monuments.

Section 1 of the act defines "*architectural heritage*" as:

(a) all structures and buildings together with their settings and attendant grounds, fixtures and fittings,
(b) groups of such structures and buildings, and,
(c) sites which are of architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest.

Section 2 of the Act states that the Minister (for Arts, Heritage, Gaeltacht and the Islands) shall establish the NIAH, determining its form and content, defining the categories of architectural heritage, and specifying to which category each entry belongs. The information contained within the inventory will be made available to planning authorities, having regard to the security and privacy of both property and persons involved.

Section 3 of the Act states that the Minister may appoint officers, who may in turn request access to premises listed in the inventory from the occupiers of these buildings. The officer is required to inform the occupier of the building why entry is necessary, and in the event of a refusal, can apply for a warrant to enter the premises.

Section 4 of the Act states that obstruction of an officer or a refusal to comply with requirements of entry will result in the owner or occupier being guilty of an offence.

Section 5 of the Act states that sanitary authorities who carry out works on a monument covered by this Act will as far as possible preserve the monument with the proviso that its condition is not a danger to any person or property, and that the sanitation authority will inform the Minister that the works have been carried out.

The provisions in the Act are in addition to and not a substitution for provisions of the National Monument Act (1930–94), and the protection of monuments in the National Monuments Act is extended to the monuments covered by the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act (1999).

A8.2 GLOSSARY OF IMPACT ASSESSMENT

A8.2 Appendix

A8.2.1 Glossary of Impact Assessment

A8.2.1.1 Significance Criteria (NRA Guidelines 2006)

The significance criteria can be used to evaluate the significance of an archaeological site, monument or complex. It should not, however, be regarded as definitive, rather it is an indicator which contributes to a wider judgment based on the individual circumstances of a feature. Different monument types lend themselves more easily to assessment and it should be borne in mind that this can create a bias in the record, for example an upstanding stone monument such as a fortified house is easier to examine with a view to significance than a degraded enclosure site.

Table A8.2.1: Significance Criteria

Criteria	Explanation
Existing Status	The level of protection associated with a monument or complex is an important consideration.
Condition /Preservation	The survival of a monument's archaeological potential both above and below ground is an important consideration and should be assessed in relation to its present condition and surviving features. Well-preserved sites should be highighted, this assessment can only be based on a field inspection.
Documentation /Historical Significance	The significance of a monument may be enhanced by the existence of records of previous investigations or contemporary documentation supported by written evidence or historic maps. Sites with a definite historical association or an example of a notable event or person should be highlighted.
Group Value	The value of a single monument may be greatly enhanced by its association with related contemporary monuments or with monuments from different periods indicating an extended time presence in any specific area. In some cases it may be preferable to protect the complete group, including associated and adjacent land, rather than to protect isolated monuments within that group.
Rarity	The rarity of some monument types can be a central factor affecting response strategies for development, whatever the condition of the individual feature. It is important to recognise sites that have a limited distribution.
Visibility in the landscape	Monuments that are highly visible in the landscape have a heightened physical presence. The inter-visibility between monuments may also be explored in this category.
Fragility / Vulnerability	It is important to assess the level of threat to archaeological monuments from erosion, natural degradation, agricultural activity, land clearance, neglect, careless treatment or development. The nature of the archaeological evidence cannot always be specified precisely but it may still be possible to document reasons to justify the significance of the feature. This category relates to the probability of monuments producing material of archaeological significance as a result of future investigative work.
Amenity Value	Regard should be taken of the existing and potential amenity value of a monument.

A8.2.1.2 Assessment of material assets, as defined by the EPA

Context Describe the location and extent of the asset. Does it extend beyond the site boundary?
Character Describe the nature and use of the asset. It is exploited, used or accessible? Is it renewable or non-renewable and if so over what period?

Significance Describe the significance of the asset. Is the material asset unique, scarce or common in the region? Is its use controlled by known plans, priorities or policies? What trends are evident or may reasonably be inferred?

Sensitivity Describe the changes in the existing environment which could limit the access to, or the use of, the material asset.

A8.2.1.3 Glossary of Impacts as defined by the EPA and the NRA Guidelines 2006

Impacts are generally categorised as either being a direct impact, an indirect impact or as having no predicted impact. A glossary of impacts as defined by the EPA are as follows:

- A **direct impact** occurs when an item of archaeological heritage is located within the proposed development area and entails the removal of part, or all of the monument.
- **Indirect impacts** may be caused due to the close proximity of a development to an archaeological feature. Mitigation strategies can often ameliorate any adverse indirect impact.
- **No predicted** impact occurs when the proposed development does not adversely or positively affect an archaeological site.

The Draft EPA Revised Guidelines on Information to be contained within an EIS (September 2015) have also described two additional types of impact/effects:

- *Indirect Impacts* – Effects that arise off-site or are caused by other parties that are not under the control of the developer. Effects which are caused by the interaction of effects, or by associated or off-site projects (this is different to the explanation stated in the NRA guidelines 2006 see above).
- *Secondary Impacts* – Effects that arise as a consequence of a project.

The impacts of the proposed development on the archaeological environment are first assessed in terms of their quality i.e. positive, negative, neutral (or direct and indirect):

- **Negative Impact** A change that will detract from or permanently remove an archaeological monument from the landscape.
- **Neutral Impact** A change that does not affect the archaeological heritage.
- **Positive Impact** A change that improves or enhances the setting of an archaeological monument.

Duration of Impacts

- *Temporary Impact* Impact lasting for one year or less.
- *Short-term Impacts* Impact lasting one to seven years.
- *Medium-term Impact* Impact lasting seven to fifteen years.
- *Long-term Impact* Impact lasting fifteen to sixty years.
- *Permanent Impact* Impact lasting over sixty years.

Types of Impacts

- *Cumulative Impact* – The addition of many small impacts to create one larger, more significant, impact.
- *Do Nothing Impact* – The environment as it would be in the future should no development of any kind be carried out.
- *Indeterminable Impact* – When the full consequences of a change in the environment cannot be described.
- *Irreversible Impact* – When the character, distinctiveness, diversity or reproductive capacity of an environment is permanently lost.
- *Residual Impact* – The degree of environmental change that will occur after the proposed mitigation measures have taken effect.

- '*Worst case' Impact* – The impacts arising from a development in the case where mitigation measures substantially fail.

A8.2.1.4 Magnitude of Impact Criteria

- *Extent* – size, scale and spatial distributions of the effect
- *Duration* – period of time over which the effect will occur
- *Frequency* – how often the effect will occur
- *Context* – how will the extent, duration and frequency contrast with the accepted baseline conditions.

A significance rating for the magnitude of impacts is given:

- **Very High (Profound)** – Applies where mitigation would be unlikely to remove adverse effects. Reserved for adverse, negative effects only. These effects arise where an archaeological / cultural heritage site is completely and irreversibly destroyed by a proposed development.
- **High (Significant) –** An impact which, by its magnitude, duration or intensity alters an important aspect of the environment. An impact like this would be where the part of a site would be permanently impacted upon leading to a loss of character, integrity and data about the archaeological / cultural heritage feature/site.
- **Medium (Moderate) –**A moderate direct impact arises where a change to the site is proposed which though noticeable is not such that the archaeological / cultural heritage integrity of the site is compromised and which is reversible. This arises where an archaeological / cultural heritage feature can be incorporated into a modern day development without damage and that all procedures used to facilitate this are reversible.
- **Low (Slight) –** An impact which causes changes in the character of the environment which are not significant or profound and do not directly impact or affect an archaeological / cultural heritage feature, site or monument.
- **Very Low (Imperceptible) –** An impact capable of measurement but without noticeable consequences.
- **Neutral -** A change that does not affect the cultural heritage asset.

A8.2.1.5 Sensitivity Criteria

An evaluation of the value/ significance of sites and features is based on the extent to which assets contribute to the archaeological or built heritage character, though their individual or group qualities, either directly or potentially and guided by legislation, national policies, acknowledged standards, designations and criteria. The table below presents the scale of values/ sensitivity together with criteria. It has been compiled by Courtney Deery Heritage Consultancy Ltd based on standard authorities and guidelines.

Table A8.2.2: Sensitivity Criteria

Sensitivity / Value	Criteria
Very High	Sites of international significance: World Heritage Sites National Monuments Protected Structures of international and national importance Designed landscapes and gardens of national importance Assets of acknowledged international importance or that can contribute significantly to international research objectives
High	Recorded Monuments and complexes of regional importance Designated assets that contribute to regional research objectives Protected Structures of regional importance Architectural Conservation Areas that contain very significant buildings/structures

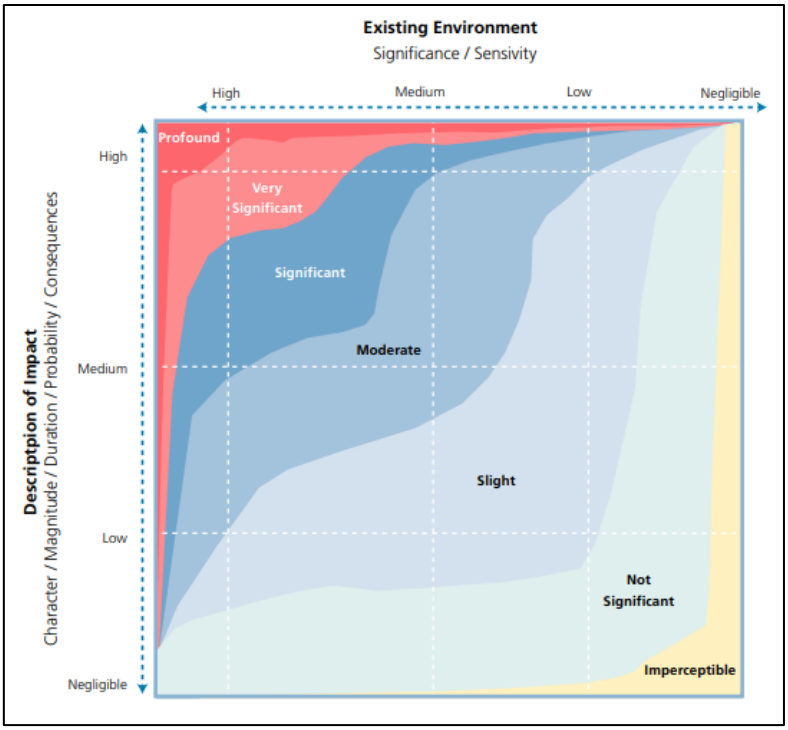
Sensitivity / Value	Criteria
	Architectural Conservation Areas containing structures that contribute significantly to its historic character
Medium	Recently identified archaeological sites / potential sites Greenfield areas with archaeological potential due research and stray finds Designated or undesignated assets that contribute to regional research objectives Sites listed in the NIAH Building and Garden surveys for which there are no upstanding remains
Low	Undesignated Sites of local importance (e.g. townland / field boundaries) Assets compromised by poor preservation and/or poor survival of contextual associations Assets of limited value but with the potential to contribute to local research objectives Historic townscapes or built up areas of limited historic integrity in their building or their settings
Negligible	Assets with very little or no surviving archaeological interest. Buildings of no architectural or historic note
Unknown	The importance of the resource has yet to be fully ascertained Structures with potential historic significance (possibly hidden or inaccessible)

A8.2.1.6 Criteria for assessment of impact significance

The Draft EPA Revised Guidelines on Information to be contained within an EIS (September 2015) has also added the following levels of significance of effect (as per figure below):

Table A8.2.3: Significance of Effects (EPA draft 2015)

Significance of Effect	Description
Very Significant	An impact which by its character, magnitude, duration or intensity significantly alters the majority of a sensitive aspect of the environment, for example in this case a monument
Not Significant	An effect which causes noticeable changes in the character of the environment but without noticeable consequences.



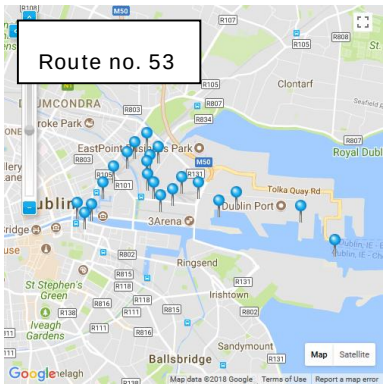
Source: Draft EPA Revised Guidelines on Information to be contained within an EIS (September 2015), p.43

Using both the sensitivity of the heritage asset and the magnitude of impact the impact significance is established. The table below has been compiled by Courtney Deery Heritage Consultancy Ltd based on standard authorities and guidelines.

Table A8.2.4: Criteria for assessment of impact significance

Impact Significance					
Magnitude Impact (+/-)	Sensitivity / Value of Archaeological / Cultural Heritage asset				
Neutral	Very Low	Low	Medium	High	Very High
Very Low	Imperceptible	Not Significant	Slight	Slight	Slight
Low	Imperceptible	Slight	Moderate	Moderate	Moderate
Medium	Slight	Moderate	Moderate	Significant	Significant
High	Slight	Moderate	Significant	Significant	Profound
Very High	Slight	Moderate	Significant	Very Significant	Profound

A11.1 PUBLIC TRANSPORT BUS ROUTES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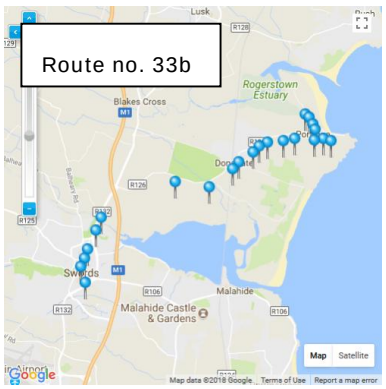
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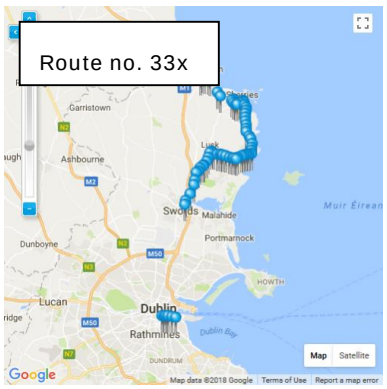
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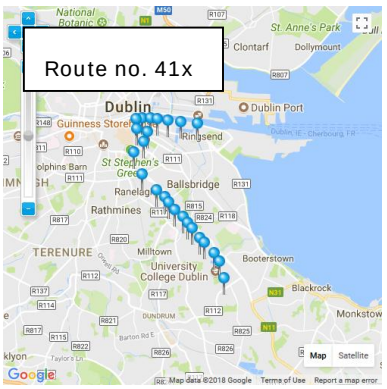
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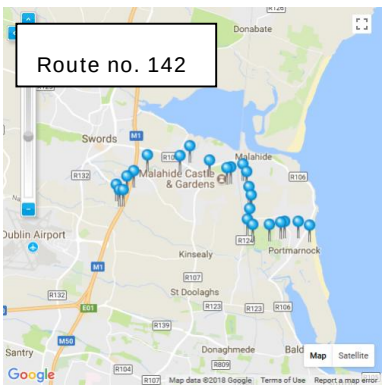
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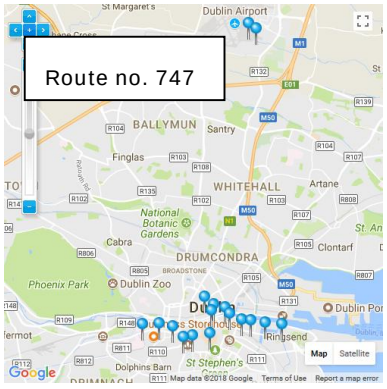
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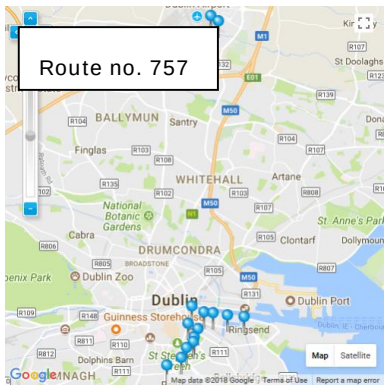
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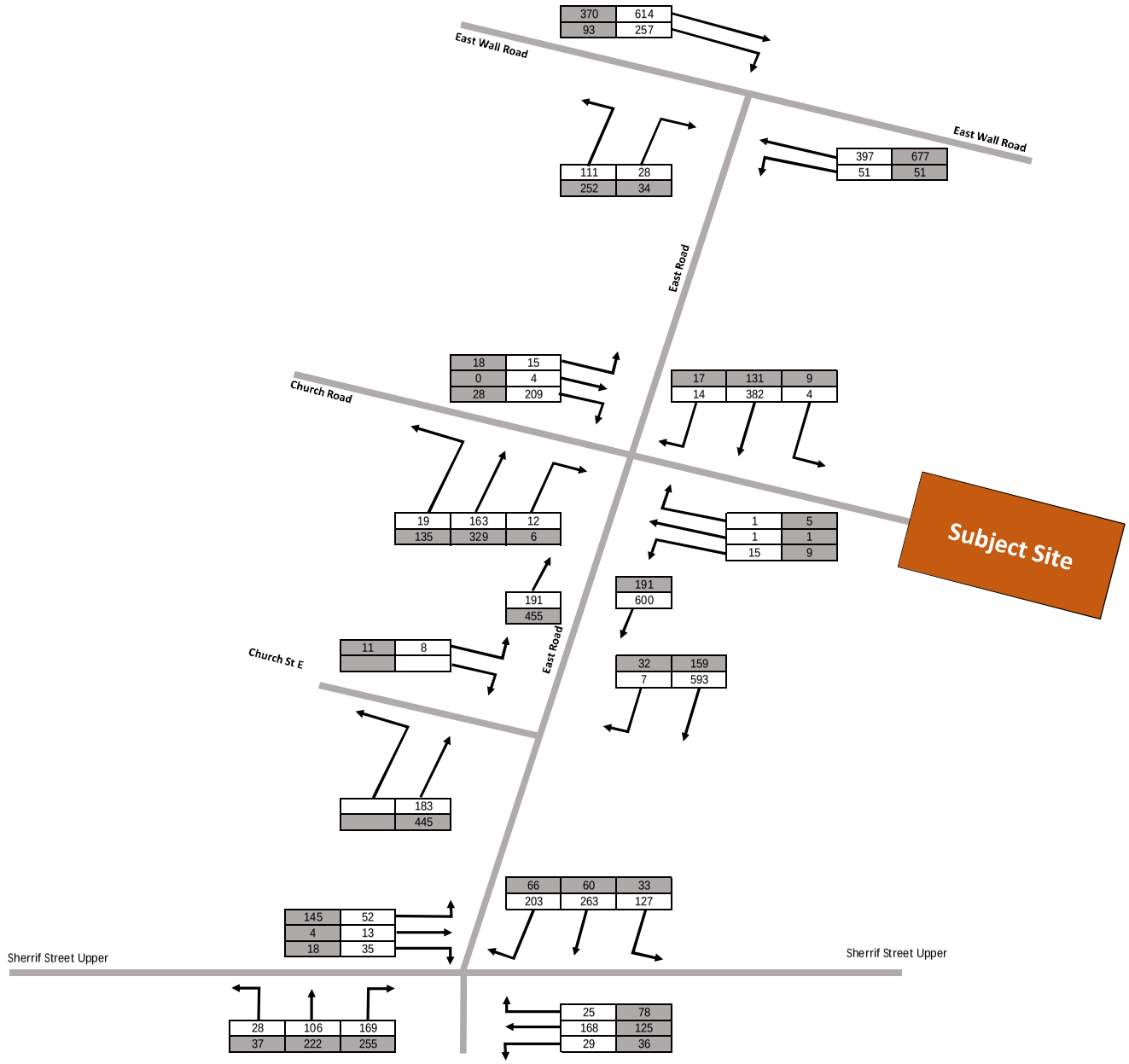
A11.2 TRAFFIC FLOW DIAGRAMS



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DRG. Title: Network Traffic Flows
2018 Surveyed Flows

Key:
AM Peak Hour (0730 - 0830)
PM Peak Hour (1700 - 1800)

Dwn:	Ckd:	Date:
TM	TJ	01/05/2018

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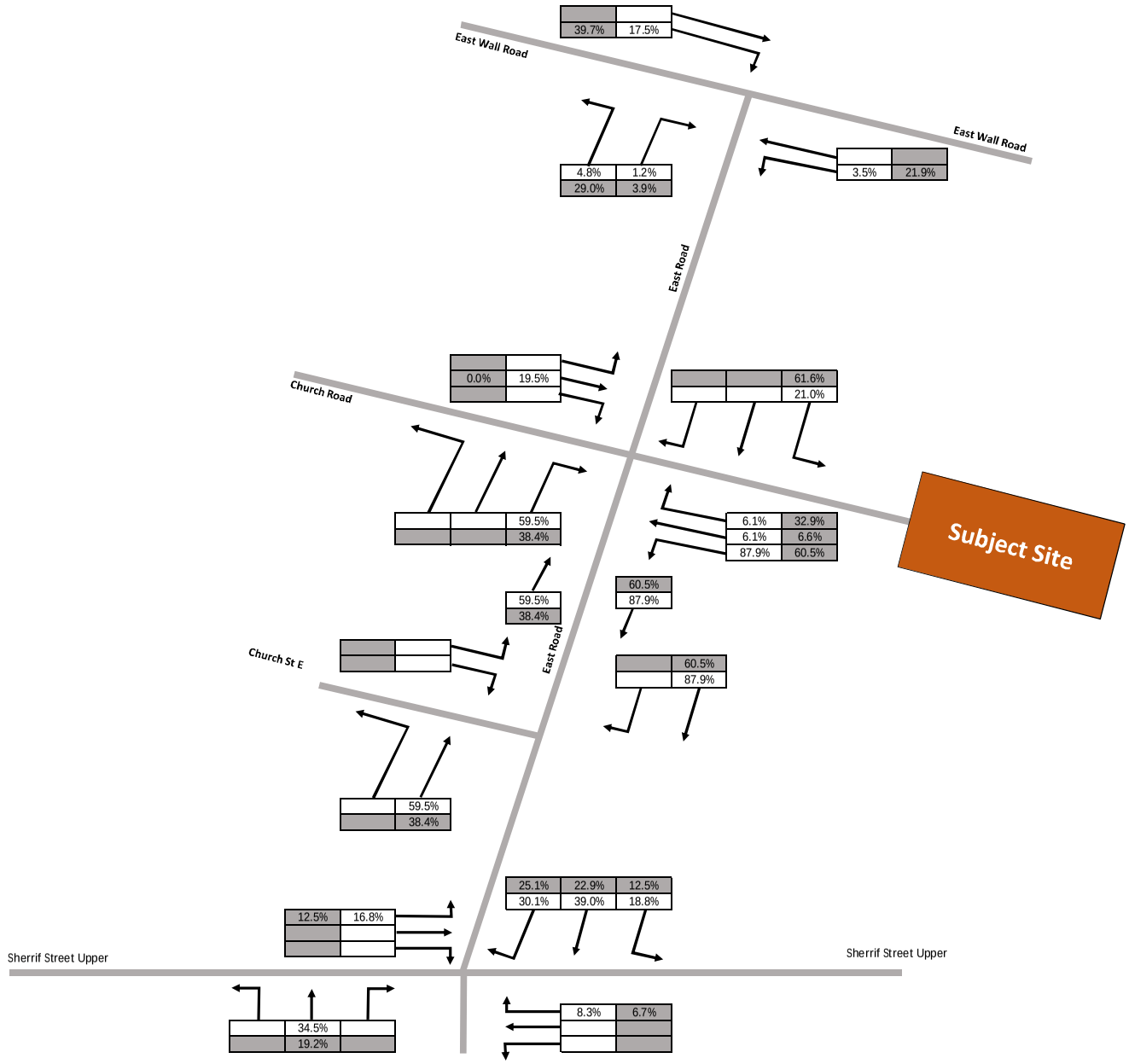

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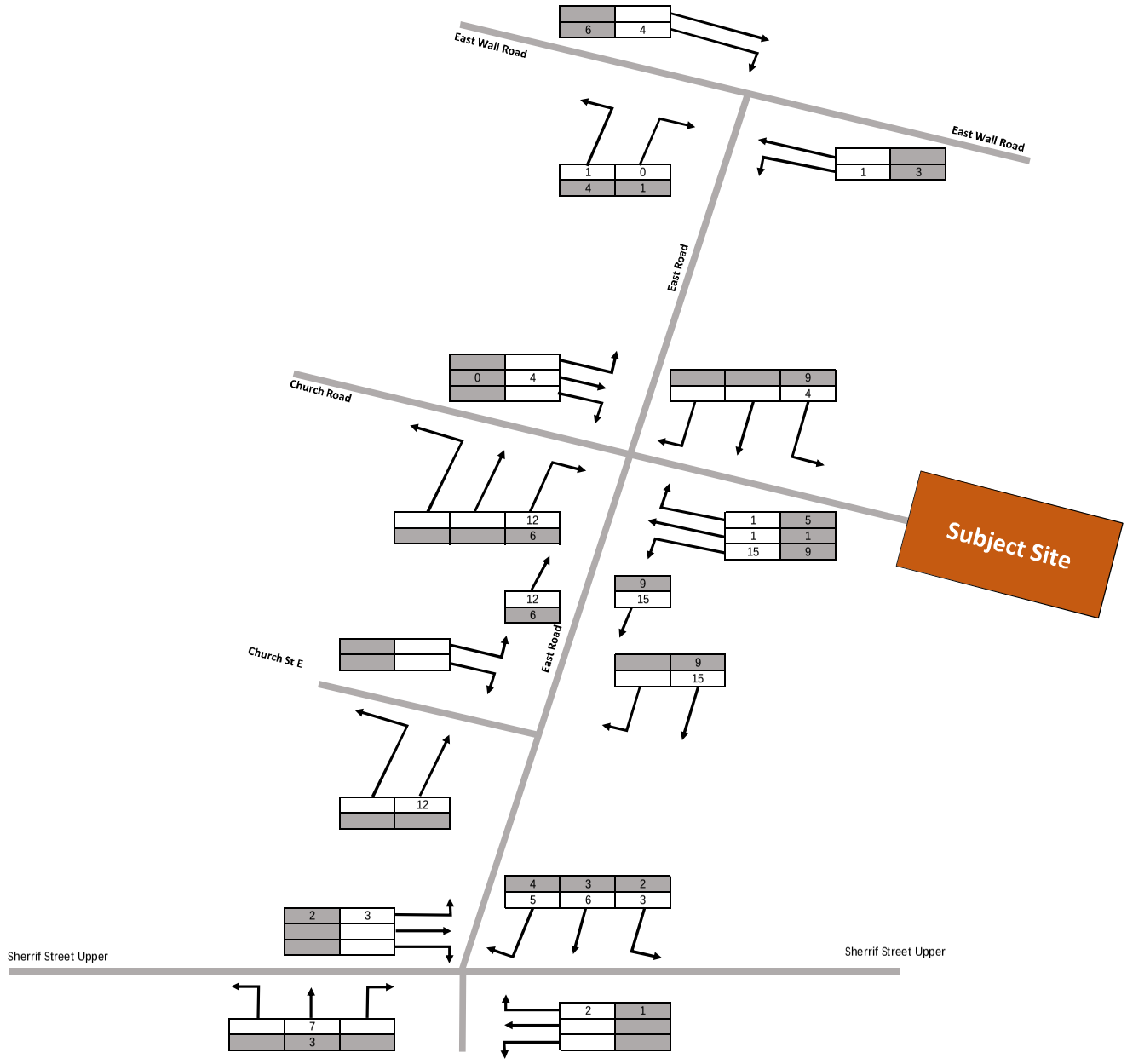

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Network Traffic Flows
Existing Site Flows

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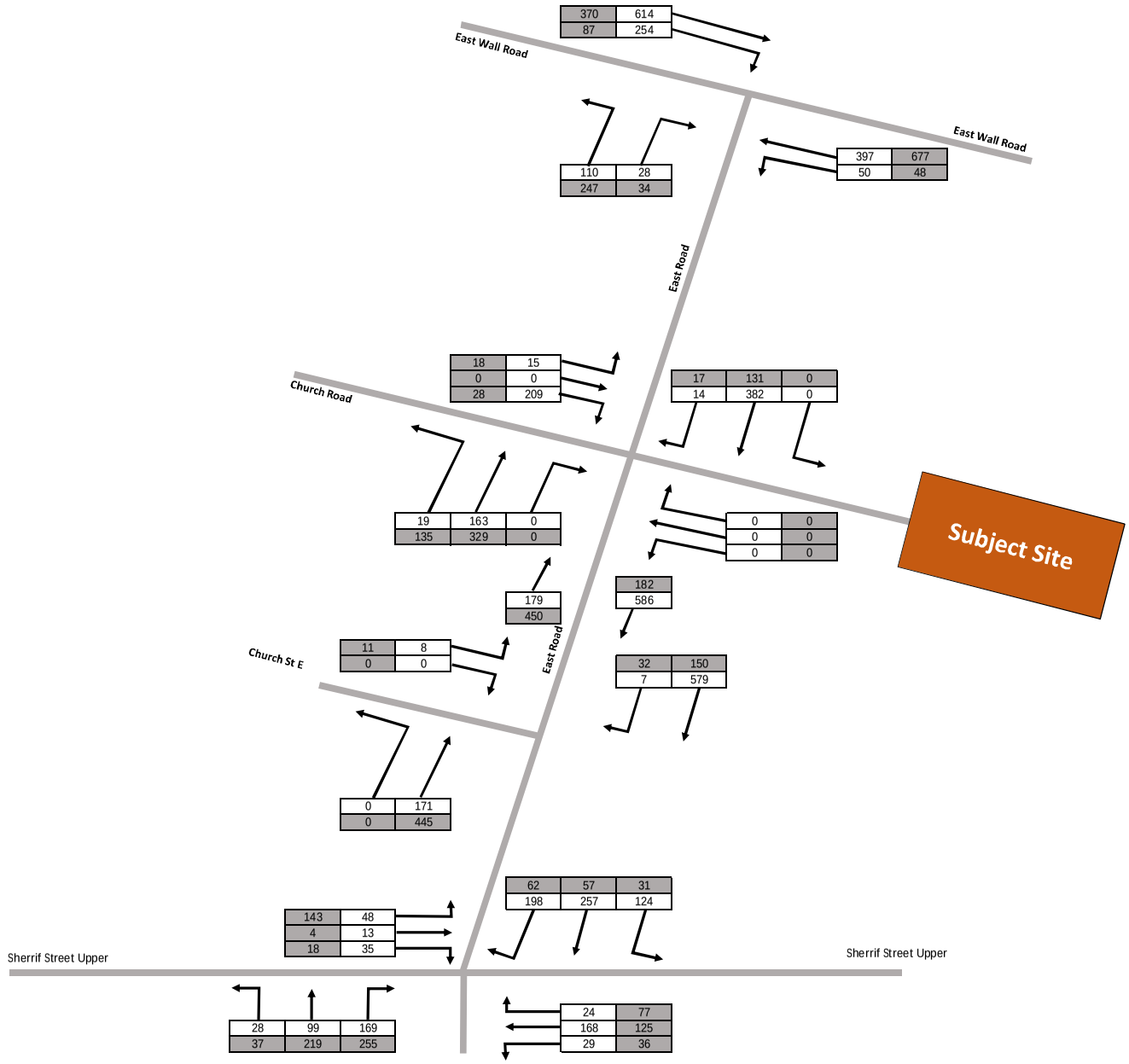

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DRG. Title:
Network Traffic Flows
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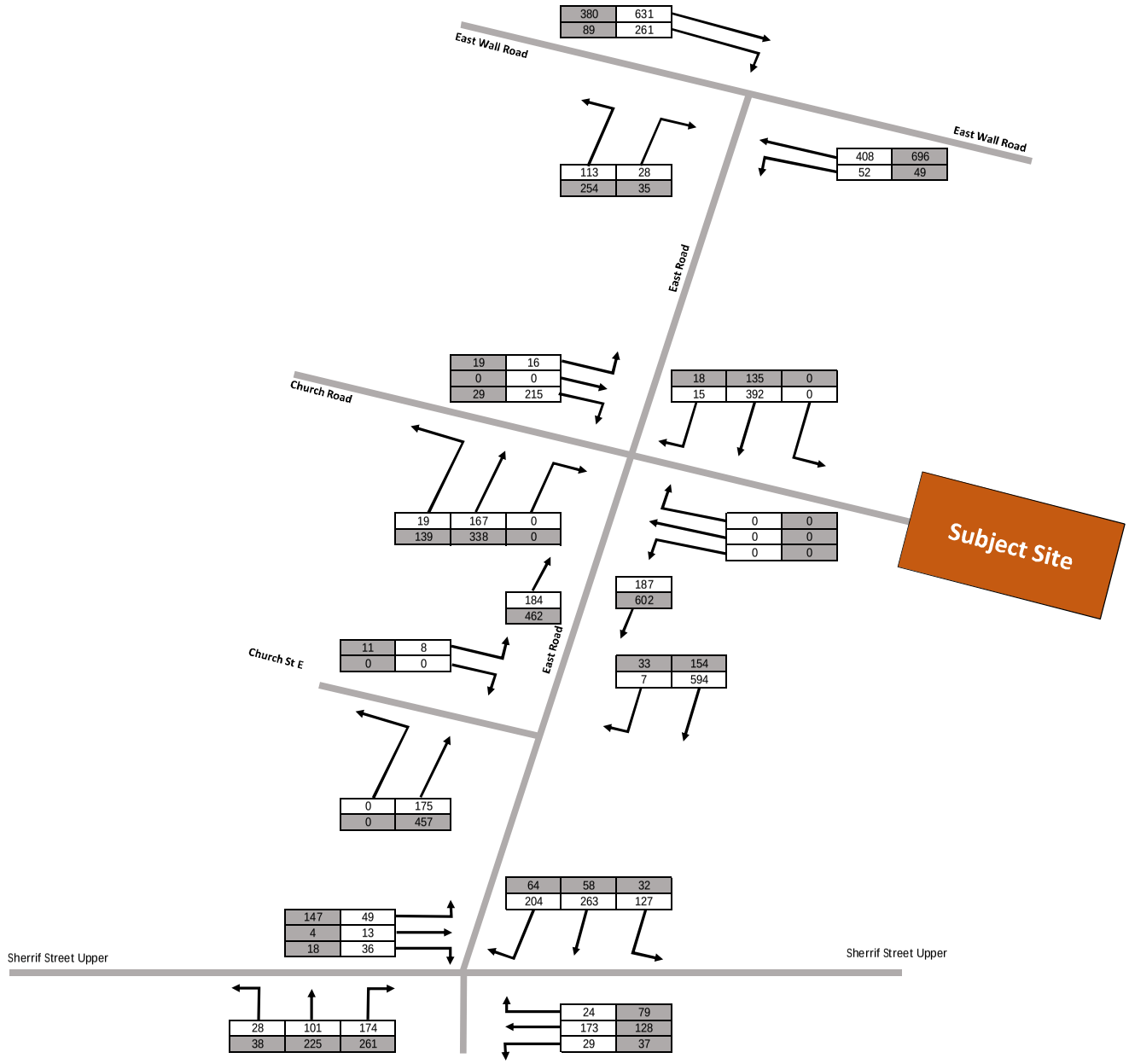

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Network Traffic Flows
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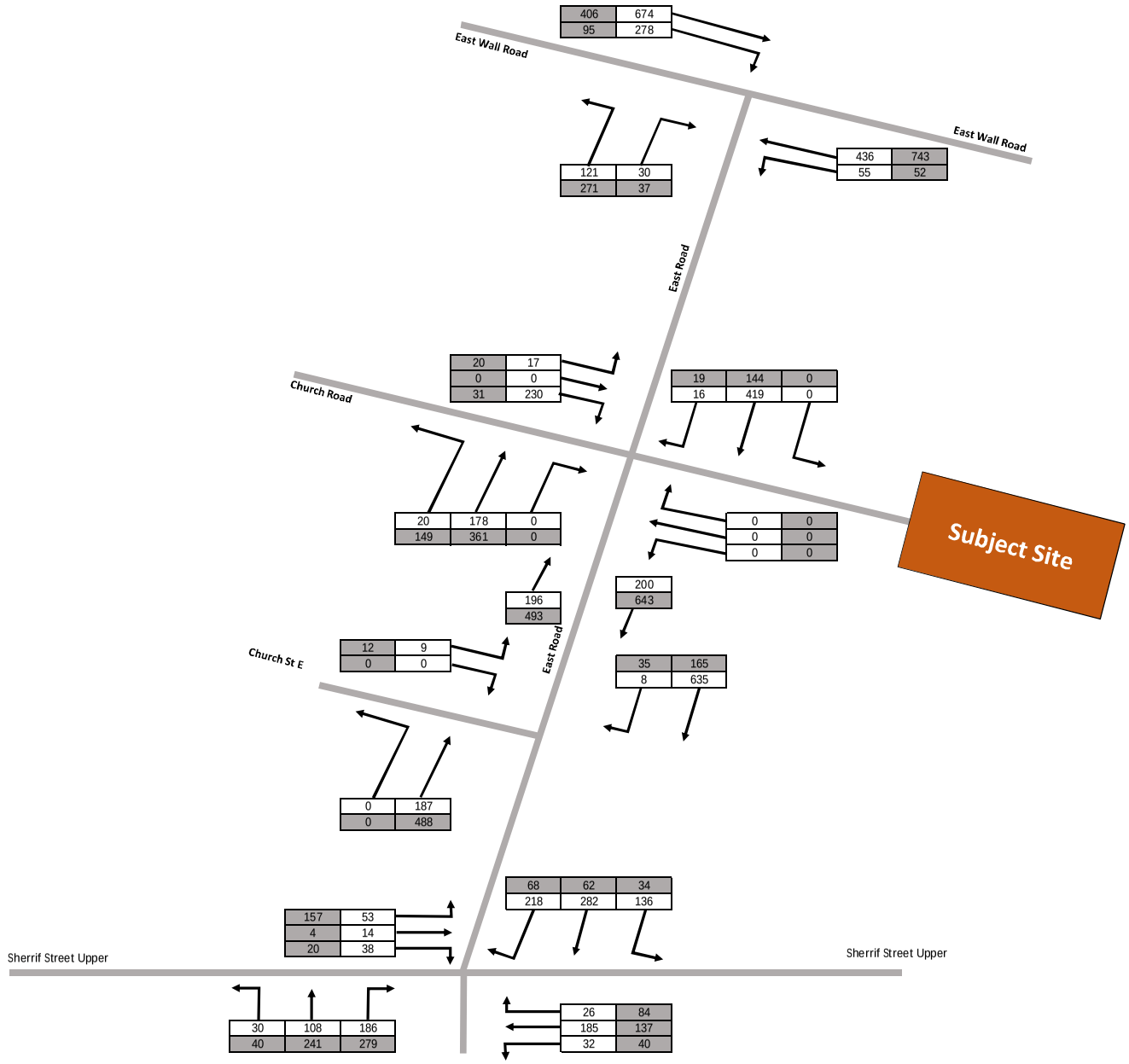

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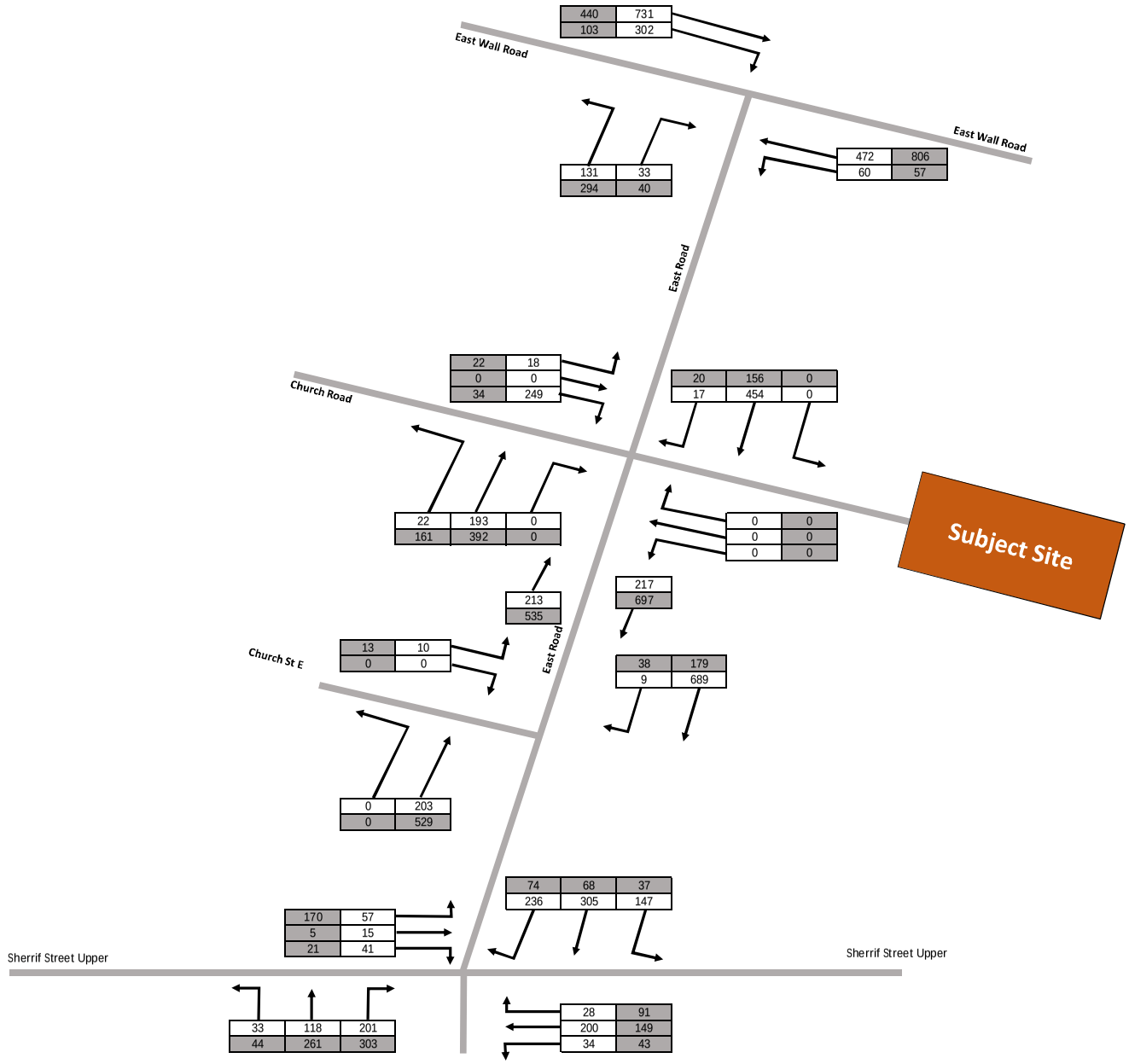

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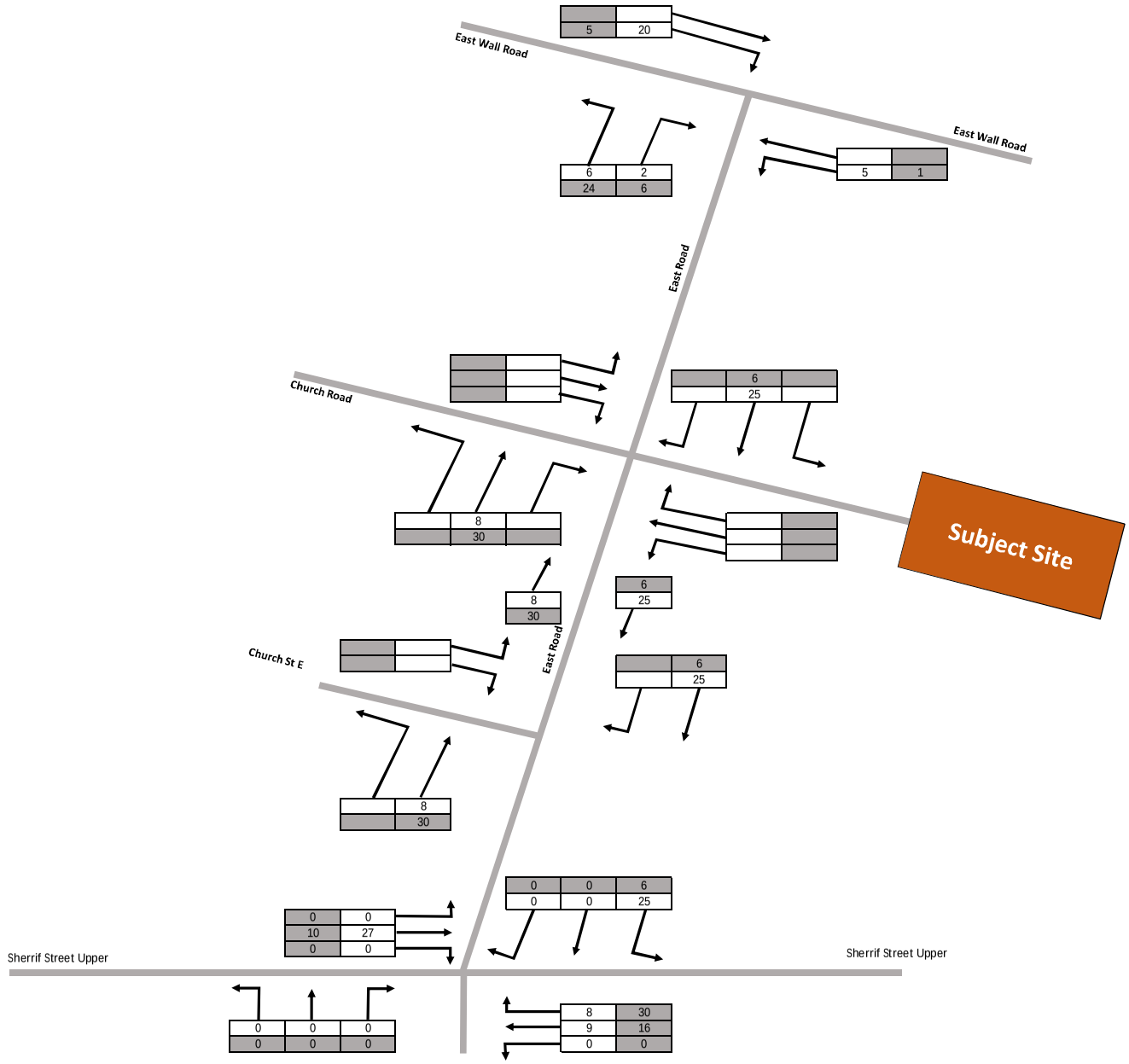

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Committed Development 3

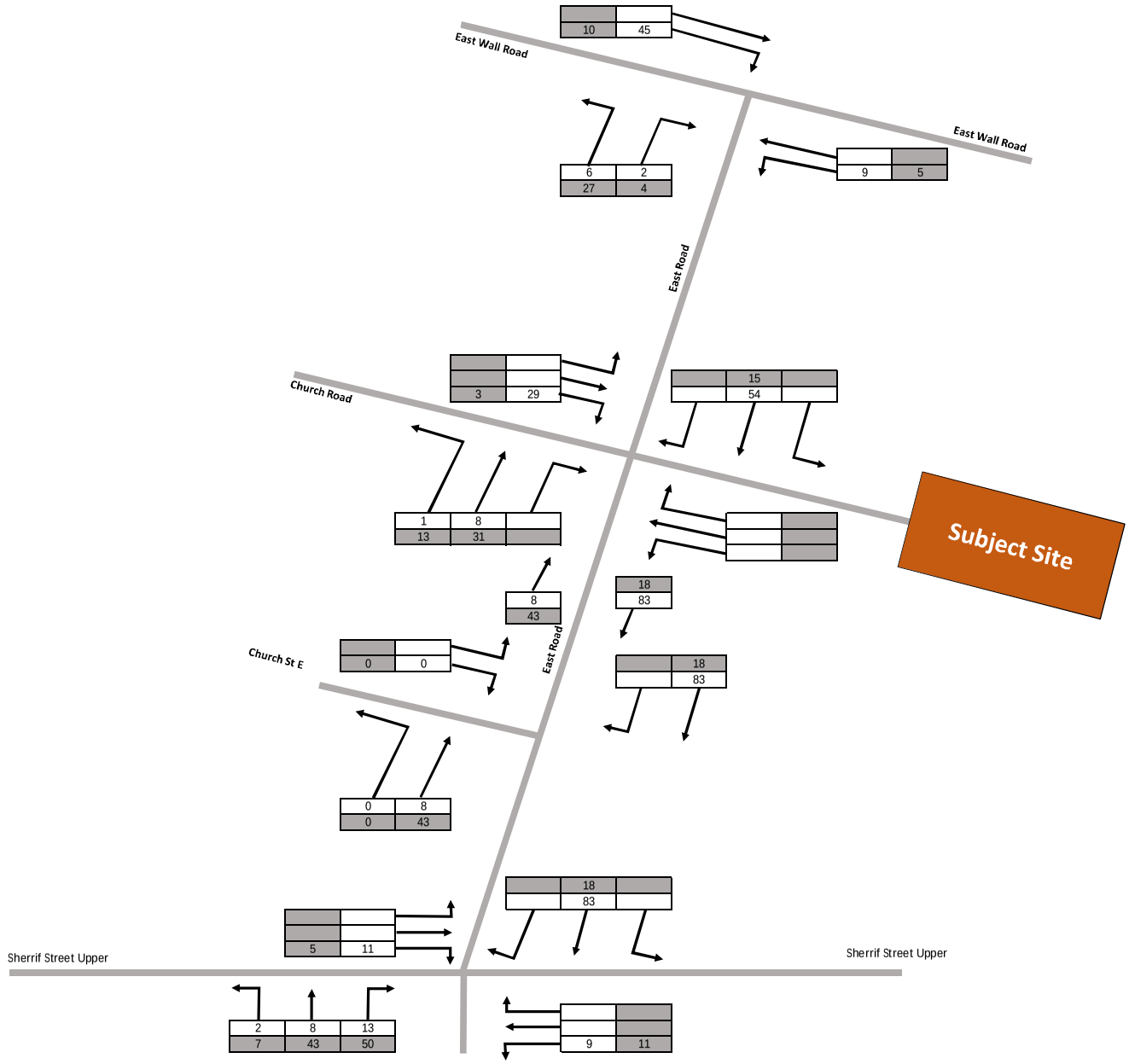
Key:
AM Peak Hour (0730 - 0830)
PM Peak Hour (1700 - 1800)

Dwn:	Ckd:	Date:
TM	TJ	01/05/2018

Ref: 170200

Figure: 8

Rev:



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website: www.dbfl.ie

Project:
1-3 East Road Dublin

DRG. Title:
Network Traffic Flows
Committed Development 4

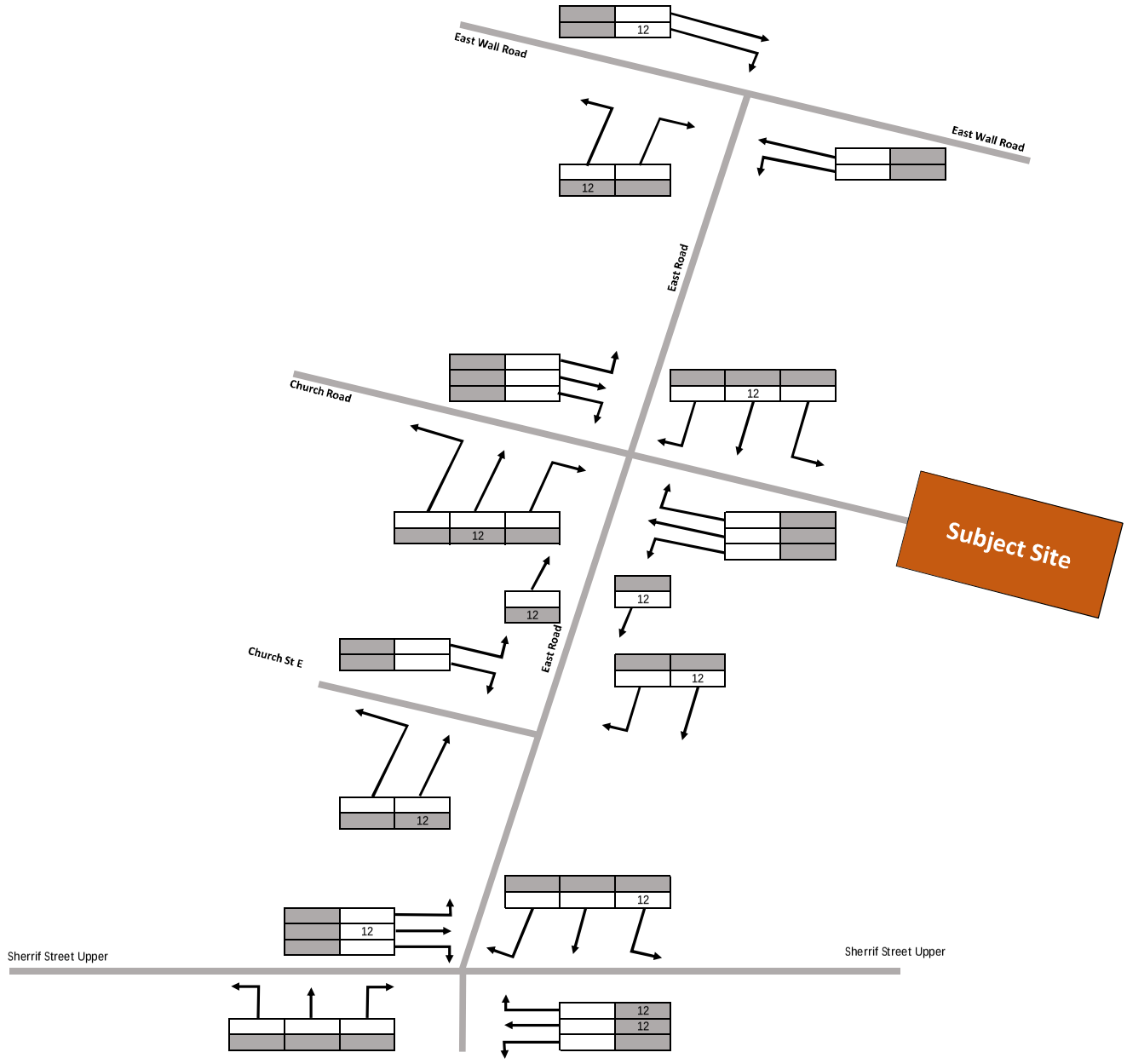
Key:
AM Peak Hour (0730 - 0830)
PM Peak Hour (1700 - 1800)

Dwn:	Ckd:	Date:
TM	TJ	01/05/2018

Ref: 170200

Figure: 9

Rev:



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Project:
1-3 East Road Dublin

DRG. Title:
Network Traffic Flows
Committed Development 7

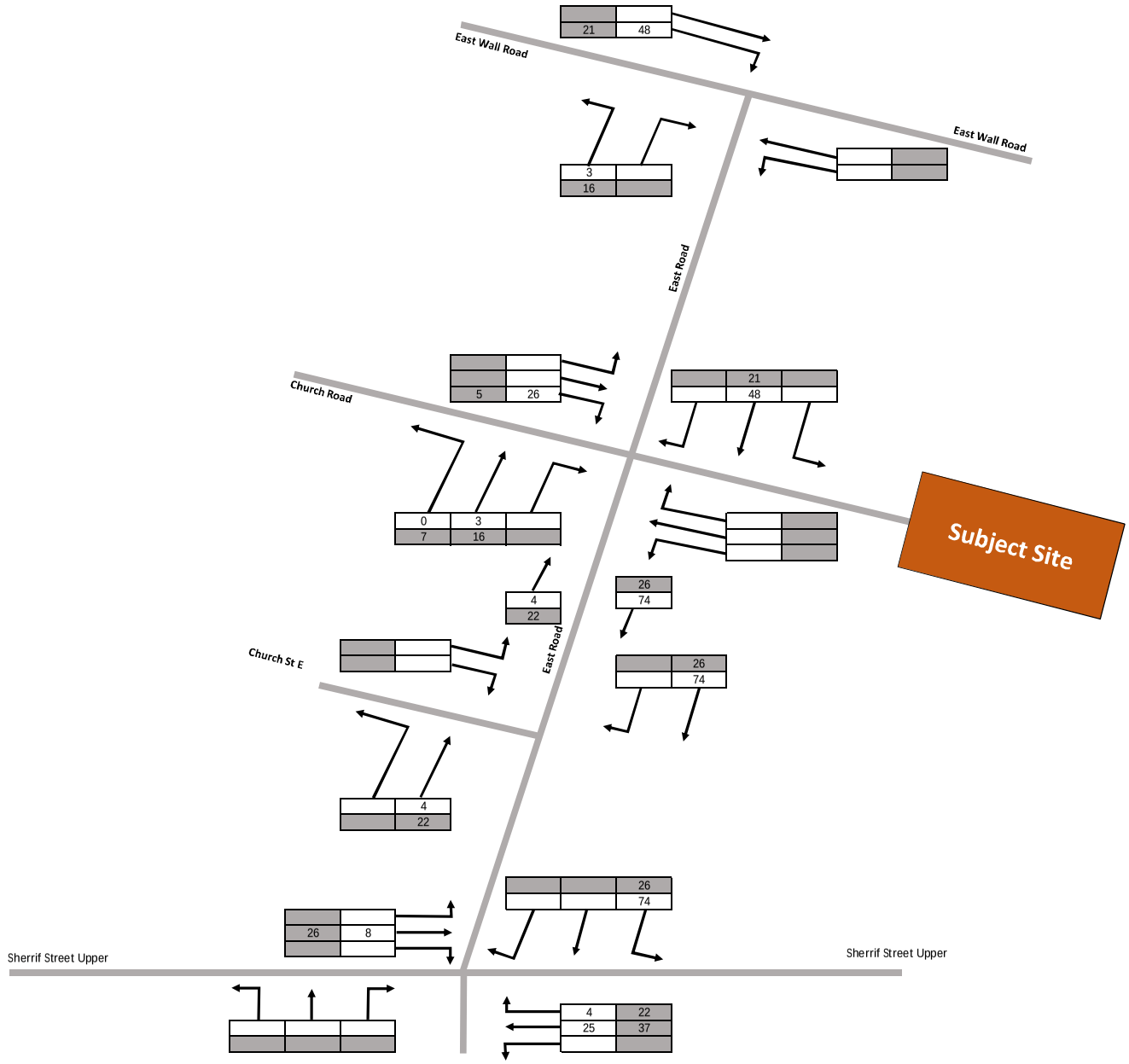
Key:
AM Peak Hour (0730 - 0830)
PM Peak Hour (1700 - 1800)

Dwn:	Ckd:	Date:
TM	TJ	01/05/2018

Ref: 170200

Figure: 10

Rev:



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Project:
1-3 East Road Dublin

DRG. Title:
Network Traffic Flows
Committed Developments 8 & 9

Key:
AM Peak Hour (0730 - 0830)
PM Peak Hour (1700 - 1800)

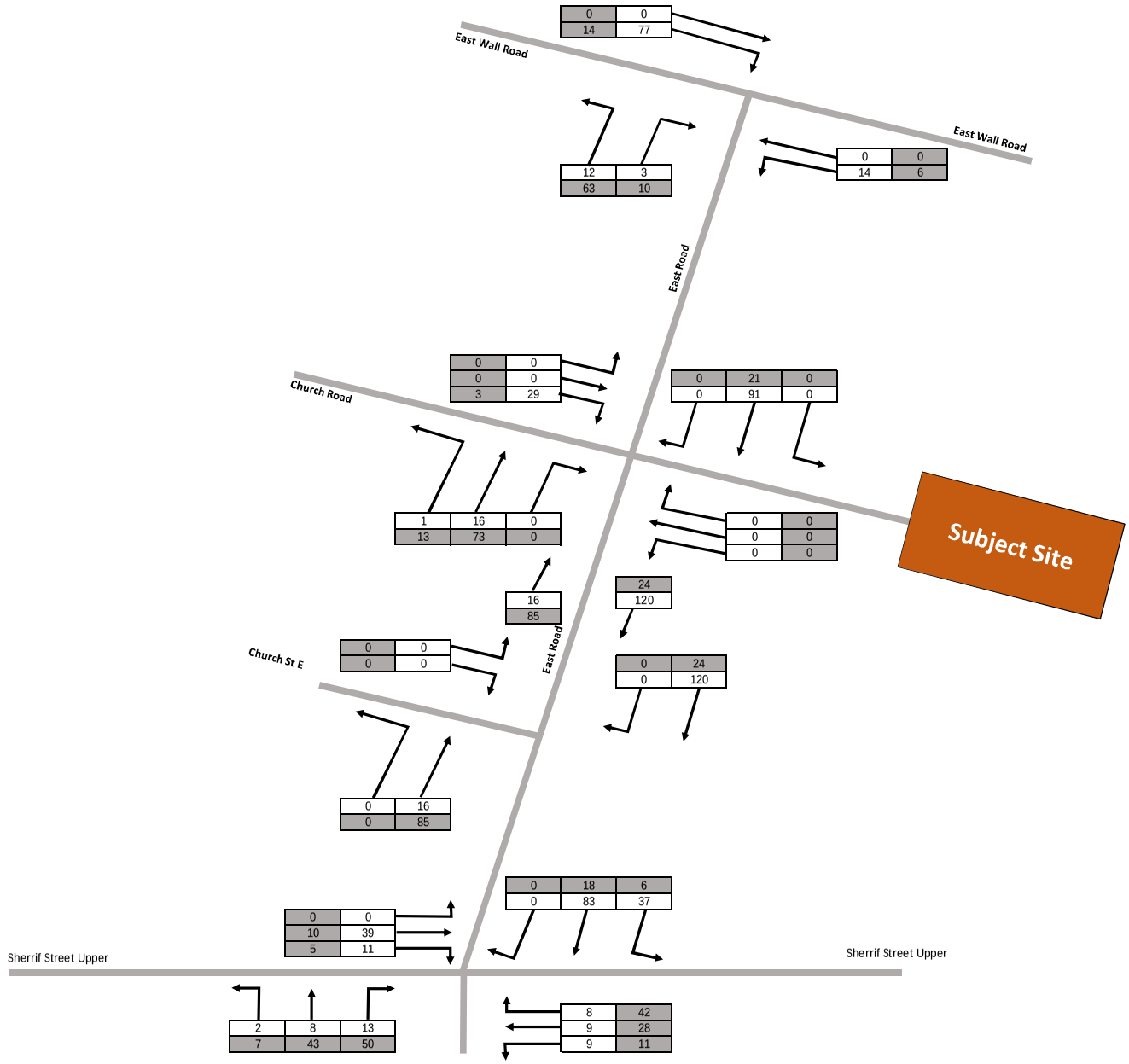
2021 Opening Year

Dwn:	Ckd:	Date:
TM	TJ	01/05/2018

Ref: 170200

Figure: 11

Rev:



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Project:
1-3 East Road Dublin

DRG. Title:
Network Traffic Flows
Committed Development Total 2020

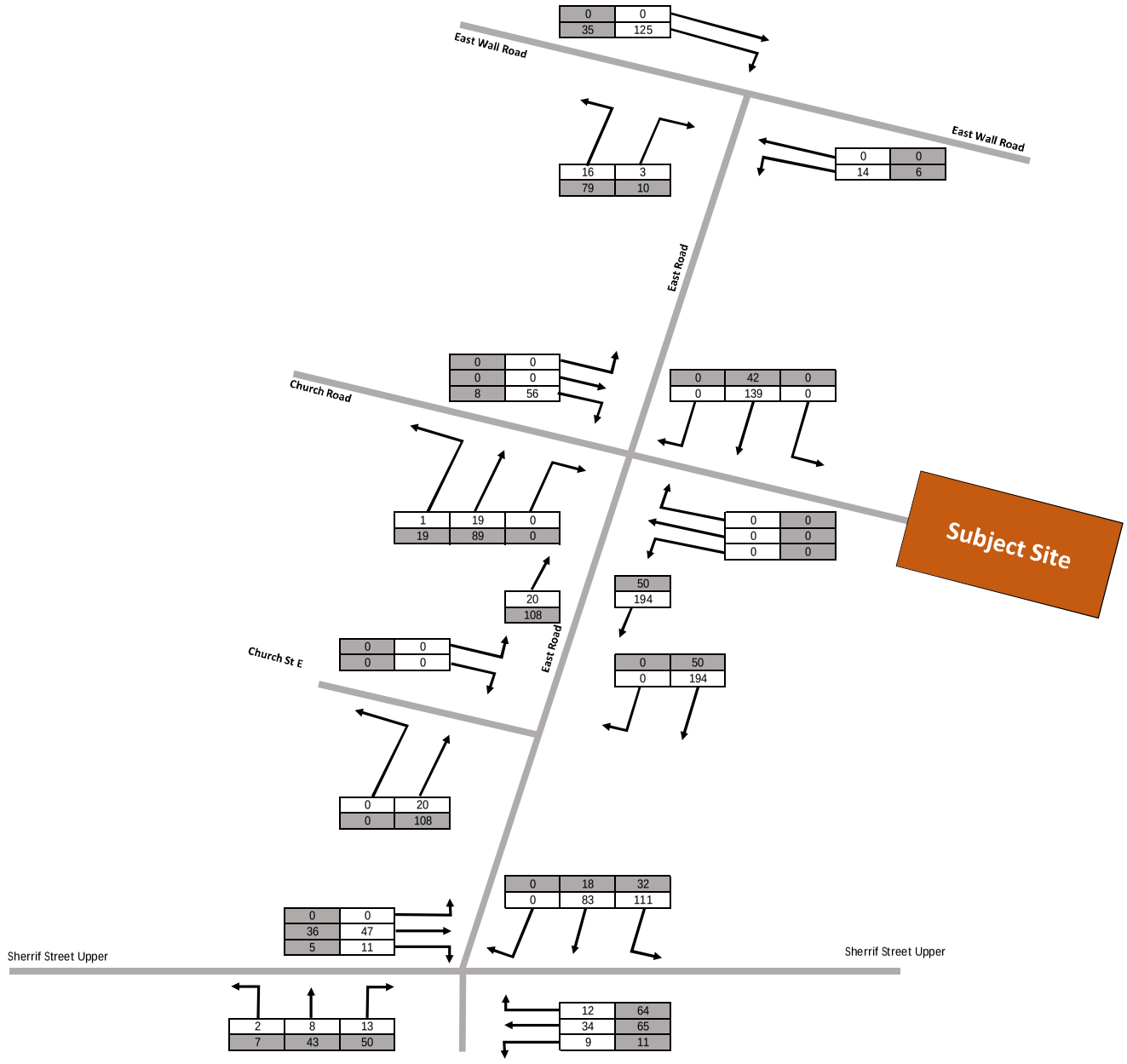
Key:
AM Peak Hour (0730 - 0830)
PM Peak Hour (1700 - 1800)

Dwn:	Ckd:	Date:
TM	TJ	01/05/2018

Ref: 170200

Figure: 12

Rev:



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Project:
1-3 East Road Dublin

DRG. Title:
Network Traffic Flows
Committed Development Total Future Year

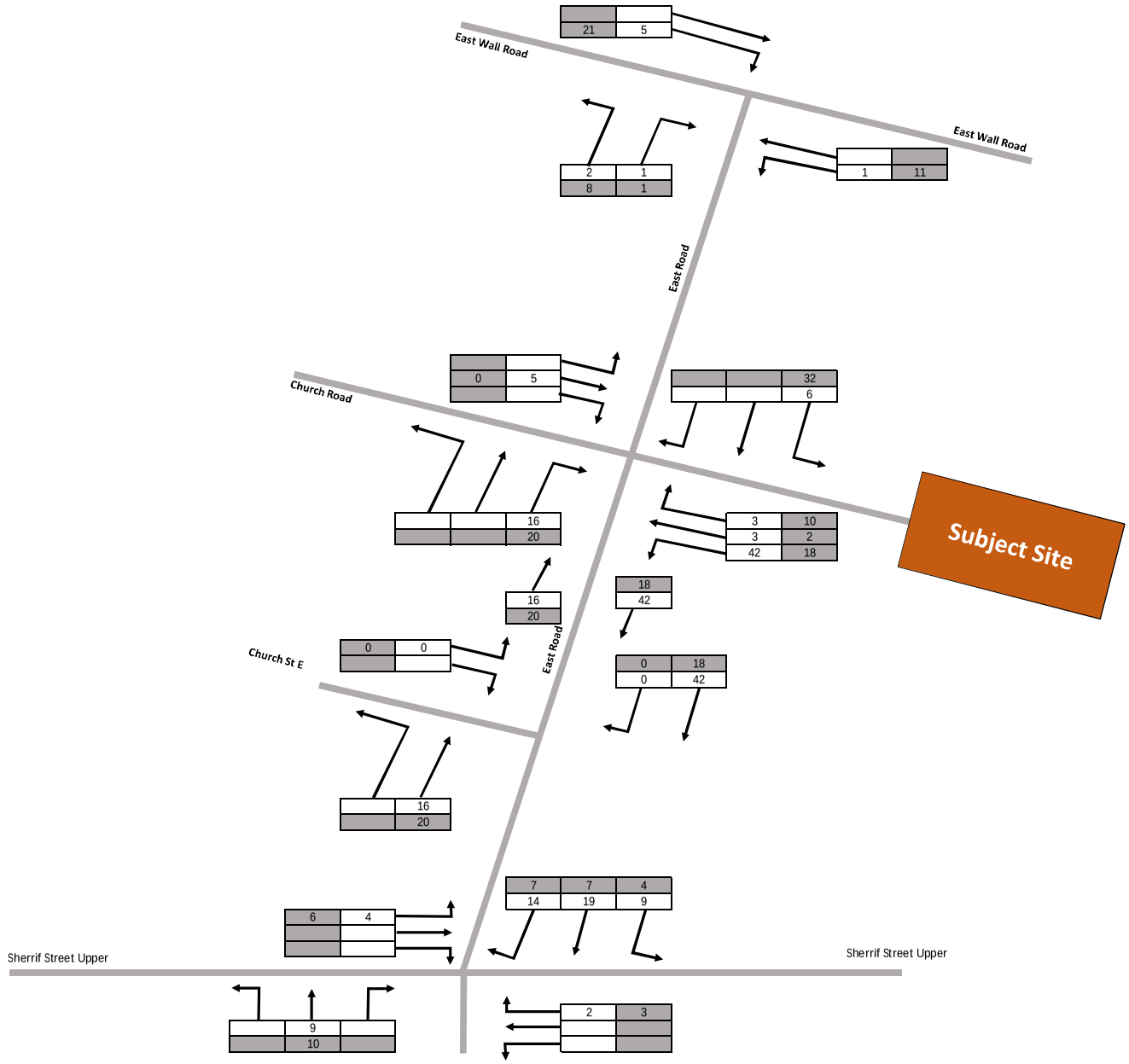
Key:
AM Peak Hour (0730 - 0830)
PM Peak Hour (1700 - 1800)

Dwn:	Ckd:	Date:
TM	TJ	01/05/2018

Ref: 170200

Figure: 13

Rev:



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Project:

1-3 East Road Dublin

DRG. Title:

Network Traffic Flows
Development Flows 2020

Key:

AM Peak Hour (0730 - 0830)
PM Peak Hour (1700 - 1800)

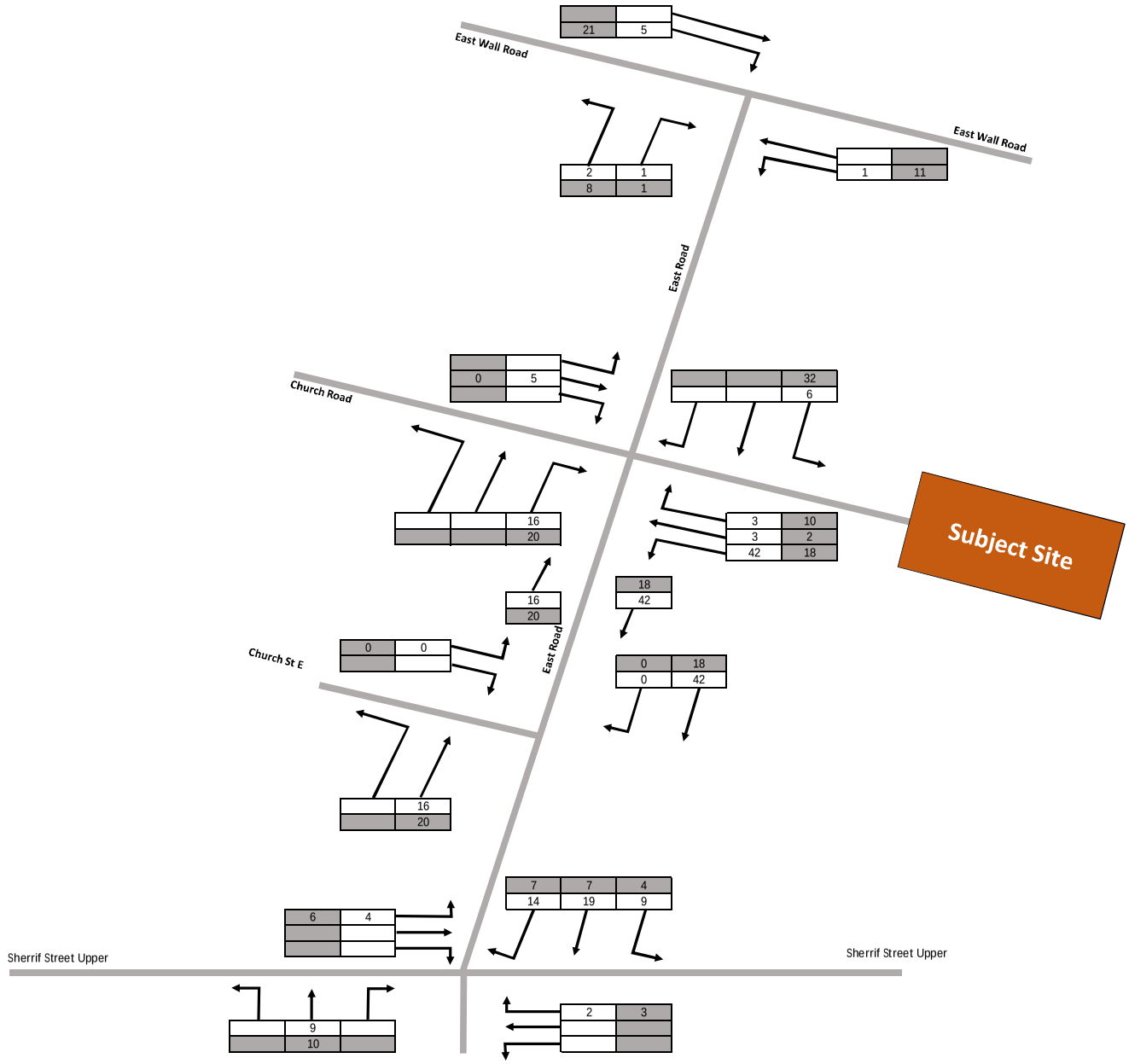
AM Peak		PM Peak	
Arr	Dep	Arr	Dep
27	48	52	29

Dwn:	Ckd:	Date:
TM	TJ	01/05/2018

Ref: 170200

Figure 14

Rev:



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Project:

1-3 East Road Dublin

DRG. Title:

Network Traffic Flows
Development Flows 2025 & 2035

Key:

AM Peak Hour (0730 - 0830)
PM Peak Hour (1700 - 1800)

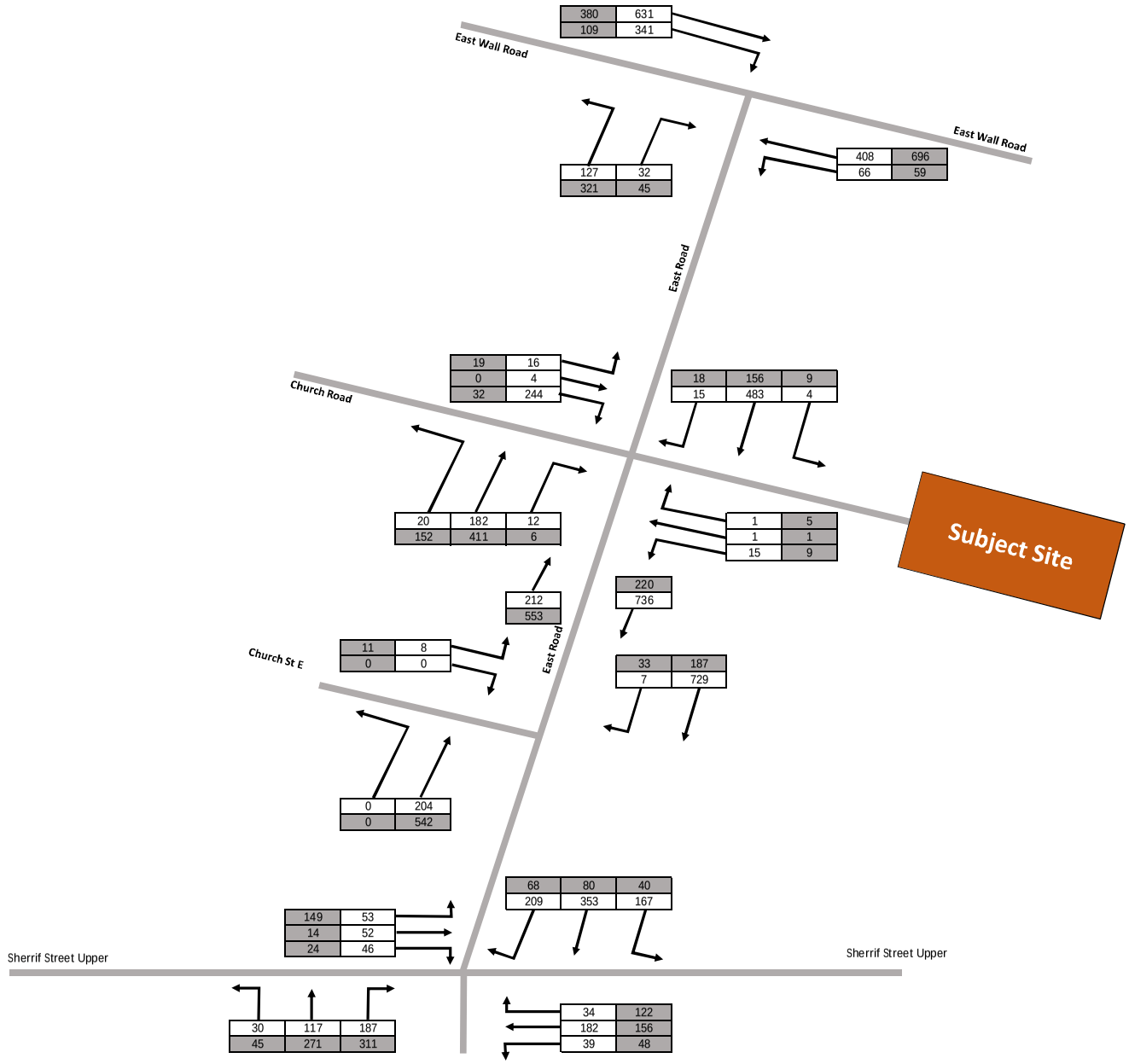
AM Peak		PM Peak	
Arr	Dep	Arr	Dep
27	48	52	29

Dwn:	Ckd:	Date:
TM	TJ	01/05/2018

Ref: 170200

Figure 15

Rev:



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Project:
1-3 East Road Dublin

DRG. Title:
Network Traffic Flows
2020 Do Nothing

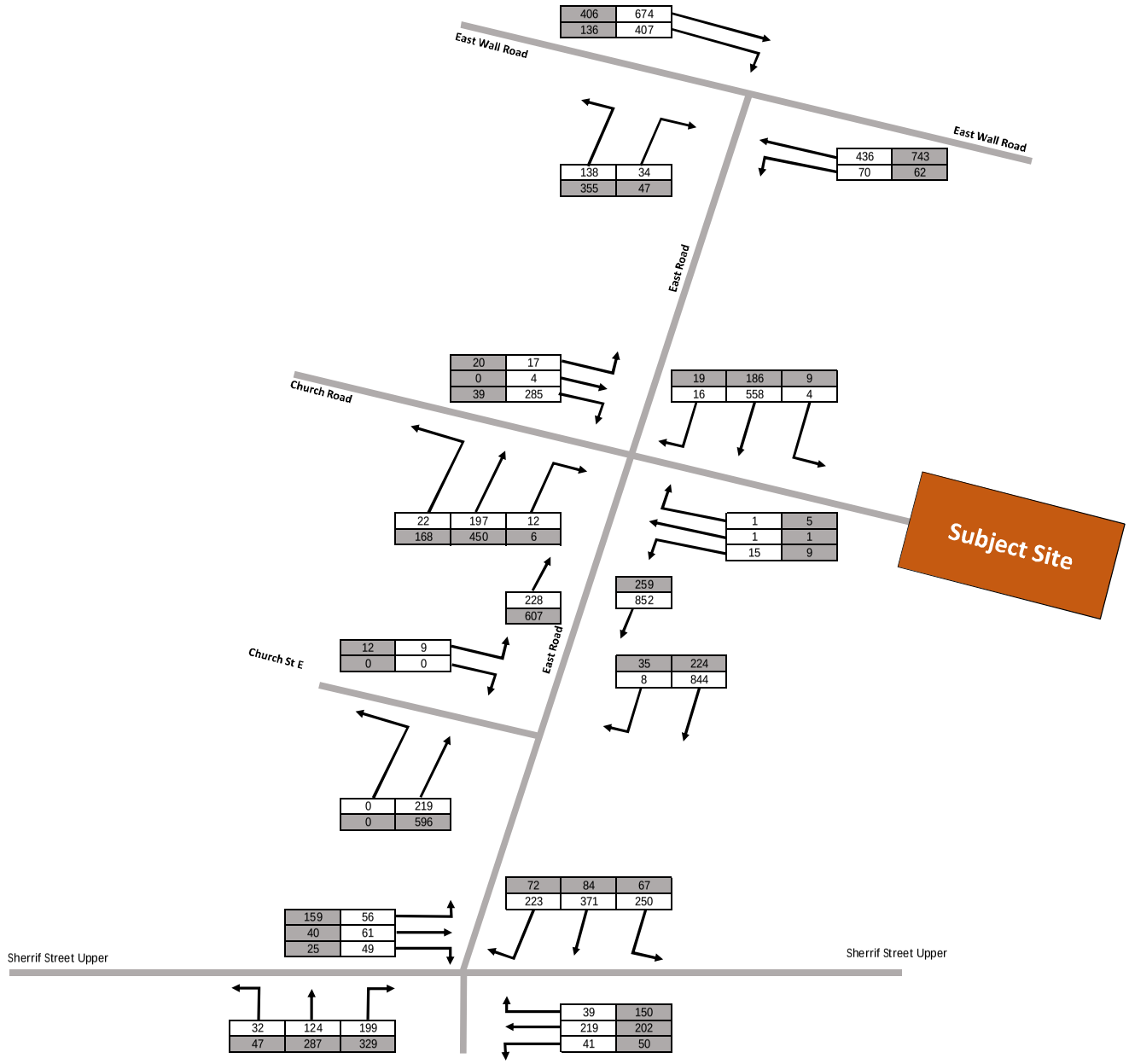
Key:
AM Peak Hour (0730 - 0830)
PM Peak Hour (1700 - 1800)

Dwn:	Ckd:	Date:
TM	TJ	01/05/2018

Ref: 170200

Figure: 16

Rev:



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Project: 1-3 East Road Dublin

DRG. Title: Network Traffic Flows 2025 Do Nothing

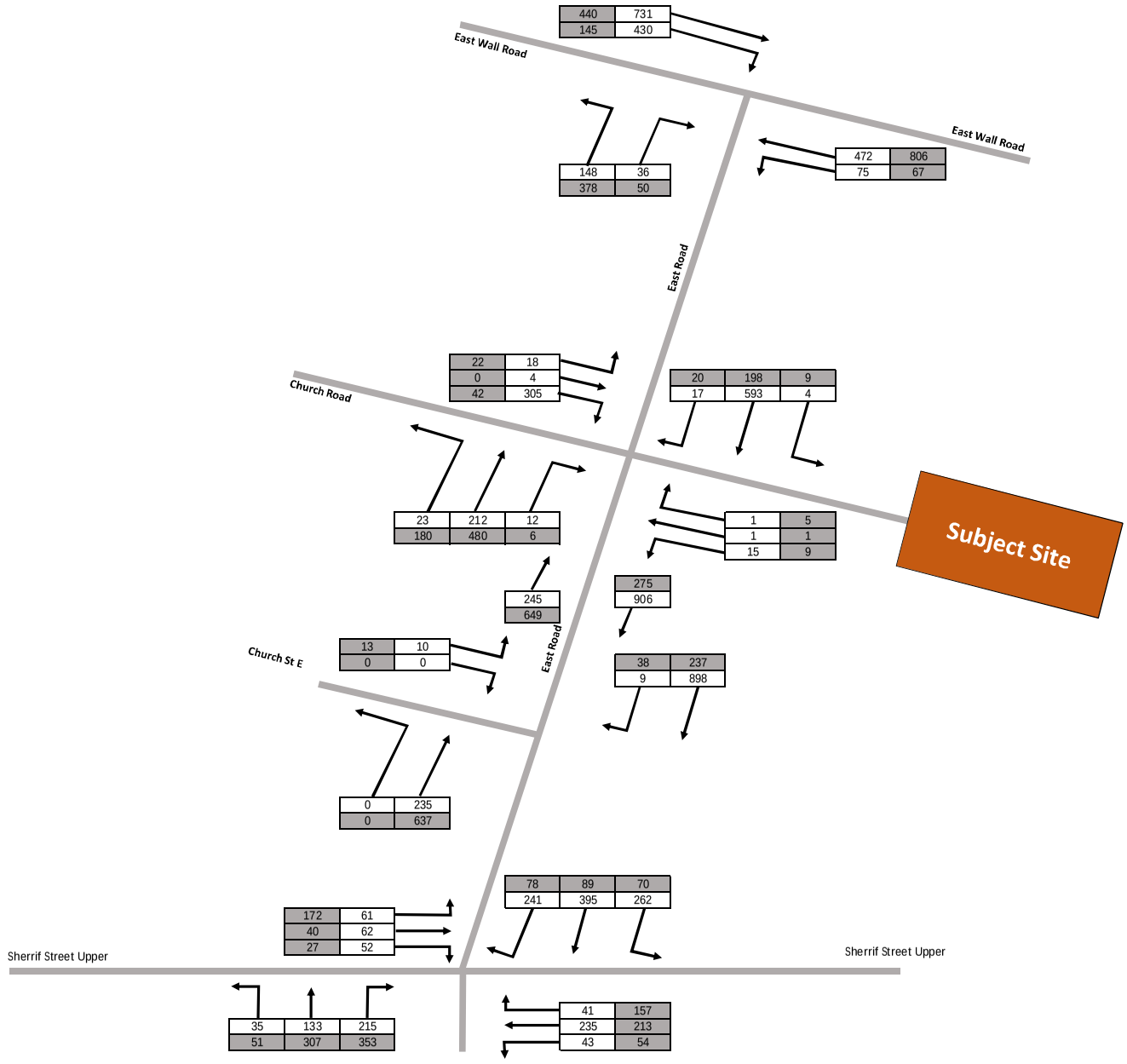
Key:
AM Peak Hour (0730 - 0830)
PM Peak Hour (1700 - 1800)

Dwn:	Ckd:	Date:
TM	TJ	01/05/2018

Ref: 170200

Figure: 17

Rev:



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DRG. Title:
Network Traffic Flows
2035 Do Nothing

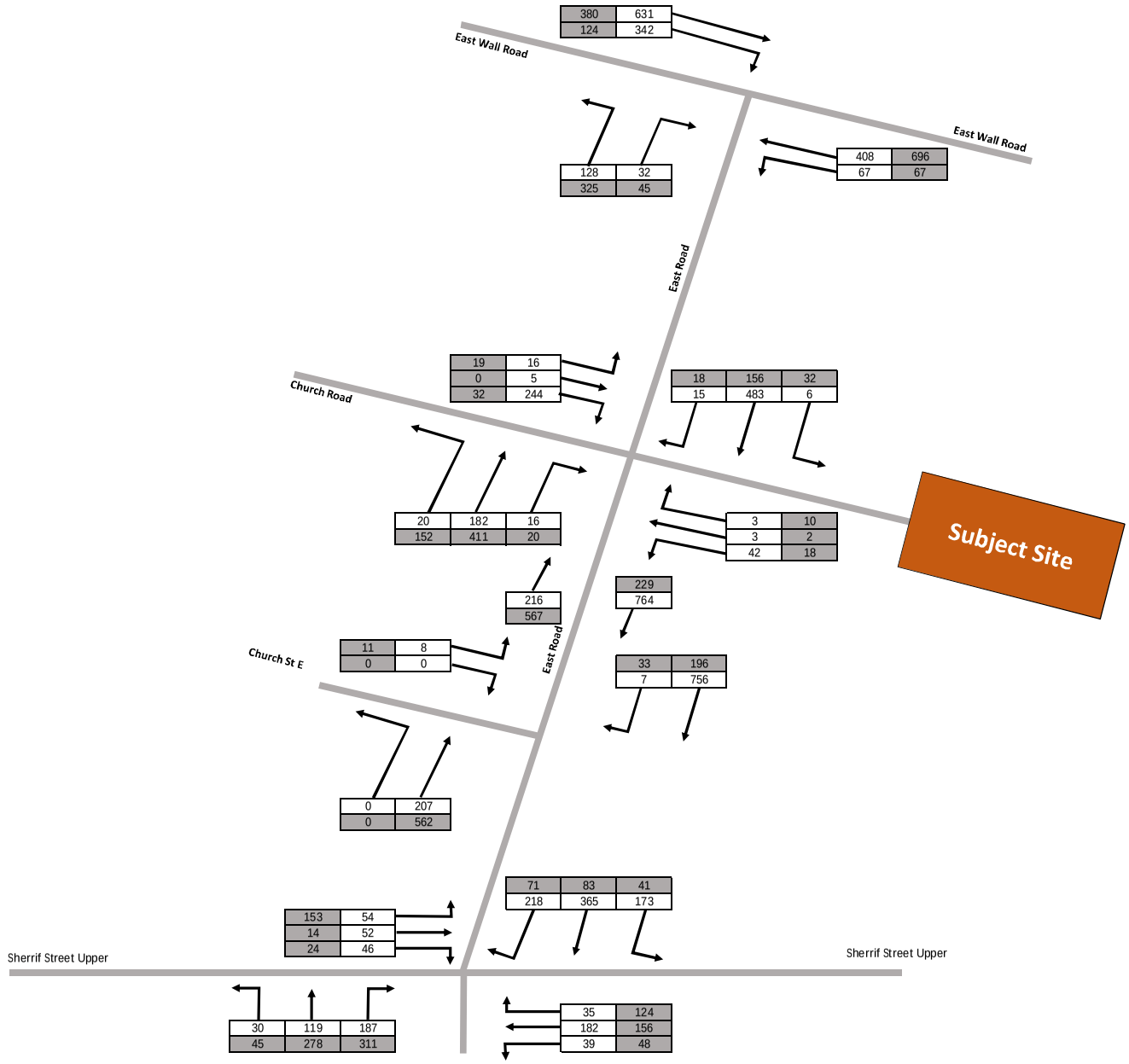
Key:
AM Peak Hour (0730 - 0830)
PM Peak Hour (1700 - 1800)

Dwn:	Ckd:	Date:
TM	TJ	01/05/2018

Ref: 170200

Figure: 18

Rev:



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Project: 1-3 East Road Dublin

DRG. Title: Network Traffic Flows 2020 Do Something

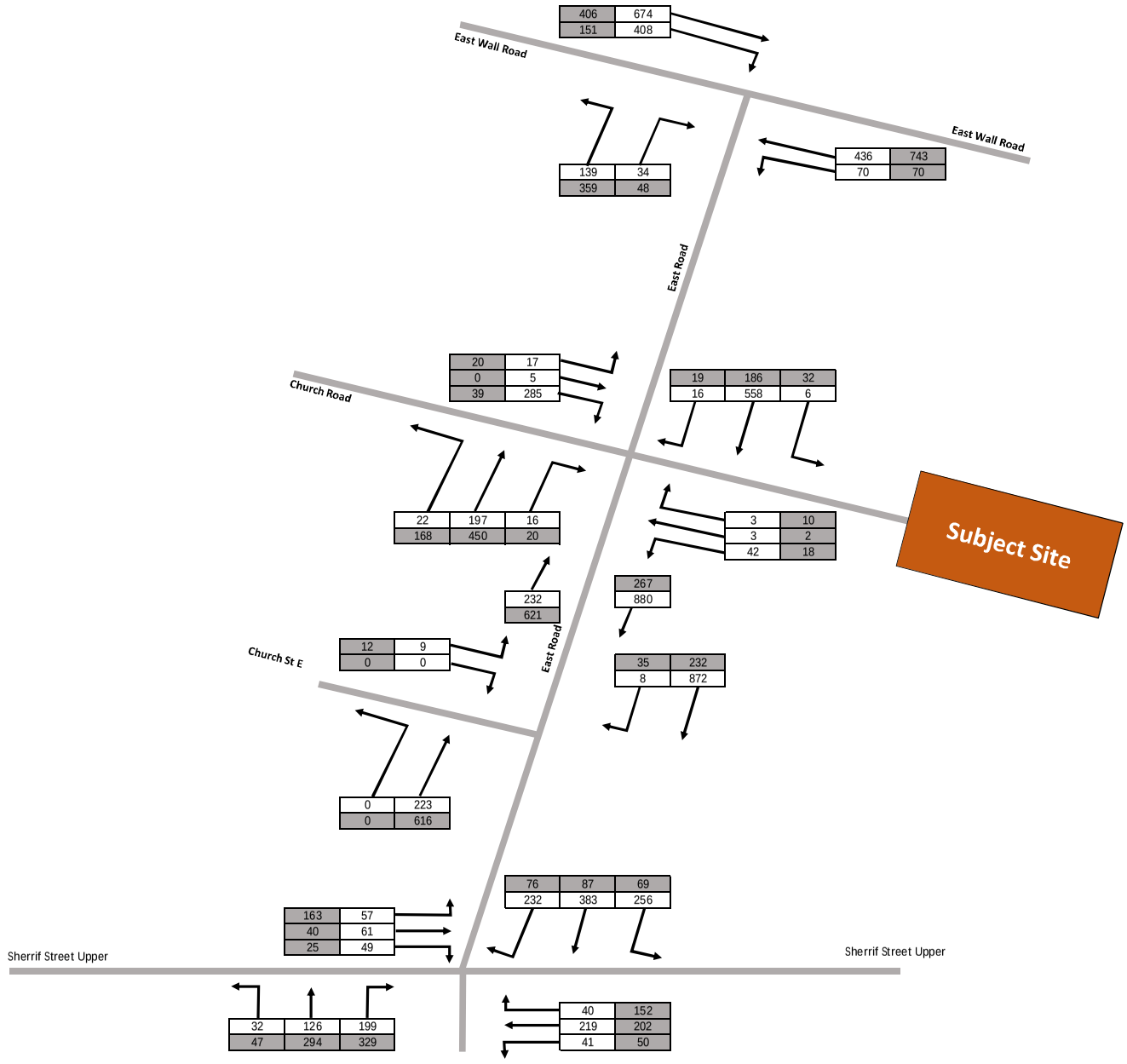
Key:
AM Peak Hour (0730 - 0830)
PM Peak Hour (1700 - 1800)

Dwn:	Ckd:	Date:
TM	TJ	01/05/2018

Ref: 170200

Figure: 19

Rev:



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DRG. Title: Network Traffic Flows 2025 Do Something

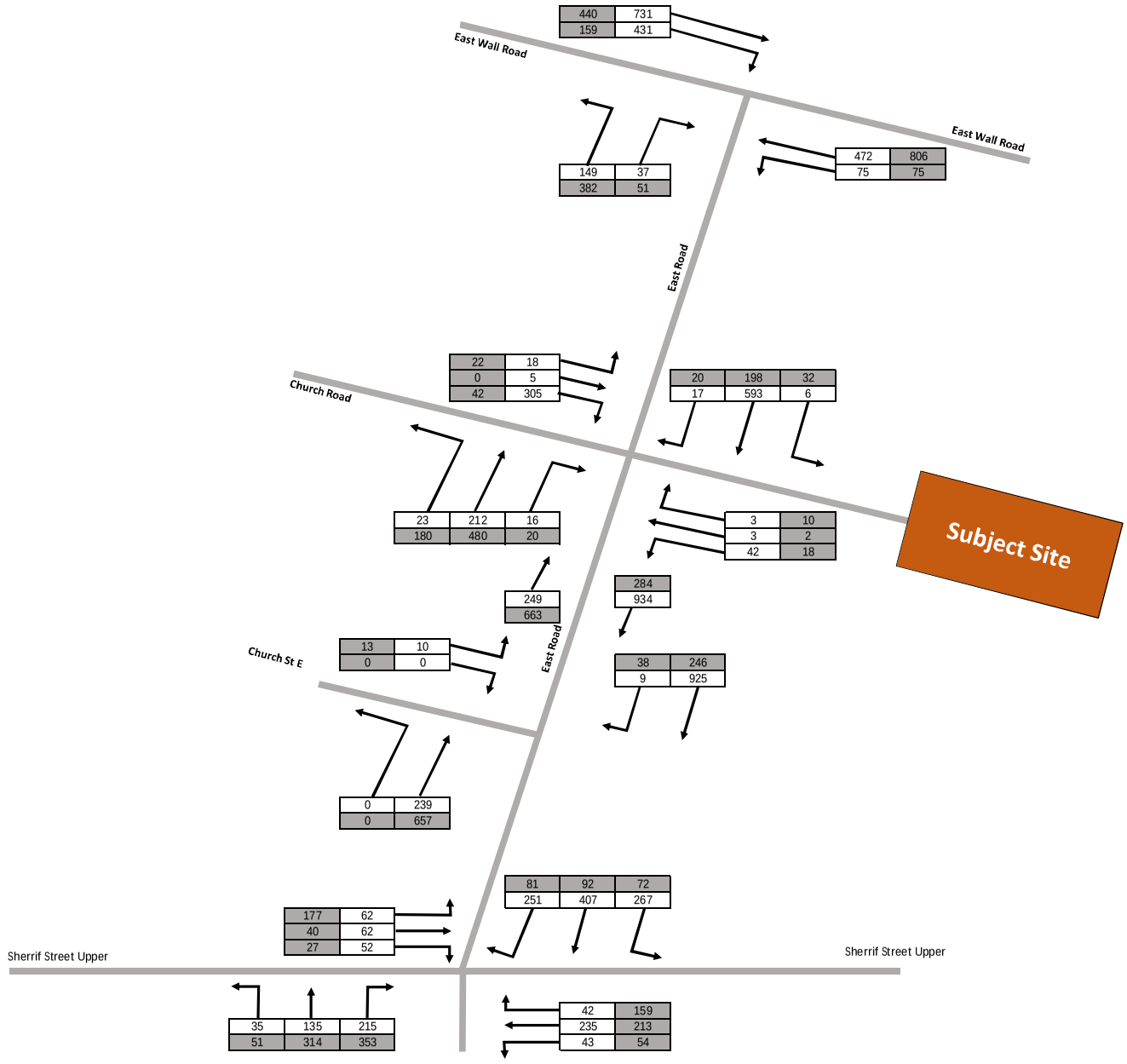
Key:
AM Peak Hour (0730 - 0830)
PM Peak Hour (1700 - 1800)

Dwn:	Ckd:	Date:
TM	TJ	01/05/2018

Ref: 170200

Figure: 20

Rev:



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DRG. Title: Network Traffic Flows 2035 Do Something

Key:
AM Peak Hour (0730 - 0830)
PM Peak Hour (1700 - 1800)

Dwn:	Ckd:	Date:
TM	TJ	01/05/2018

Ref: 170200

Figure: 21

Rev:

A11.3 TRANSYT OUTPUT FILES

TRANSYT 15

Version: 15.5.1.7048

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 770558 software@trl.co.uk www.trlsoftware.co.uk

Filename: Site Access Junction (No flares with storage)_Nov 2018 Planning.t15
Path: G:\2017\p170200\Calcs\Traffic Calcs\Transyt
Report generation date: 13/12/2018 08:59:02

File summary

File description

File title	(untitled)
Location	
Site number	
UTCRegion	
Driving side	Left
Date	28/05/2018
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	HEADOFFICE\haleyj
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber

Units

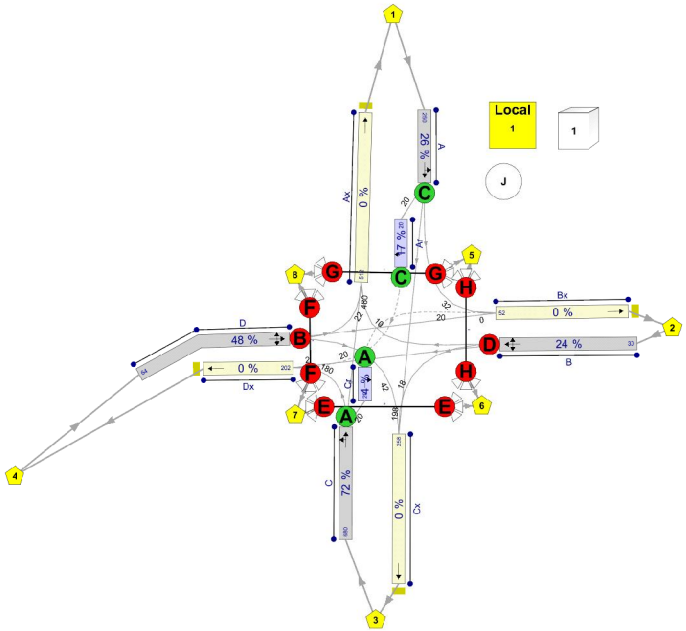
Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
£	kph	m	mpg	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

Generated on 13/12/2018 09:02:28 using TRANSYT 15 (15.5.1.7048)

Network Diagrams



(untitled)
Cycletime 0s / 100s , Timestepe 99 / 100
0, 0
Diagram procuced using TRANSYT 15.5.1.7048

A1 - AM 2020 DS
D1 - AM 2020 DS*

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Ite wit wor over PR
1	13/12/2018 08:58:35	13/12/2018 08:58:35	07:30	100	169.65	11.13	71.72	A/1	0	0	A/1	Cx/1	A/

Analysis Set Details

Name	Description	Demand set	Include in report	Locked
AM 2020 DS		D1	✓	

Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
AM 2020 DS				07:30	

Network Options

Network timings

Network cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
100		60	1	60

Signals options

Start displacement (s)	End displacement (s)
2	3

Advanced

Phase minimum broken penalty (£)	Phase maximum broken penalty (£)	Intergreen broken penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

Traffic options

Traffic model	Vehicle flow scaling factor (%)	Pedestrian flow scaling factor (%)	Cruise times or speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

Advanced

Resolution	DOS Threshold (%)	Cruise scaling factor (%)	Use link stop weightings	Use link delay weightings	Exclude pedestrians from results calculation	Random delay mode	Type of Vehicle-in-Service	Type of random parameter	PCU Length (m)	Calculate results for Path Segments	Generate PDM Profile Data
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75		✓

Normal Traffic parameters

Dispersion type	Dispersion coefficient
Default	35

Normal Traffic Types

Name	PCU Factor
Normal	1.00

Bus parameters

Name	PCU Factor	Dispersion coefficient1	Dispersion coefficient2	Acceleration (ms^[-2])	Travel time coefficient1	Travel time coefficient2
Bus	1.00	70	15	0.94	30	85

Tram parameters

Name	PCU Factor	Dispersion coefficient1	Dispersion coefficient2	Acceleration (ms^[-2])	Travel time coefficient1	Travel time coefficient2
Tram	1.00	0	0	0.94	100	100

Pedestrian parameters

Dispersion type
Default

Optimisation options

Enable optimisation	Auto redistribute	Optimisation level	Enable OUT Profile accuracy
✓	✓	Offsets And Green Splits	✓

Advanced

Optimisation type	Hill climb increments	OUTProfile accuracy	Use enhanced optimisation	Auto optimisation order	Optimisation order	Master controller	Offsets relative to master controller	Master controller offset after each run
Hill Climb (Fast)	15, 40, -1, 15, 40, 1, -1, 1	50, 50, 5, 5, 0.5, 0.5, 0.05, 0.05		✓	1			Do nothing

Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian monetary value of delay (£ per Ped-hr)
14.20	2.60	14.20

Traffic Nodes

Traffic Nodes

Traffic node	Name	Description
J	(untitled)	

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	(untitled)		J
B	(untitled)		J
C	(untitled)		J
D	(untitled)		J
Ar	(untitled)		J
Ax	(untitled)		J
Bx	(untitled)		
Cr	(untitled)		J
Cx	(untitled)		
Dx	(untitled)		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	(untitled)			300.00	✓	Sum of lanes	1802	✓		Normal	
B	1	(untitled)			150.00	✓	Sum of lanes	1547	✓		Normal	
C	1	(untitled)			300.00	✓	Sum of lanes	1781	✓		Normal	
D	1	(untitled)			300.00	✓	Sum of lanes	1692	✓		Normal	
Ar	1	(untitled)			5.75	✓	Sum of lanes	2005	✓	✓	Normal	
Ax	1	(untitled)			300.00						Normal	
Bx	1	(untitled)			300.00						Normal	
Cr	1	(untitled)			5.75	✓	Sum of lanes	2005	✓	✓	Normal	
Cx	1	(untitled)			300.00						Normal	
Dx	1	(untitled)			300.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface condition	Site quality factor	Gradient (%)	Width (m)	Use connector turning radius	Proportion that turn (%)	Turning radius (m)	Nearside lane	Saturation flow (PCU/hr)
A	1	1	(untitled)		✓	N/A	N/A	0	3.00		25	6.00	✓	1802
B	1	1	(untitled)		✓	N/A	N/A	0	3.00		95	6.00	✓	1547
C	1	1	(untitled)		✓	N/A	N/A	0	3.00		30	6.00	✓	1781
D	1	1	(untitled)		✓	N/A	N/A	0	3.00		93	10.60	✓	1692
Ar	1	1	(untitled)		✓	N/A	N/A	0	2.50		0	6.00		2005
Ax	1	1	(untitled)											
Bx	1	1	(untitled)											
Cr	1	1	(untitled)		✓	N/A	N/A	0	2.50		0	8.50		2005
Cx	1	1	(untitled)											
Dx	1	1	(untitled)											

TRL THE FUTURE OF TRANSPORT
Generated on 13/12/2018 09:02:28 using TRANSYT 15 (15.5.1.7048)

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
A	1	NetworkDefault	100	100	100		0.00		
B	1	NetworkDefault	100	100	100		0.00		
C	1	NetworkDefault	100	100	100		0.00		
D	1	NetworkDefault	100	100	100		0.00		
Ar	1	NetworkDefault	100	100	100		1.00		
Ax	1	NetworkDefault	100	100	100		0.00		
Bx	1	NetworkDefault	100	100	100		0.00		
Cr	1	NetworkDefault	100	100	100		1.00		
Cx	1	NetworkDefault	100	100	100		0.00		
Dx	1	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	1	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	100

Normal - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	1	100	100

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
A	1	504	504
B	1	48	48
C	1	218	218
D	1	265	265
Ar	1	15	15
Ax	1	201	201
Bx	1	27	27
Cr	1	16	16
Cx	1	769	769
Dx	1	38	38

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	C	
B	1	1	D	
C	1	1	A	
D	1	1	B	
Ar	1	1	C	
Cr	1	1	A	

Entry Sources

Arm	Traffic Stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)
A	1	36.00	30.00
B	1	18.00	30.00
C	1	36.00	30.00
D	1	36.00	30.00

Sources

Arm	Traffic Stream	Source	Source traffic stream	Destination traffic stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)	Auto turning radius	Traffic turn style	Turning radius (m)
Ar	1	1	A/1	Ar/1	1.00	30.00	✓	Straight	Straight Movement
Ax	1	1	C/1	Ax/1	36.00	30.00	✓	Straight	Straight Movement
Bx	1	1	D/1	Bx/1	36.00	30.00	✓	Straight	Straight Movement
Cr	1	1	C/1	Cr/1	1.00	30.00	✓	Straight	Straight Movement
Cx	1	1	A/1	Cx/1	36.00	30.00	✓	Straight	Straight Movement
Dx	1	1	B/1	Dx/1	36.00	30.00	✓	Straight	Straight Movement
Ax	1	2	B/1	Ax/1	36.00	30.00	✓	Offside	57.17
Bx	1	2	A/1	Bx/1	36.00	30.00	✓	Nearside	67.46
Cx	1	2	B/1	Cx/1	36.00	30.00	✓	Nearside	87.33
Dx	1	2	C/1	Dx/1	36.00	30.00	✓	Nearside	50.78
Ax	1	3	D/1	Ax/1	36.00	30.00	✓	Nearside	56.71
Bx	1	3	Cr/1	Bx/1	36.00	30.00	✓	Offside	52.48
Cx	1	3	D/1	Cx/1	36.00	30.00	✓	Offside	92.66
Dx	1	3	Ar/1	Dx/1	36.00	30.00	✓	Offside	97.63

Give Way Data

Arm	Traffic Stream	Opposed traffic	Use Step-wise Opposed Turn Model	Number of storage spaces	Use connector turning radius	Radius of turn (m)	Visibility restricted
Ar	1	AllTraffic	✓	1		10.00	
Cr	1	AllTraffic	✓	1		8.00	

Give Way Data - All Movements - Conflicts

Traffic Stream	Description	Controlling type	Controlling from traffic stream	Controlling to traffic stream	Percentage opposing (%)	Upstream signals visible	Conflict shift	Conflict duration
1		TrafficStreamMovement	C/1	Dx/1	100		2	6
		TrafficStreamMovement	C/1	Ax/1	100		2	6
		TrafficStreamMovement	A/1	Cx/1	100		2	6
		TrafficStreamMovement	A/1	Bx/1	100		2	6

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)				Farside	11.00	7.33	5.40
2	(untitled)				Farside	6.40	4.27	5.40
3	(untitled)				Farside	11.10	7.40	5.40
4	(untitled)				Farside	11.10	7.40	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
1	1	G	
2	1	H	
3	1	E	
4	1	F	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

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Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit
1	(untitled)	✓	✓	Path Equalisation			✓			✓	1.25		

Normal Input Flows (PCU/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	6	483	15	0	0	0	0
	2	3	0	42	3	0	0	0	0
	3	182	16	0	20	0	0	0	0
	4	16	5	244	0	0	0	0	0
	5	0	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (PCU/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	20	0	20
	6	0	0	0	0	0	0	20	0
	7	0	0	0	0	0	20	0	0
	8	0	0	0	0	0	0	0	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	A/1	Ax/1	#0000FF
	2	(untitled)	B/1	Bx/1	#00FF00
	3	(untitled)	C/1	Cx/1	#FFFF00
	4	(untitled)	D/1	Dx/1	#FFFF00
	5	(untitled)	1:2E, 2:1E	1:2X, 2:1X	#00FFFF
	6	(untitled)	2:2E, 3:2E	2:2X, 3:2X	#FF00FF
	7	(untitled)	3:1E, 4:2E	3:1X, 4:2X	#008000
	8	(untitled)	4:1E, 1:1E	4:1X, 1:1X	#FFA500

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	4		2	3	B/1, Cx/1	Normal	42
	12		2	4	B/1, Dx/1	Normal	3
	26		1	3	A/1, Cx/1	Normal	483
	28		1	2	A/1, Bx/1	Normal	6
	29		3	4	C/1, Dx/1	Normal	20
	32		3	2	C/1, Cr/1, Bx/1	Normal	16
	33		1	4	A/1, Ar/1, Dx/1	Normal	15
	34		4	3	D/1, Cx/1	Normal	244
	35		4	2	D/1, Bx/1	Normal	5
	36		2	1	B/1, Ax/1	Normal	3
	37		4	1	D/1, Ax/1	Normal	16
	38		3	1	C/1, Ax/1	Normal	182

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	16		6	7	3:2E, 3:1X	Normal	20
	17		7	6	3:1E, 3:2X	Normal	20
	18		7	8	4:2E, 4:1X	Normal	0
	19		8	7	4:1E, 4:2X	Normal	0
	20		5	8	1:2E, 1:1X	Normal	20
	21		8	5	1:1E, 1:2X	Normal	0
	22		5	6	2:1E, 2:2X	Normal	20
	23		6	5	2:2E, 2:1X	Normal	0

Signal Timings

Network Default: 100s cycle time; 100 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)
1	(untitled)		1	NetworkDefault	100

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	7	300	0	0	Traffic	
	B	(untitled)	7	300	0	0	Traffic	
	C	(untitled)	7	300	0	0	Traffic	
	D	(untitled)	7	300	0	0	Traffic	
	E	(untitled)	7	300	0	0	Pedestrian	0
	F	(untitled)	7	300	0	0	Pedestrian	0
	G	(untitled)	7	300	0	0	Pedestrian	0
	H	(untitled)	7	300	0	0	Pedestrian	0

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Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)
1	1	A, C	1
	2	B	1
	3	D	1
	4	E, F, G, H	1

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends
1	1	(untitled)	Single	1, 2, 3, 4	35, 62, 74, 88
	2	(untitled)	Single	1, 4, 2, 3	0, 31, 63, 91
	3	(untitled)	Single	1, 3, 4, 2	0, 29, 59, 91
	4	(untitled)	Single	1, 2, 4, 3	0, 29, 59, 91
	5	(untitled)	Single	1, 4, 3, 2	0, 31, 63, 91
	6	(untitled)	Single	1, 3, 2, 4	0, 29, 57, 87

Intergreen Matrix for Controller Stream 1

		To							
		A	B	C	D	E	F	G	H
From	A		6		5	5	6	7	7
	B	5		5	5	7	5	6	6
	C		5		6	6	7	5	5
	D	5	5	5		6	7	7	5
	E	9	9	9	9				
	F	9	9	9	9				
	G	9	9	9	9				
	H	5	5	5	6				

Banned Stage transitions for Controller Stream 1

		To			
		1	2	3	4
From	1				
	2				
	3				
	4				

Interstage Matrix for Controller Stream 1

		To			
		1	2	3	4
From	1	0	6	6	7
	2	5	0	5	7
	3	5	5	0	7
	4	9	9	9	0

Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A,C	97	35	38	1	7
	2	✓	2	B	41	62	21	1	7
	3	✓	3	D	67	74	7	1	7
	4	✓	4	E,F,G,H	81	88	7	1	7

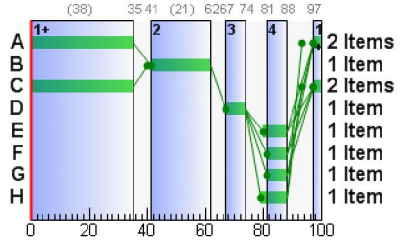
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	97	35	38
	B	1	✓	41	62	21
	C	1	✓	97	35	38
	D	1	✓	67	74	7
	E	1	✓	80	88	8
	F	1	✓	81	88	7
	G	1	✓	81	88	7
	H	1	✓	79	88	9

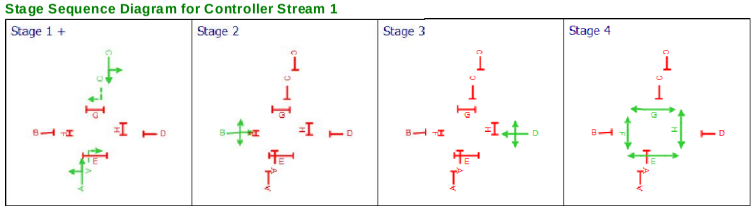
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	J	1	C	97	35	38
B	1	J	1	D	67	74	7
C	1	J	1	A	97	35	38
D	1	J	1	B	41	62	21
Ar	1	J	1	C	97	35	38
Cr	1	J	1	A	97	35	38

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Resultant penalties

Time Segment	Controller stream	Phase min max penalty (£ per hr)	Intergreen broken penalty (£ per hr)	Stage constraint broken penalty (£ per hr)	Cost of controller stream penalties (£ per hr)
07:30-08:30	1	0.00	0.00	0.00	0.00

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Traffic Stream Results

Traffic Stream Results: Vehicle summary

Time Segment	Arm	Traffic Stream	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
07:30-08:30	A	1	72	25	504	1802	38	32.22	12.65	24.25	64.06	5.60	69.66
	B	1	39	132	48	1547	7	52.78	1.37	5.27	9.99	0.61	10.60
	C	1	31	187	218	1781	38	22.39	4.25	8.15	19.25	1.88	21.14
	D	1	71	26	265	1692	21	47.69	7.63	14.62	49.85	3.38	53.23
	Ar	1	4	2259	15	1008	38	2.75	0.22	22.33	0.16	0.04	0.20
	Ax	1	0	Unrestricted	201	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	Bx	1	0	Unrestricted	27	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	Cr	1	14	525	16	285	38	19.53	0.39	39.14	1.23	0.08	1.32
	Cx	1	0	Unrestricted	769	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	Dx	1	0	Unrestricted	38	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00

Traffic Stream Results: Flows and signals

Time Segment	Arm	Traffic Stream	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Calculated sat flow (PCU/hr)	Calculated capacity (PCU/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Mean modulus of error	Actual green (s (per cycle))
07:30-08:30	A	1	504	504	0		1802	703	72		25	0.00	38
	B	1	48	48	0		1547	124	39		132	0.00	7
	C	1	218	218	0		1781	695	31		187	0.00	38
	D	1	265	265	0		1692	372	71		26	0.00	21
	Ar	1	15	15	0		1008	393	4		2259	1.21	38
	Ax	1	201	201	0		Unrestricted	Unrestricted	0		Unrestricted	0.82	100
	Bx	1	27	27	0		Unrestricted	Unrestricted	0		Unrestricted	0.62	100
	Cr	1	16	16	0		285	111	14		525	1.21	38
	Cx	1	769	769	0		Unrestricted	Unrestricted	0		Unrestricted	0.47	100
	Dx	1	38	38	0		Unrestricted	Unrestricted	0		Unrestricted	0.83	100

Traffic Stream Results: Stops and delays

Time Segment	Arm	Traffic Stream	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
07:30-08:30	A	1	36.00	32.22	4.51	64.06	88.66	446.83	5.60
	B	1	18.00	52.78	0.70	9.99	101.71	48.82	0.61
	C	1	36.00	22.39	1.36	19.25	68.85	150.10	1.88
	D	1	36.00	47.69	3.51	49.85	101.86	269.94	3.38
	Ar	1	1.00	2.75	0.01	0.16	45.27	6.79	0.04
	Ax	1	36.00	0.00	0.00	0.00	0.00	0.00	0.00
	Bx	1	36.00	0.00	0.00	0.00	0.00	0.00	0.00
	Cr	1	1.00	19.53	0.09	1.23	87.32	13.97	0.08
	Cx	1	36.00	0.00	0.00	0.00	0.00	0.00	0.00
	Dx	1	36.00	0.00	0.00	0.00	0.00	0.00	0.00

Traffic Stream Results: Queues and blocking

Time Segment	Arm	Traffic Stream	Initial queue (PCU)	Mean max queue (PCU)	Max queue storage (PCU)	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))	Estimated blocking
07:30-08:30	A	1	0.00	12.65	52.17	24.25	0.00	0.00	
	B	1	0.00	1.37	26.09	5.27	0.00	5.00	
	C	1	0.00	4.25	52.17	8.15	0.00	0.00	
	D	1	0.00	7.63	52.17	14.62	0.00	0.00	
	Ar	1	0.00	0.22	1.00	22.33	0.00	23.00	
	Ax	1	0.00	0.00	52.17	0.00	0.00	34.00	
	Bx	1	0.00	0.00	52.17	0.00	0.00	91.00	
	Cr	1	0.00	0.39	1.00	39.14	0.00	7.00	
	Cx	1	0.00	0.00	52.17	0.00	0.00	1.00	
	Dx	1	0.00	0.00	52.17	0.00	0.00	70.00	

Traffic Stream Results: Advanced

Time Segment	Arm	Traffic Stream	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	Warmed up error	Mean Max Queue EoTS (PCU)	Max End of Green Queue EoTS (PCU)	Max End of Red Queue EoTS (PCU)	PCU Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
07:30-08:30	A	1	0.00	0.00	✓	0.00	12.66	0.90	9.44	1.00	0.00	69.66
	B	1	0.00	0.00	✓	0.00	1.38	0.12	1.35	1.00	0.00	10.60
	C	1	0.00	0.00	✓	0.00	4.25	0.07	3.77	1.00	0.00	21.14
	D	1	0.00	0.00	✓	0.00	7.64	0.87	6.61	1.00	0.00	53.23
	Ar	1	0.00	0.00	✓	0.00	0.22	0.00	0.01	1.00	0.00	0.20
	Ax	1	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00
	Bx	1	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00
	Cr	1	0.00	0.00	✓	0.00	0.39	0.01	0.02	1.00	0.00	1.32
	Cx	1	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00
	Dx	1	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00

Pedestrian Crossing Results

Pedestrian Crossings: Pedestrian summary

Time Segment	Crossing	Side	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Mean max queue (Ped)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
07:30-08:30	1	1	0	0	11000	7	0.00	0.00	0.00	0.00
		2	3	20	11000	7	43.71	0.52	3.45	3.45
	2	1	2	20	11000	9	41.86	0.51	3.30	3.30
		2	0	0	11000	9	0.00	0.00	0.00	0.00
	3	1	2	20	11000	8	42.78	0.51	3.37	3.37
		2	2	20	11000	8	42.78	0.51	3.37	3.37
	4	1	0	0	11000	7	0.00	0.00	0.00	0.00
		2	0	0	11000	7	0.00	0.00	0.00	0.00

Pedestrian Crossings: Flows and signals

Time Segment	Crossing	Side	Calculated flow entering (Ped/hr)	Calculated flow out (Ped/hr)	Flow discrepancy (Ped/hr)	Adjusted flow warning	Calculated sat flow (Ped/hr)	Calculated capacity (Ped/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity	Mean modulus of error	Actual green (s (per cycle))
07:30-08:30	1	1	0	0	0		11000	770	0		Unrestricted	0.00	7
		2	20	20	0		11000	770	3		3365	0.00	7
	2	1	20	20	0		11000	990	2		4355	0.00	9
		2	0	0	0		11000	990	0		Unrestricted	0.00	9
	3	1	20	20	0		11000	880	2		3860	0.00	8
		2	20	20	0		11000	880	2		3860	0.00	8
	4	1	0	0	0		11000	770	0		Unrestricted	0.00	7
		2	0	0	0		11000	770	0		Unrestricted	0.00	7

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Pedestrian Crossings: Stops and delays

Time Segment	Crossing	Side	Mean Cruise Time per Ped (s)	Mean Delay per Ped (s)	Total delay (Ped-hr/hr)	Weighted cost of delay (£ per hr)
07:30-08:30	1	1	1.00	0.00	0.00	0.00
		2	8.33	43.71	0.24	3.45
	2	1	5.27	41.86	0.23	3.30
		2	1.00	0.00	0.00	0.00
	3	1	8.40	42.78	0.24	3.37
		2	8.40	42.78	0.24	3.37
	4	1	1.00	0.00	0.00	0.00
		2	1.00	0.00	0.00	0.00

Pedestrian Crossings: Queues and blocking

Time Segment	Crossing	Side	Mean max queue (Ped)	Max queue storage (Ped)	Utilised storage (%)	Excess queue penalty (£ per hr)
07:30-08:30	1	1	0.00	10.00	0.00	0.00
		2	0.52	10.00	5.17	0.00
	2	1	0.51	10.00	5.06	0.00
		2	0.00	10.00	0.00	0.00
	3	1	0.51	10.00	5.11	0.00
		2	0.51	10.00	5.11	0.00
	4	1	0.00	10.00	0.00	0.00
		2	0.00	10.00	0.00	0.00

Pedestrian Crossings: Advanced

Time Segment	Crossing	Side	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Mean Max Queue EoTS (Ped)	Ped Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
07:30-08:30	1	1	0.00	0.00	0.00	1.00	0.00	0.00
		2	0.00	0.00	0.52	1.00	0.00	3.45
	2	1	0.00	0.00	0.51	1.00	0.00	3.30
		2	0.00	0.00	0.00	1.00	0.00	0.00
	3	1	0.00	0.00	0.51	1.00	0.00	3.37
		2	0.00	0.00	0.51	1.00	0.00	3.37
	4	1	0.00	0.00	0.00	1.00	0.00	0.00
		2	0.00	0.00	0.00	1.00	0.00	0.00

Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Ite wit wor over PR
1	13/12/2018 08:58:35	13/12/2018 08:58:35	07:30	100	169.65	11.13	71.72	A/1	0	0	A/1	Cx/1	A/

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
07:30-08:30	72	0	2101	580	17.44	144.55	11.61	156.15

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
07:30-08:30	3	80	62	42.78	13.50	13.50

Network Results: Flows and signals

Time Segment	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Actual green (s (per cycle))
07:30-08:30	2181	2181	0		72		25	642

Network Results: Stops and delays

Time Segment	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
07:30-08:30	34.06	18.37	11.13	158.05	42.94	936.45	11.61

Network Results: Queues and blocking

Time Segment	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))
07:30-08:30	39.14	0.00	231.00

Network Results: Advanced

Time Segment	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	Warmed up error	PCU Factor	Cost of traffic penalties (£ per hr)	Controller stream penalties (£ per hr)	Performance Index (£ per hr)
07:30-08:30	0.00	0.00	✓	0.00	1.00	0.00	0.00	169.65

Point to Point Journey Time

Average Journey Time (s) for Local Matrix: 1

		To							
		1	2	3	4	5	6	7	8
From	1	0.0	104.2	104.2	108.0	0.0	0.0	0.0	0.0
	2	106.8	0.0	106.8	106.8	0.0	0.0	0.0	0.0
	3	94.4	114.9	0.0	94.4	0.0	0.0	0.0	0.0
	4	119.7	119.7	119.7	0.0	0.0	0.0	0.0	0.0
	5	0.0	0.0	0.0	0.0	0.0	47.1	0.0	52.0
	6	0.0	0.0	0.0	0.0	0.0	0.0	51.2	0.0
	7	0.0	0.0	0.0	0.0	0.0	51.2	0.0	0.0
	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Path Journey Time

Path	From Location	To Location	Normal Calculated Flow (PCU/hr)	Pedestrian calculated flow (Ped/hr)	Normal journey time (s)	Pedestrian journey time (s)	Calculated Total Flow (PCU/hr)	Avg journey time (s)
4	2	3	42		106.78		42	106.78
12	2	4	3		106.78		3	106.78
16	6	7		20		51.18	20	51.18
17	7	6		20		51.18	20	51.18
18	7	8		0		0.00	0	0.00
19	8	7		0		0.00	0	0.00
20	5	8		20		52.04	20	52.04
21	8	5		0		0.00	0	0.00
22	5	6		20		47.13	20	47.13
23	6	5		0		0.00	0	0.00
26	1	3	483		104.22		483	104.22
28	1	2	6		104.22		6	104.22
29	3	4	20		94.39		20	94.39
32	3	2	16		114.93		16	114.93
33	1	4	15		107.97		15	107.97
34	4	3	244		119.69		244	119.69
35	4	2	5		119.69		5	119.69
36	2	1	3		106.78		3	106.78
37	4	1	16		119.69		16	119.69
38	3	1	182		94.39		182	94.39

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Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)
A	1	(untitled)	J	1	C	504	1802	38	0.00	72	25	68.22	32.22	88.66	12.65
B	1	(untitled)	J	1	D	48	1547	7	5.00	39	132	70.78	52.78	101.71	1.37
C	1	(untitled)	J	1	A	218	1781	38	0.00	31	187	58.39	22.39	68.85	4.25
D	1	(untitled)	J	1	B	265	1692	21	0.00	71	26	83.69	47.69	101.86	7.63
Ar	1	(untitled)	J	1	C	15	1008	38	23.00	4	2259	3.75	2.75	45.27	0.22
Ax	1	(untitled)	J			201	Unrestricted	100	34.00	0	Unrestricted	36.00	0.00	0.00	0.00
Bx	1	(untitled)				27	Unrestricted	100	91.00	0	Unrestricted	36.00	0.00	0.00	0.00
Cr	1	(untitled)	J	1	A	16	285	38	7.00	14	525	20.53	19.53	87.32	0.39
Cx	1	(untitled)				769	Unrestricted	100	1.00	0	Unrestricted	36.00	0.00	0.00	0.00
Dx	1	(untitled)				38	Unrestricted	100	70.00	0	Unrestricted	36.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	P
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	
1	1	(untitled)		1	G	0	11000	7	0	Unrestricted	0.00	0.00	0.00	100	
	2	(untitled)		1	G	20	11000	7	3	3365	52.04	43.71	0.52	100	
2	1	(untitled)		1	H	20	11000	9	2	4355	47.13	41.86	0.51	100	
	2	(untitled)		1	H	0	11000	9	0	Unrestricted	0.00	0.00	0.00	100	
3	1	(untitled)		1	E	20	11000	8	2	3860	51.18	42.78	0.51	100	
	2	(untitled)		1	E	20	11000	8	2	3860	51.18	42.78	0.51	100	
4	1	(untitled)		1	F	0	11000	7	0	Unrestricted	0.00	0.00	0.00	100	
	2	(untitled)		1	F	0	11000	7	0	Unrestricted	0.00	0.00	0.00	100	

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	613.98	30.65	20.03	10.18	144.55	11.61	0.00	156.15
Bus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tram	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pedestrians	0.87	1.12	0.78	0.95	13.50	0.00	0.00	13.50
TOTAL	614.85	31.77	19.35	11.13	158.05	11.61	0.00	169.65

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

A2 - PM 2020 DS
D2 - PM 2020 DS*

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Ite wit wor over PR
2	13/12/2018 08:58:35	13/12/2018 08:58:37	17:00	100	93.59	6.06	61.76	C/1	0	0	C/1	Cx/1	C/

Analysis Set Details

Name	Description	Demand set	Include in report	Locked
PM 2020 DS		D2	✓	

Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
PM 2020 DS				17:00	

Network Options

Network timings

Network cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
100		60	1	60

Signals options

Start displacement (s)	End displacement (s)
2	3

Advanced

Phase minimum broken penalty (£)	Phase maximum broken penalty (£)	Intergreen broken penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

Traffic options

Traffic model	Vehicle flow scaling factor (%)	Pedestrian flow scaling factor (%)	Cruise times or speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

Advanced

Resolution	DOS Threshold (%)	Cruise scaling factor (%)	Use link stop weightings	Use link delay weightings	Exclude pedestrians from results calculation	Random delay mode	Type of Vehicle-in-Service	Type of random parameter	PCU Length (m)	Calculate results for Path Segments	Generate PDM Profile Data
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75		✓

Normal Traffic parameters

Dispersion type	Dispersion coefficient
Default	35

Normal Traffic Types

Name	PCU Factor
Normal	1.00

Bus parameters

Name	PCU Factor	Dispersion coefficient1	Dispersion coefficient2	Acceleration (ms^[-2])	Travel time coefficient1	Travel time coefficient2
Bus	1.00	70	15	0.94	30	85

Tram parameters

Name	PCU Factor	Dispersion coefficient1	Dispersion coefficient2	Acceleration (ms^[-2])	Travel time coefficient1	Travel time coefficient2
Tram	1.00	0	0	0.94	100	100

Pedestrian parameters

Dispersion type
Default

Optimisation options

Enable optimisation	Auto redistribute	Optimisation level	Enable OUT Profile accuracy
✓	✓	Offsets And Green Splits	✓

Advanced

Optimisation type	Hill climb increments	OUTProfile accuracy	Use enhanced optimisation	Auto optimisation order	Optimisation order	Master controller	Offsets relative to master controller	Master controller offset after each run
Hill Climb (Fast)	15, 40, -1, 15, 40, 1, -1, 1	50, 50, 5, 5, 0.5, 0.5, 0.05, 0.05		✓	1			Do nothing

Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian monetary value of delay (£ per Ped-hr)
14.20	2.60	14.20

Traffic Nodes

Traffic Nodes

Traffic node	Name	Description
J	(untitled)	

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	(untitled)		J
B	(untitled)		J
C	(untitled)		J
D	(untitled)		J
Ar	(untitled)		J
Ax	(untitled)		J
Bx	(untitled)		
Cr	(untitled)		J
Cx	(untitled)		
Dx	(untitled)		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	(untitled)			300.00	✓	Sum of lanes	1802	✓		Normal	
B	1	(untitled)			150.00	✓	Sum of lanes	1547	✓		Normal	
C	1	(untitled)			300.00	✓	Sum of lanes	1781	✓		Normal	
D	1	(untitled)			300.00	✓	Sum of lanes	1692	✓		Normal	
Ar	1	(untitled)			5.75	✓	Sum of lanes	2005	✓	✓	Normal	
Ax	1	(untitled)			300.00						Normal	
Bx	1	(untitled)			300.00						Normal	
Cr	1	(untitled)			5.75	✓	Sum of lanes	2005	✓	✓	Normal	
Cx	1	(untitled)			300.00						Normal	
Dx	1	(untitled)			300.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface condition	Site quality factor	Gradient (%)	Width (m)	Use connector turning radius	Proportion that turn (%)	Turning radius (m)	Nearside lane	Saturation flow (PCU/hr)
A	1	1	(untitled)		✓	N/A	N/A	0	3.00		25	6.00	✓	1802
B	1	1	(untitled)		✓	N/A	N/A	0	3.00		95	6.00	✓	1547
C	1	1	(untitled)		✓	N/A	N/A	0	3.00		30	6.00	✓	1781
D	1	1	(untitled)		✓	N/A	N/A	0	3.00		93	10.60	✓	1692
Ar	1	1	(untitled)		✓	N/A	N/A	0	2.50		0	6.00		2005
Ax	1	1	(untitled)											
Bx	1	1	(untitled)											
Cr	1	1	(untitled)		✓	N/A	N/A	0	2.50		0	8.50		2005
Cx	1	1	(untitled)											
Dx	1	1	(untitled)											

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Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
A	1	NetworkDefault	100	100	100		0.00		
B	1	NetworkDefault	100	100	100		0.00		
C	1	NetworkDefault	100	100	100		0.00		
D	1	NetworkDefault	100	100	100		0.00		
Ar	1	NetworkDefault	100	100	100		1.00		
Ax	1	NetworkDefault	100	100	100		0.00		
Bx	1	NetworkDefault	100	100	100		0.00		
Cr	1	NetworkDefault	100	100	100		1.00		
Cx	1	NetworkDefault	100	100	100		0.00		
Dx	1	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	1	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	100

Normal - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	1	100	100

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
A	1	206	206
B	1	30	30
C	1	583	583
D	1	51	51
Ar	1	18	18
Ax	1	440	440
Bx	1	52	52
Cr	1	20	20
Cx	1	206	206
Dx	1	172	172

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	C	
B	1	1	D	
C	1	1	A	
D	1	1	B	
Ar	1	1	C	
Cr	1	1	A	

Entry Sources

Arm	Traffic Stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)
A	1	36.00	30.00
B	1	18.00	30.00
C	1	36.00	30.00
D	1	36.00	30.00

Sources

Arm	Traffic Stream	Source	Source traffic stream	Destination traffic stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)	Auto turning radius	Traffic turn style	Turning radius (m)
Ar	1	1	A/1	Ar/1	1.00	30.00	✓	Straight	Straight Movement
Ax	1	1	C/1	Ax/1	36.00	30.00	✓	Straight	Straight Movement
Bx	1	1	D/1	Bx/1	36.00	30.00	✓	Straight	Straight Movement
Cr	1	1	C/1	Cr/1	1.00	30.00	✓	Straight	Straight Movement
Cx	1	1	A/1	Cx/1	36.00	30.00	✓	Straight	Straight Movement
Dx	1	1	B/1	Dx/1	36.00	30.00	✓	Straight	Straight Movement
Ax	1	2	B/1	Ax/1	36.00	30.00	✓	Offside	57.17
Bx	1	2	A/1	Bx/1	36.00	30.00	✓	Nearside	67.46
Cx	1	2	B/1	Cx/1	36.00	30.00	✓	Nearside	87.33
Dx	1	2	C/1	Dx/1	36.00	30.00	✓	Nearside	50.78
Ax	1	3	D/1	Ax/1	36.00	30.00	✓	Nearside	56.71
Bx	1	3	Cr/1	Bx/1	36.00	30.00	✓	Offside	52.48
Cx	1	3	D/1	Cx/1	36.00	30.00	✓	Offside	92.66
Dx	1	3	Ar/1	Dx/1	36.00	30.00	✓	Offside	97.63

Give Way Data

Arm	Traffic Stream	Opposed traffic	Use Step-wise Opposed Turn Model	Number of storage spaces	Use connector turning radius	Radius of turn (m)	Visibility restricted
Ar	1	AllTraffic	✓	1		10.00	
Cr	1	AllTraffic	✓	1		8.00	

Give Way Data - All Movements - Conflicts

Traffic Stream	Description	Controlling type	Controlling from traffic stream	Controlling to traffic stream	Percentage opposing (%)	Upstream signals visible	Conflict shift	Conflict duration
1		TrafficStreamMovement	C/1	Dx/1	100		2	6
		TrafficStreamMovement	C/1	Ax/1	100		2	6
		TrafficStreamMovement	A/1	Cx/1	100		2	6
		TrafficStreamMovement	A/1	Bx/1	100		2	6

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)				Farside	11.00	7.33	5.40
2	(untitled)				Farside	6.40	4.27	5.40
3	(untitled)				Farside	11.10	7.40	5.40
4	(untitled)				Farside	11.10	7.40	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
1	1	G	
2	1	H	
3	1	E	
4	1	F	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

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Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit
1	(untitled)	✓	✓	Path Equalisation			✓			✓	1.25		

Normal Input Flows (PCU/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	32	156	18	0	0	0	0
	2	10	0	18	2	0	0	0	0
	3	411	20	0	152	0	0	0	0
	4	19	0	32	0	0	0	0	0
	5	0	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (PCU/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	20	0	20
	6	0	0	0	0	0	0	20	0
	7	0	0	0	0	0	20	0	0
	8	0	0	0	0	0	0	0	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	A/1	Ax/1	#0000FF
	2	(untitled)	B/1	Bx/1	#00FF00
	3	(untitled)	C/1	Cx/1	#FFFF00
	4	(untitled)	D/1	Dx/1	#FFFF00
	5	(untitled)	1:2E, 2:1E	1:2X, 2:1X	#00FFFF
	6	(untitled)	2:2E, 3:2E	2:2X, 3:2X	#FF00FF
	7	(untitled)	3:1E, 4:2E	3:1X, 4:2X	#008000
	8	(untitled)	4:1E, 1:1E	4:1X, 1:1X	#FFA500

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	4		2	3	B/1, Cx/1	Normal	18
	12		2	4	B/1, Dx/1	Normal	2
	26		1	3	A/1, Cx/1	Normal	156
	28		1	2	A/1, Bx/1	Normal	32
	29		3	4	C/1, Dx/1	Normal	152
	32		3	2	C/1, Cr/1, Bx/1	Normal	20
	33		1	4	A/1, Ar/1, Dx/1	Normal	18
	34		4	3	D/1, Cx/1	Normal	32
	35		4	2	D/1, Bx/1	Normal	0
	36		2	1	B/1, Ax/1	Normal	10
	37		4	1	D/1, Ax/1	Normal	19
	38		3	1	C/1, Ax/1	Normal	411

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	16		6	7	3:2E, 3:1X	Normal	20
	17		7	6	3:1E, 3:2X	Normal	20
	18		7	8	4:2E, 4:1X	Normal	0
	19		8	7	4:1E, 4:2X	Normal	0
	20		5	8	1:2E, 1:1X	Normal	20
	21		8	5	1:1E, 1:2X	Normal	0
	22		5	6	2:1E, 2:2X	Normal	20
	23		6	5	2:2E, 2:1X	Normal	0

Signal Timings

Network Default: 100s cycle time; 100 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)
1	(untitled)		1	NetworkDefault	100

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	7	300	0	0	Traffic	
	B	(untitled)	7	300	0	0	Traffic	
	C	(untitled)	7	300	0	0	Traffic	
	D	(untitled)	7	300	0	0	Traffic	
	E	(untitled)	7	300	0	0	Pedestrian	0
	F	(untitled)	7	300	0	0	Pedestrian	0
	G	(untitled)	7	300	0	0	Pedestrian	0
	H	(untitled)	7	300	0	0	Pedestrian	0

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Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)
1	1	A, C	1
	2	B	1
	3	D	1
	4	E, F, G, H	1

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends
1	1	(untitled)	Single	1, 2, 3, 4	48, 61, 73, 87
	2	(untitled)	Single	1, 4, 2, 3	0, 31, 63, 91
	3	(untitled)	Single	1, 3, 4, 2	0, 29, 59, 91
	4	(untitled)	Single	1, 2, 4, 3	0, 29, 59, 91
	5	(untitled)	Single	1, 4, 3, 2	0, 31, 63, 91
	6	(untitled)	Single	1, 3, 2, 4	0, 29, 57, 87

Intergreen Matrix for Controller Stream 1

		To							
		A	B	C	D	E	F	G	H
From	A		6		5	5	6	7	7
	B	5		5	5	7	5	6	6
	C		5		6	6	7	5	5
	D	5	5	5		6	7	7	5
	E	9	9	9	9				
	F	9	9	9	9				
	G	9	9	9	9				
	H	5	5	5	6				

Banned Stage transitions for Controller Stream 1

		To			
		1	2	3	4
From	1				
	2				
	3				
	4				

Interstage Matrix for Controller Stream 1

		To			
		1	2	3	4
From	1	0	6	6	7
	2	5	0	5	7
	3	5	5	0	7
	4	9	9	9	0

Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A,C	96	48	52	1	7
	2	✓	2	B	54	61	7	1	7
	3	✓	3	D	66	73	7	1	7
	4	✓	4	E,F,G,H	80	87	7	1	7

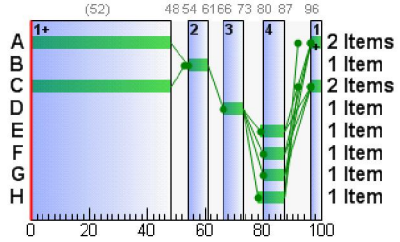
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	96	48	52
	B	1	✓	54	61	7
	C	1	✓	96	48	52
	D	1	✓	66	73	7
	E	1	✓	79	87	8
	F	1	✓	80	87	7
	G	1	✓	80	87	7
	H	1	✓	78	87	9

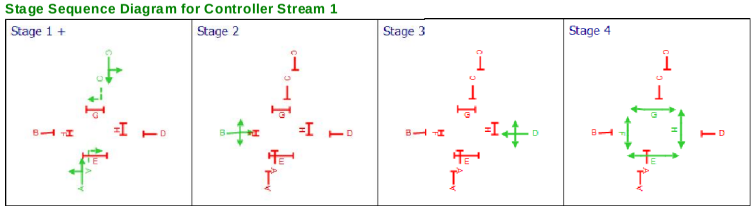
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	J	1	C	96	48	52
B	1	J	1	D	66	73	7
C	1	J	1	A	96	48	52
D	1	J	1	B	54	61	7
Ar	1	J	1	C	96	48	52
Cr	1	J	1	A	96	48	52

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Resultant penalties

Time Segment	Controller stream	Phase min max penalty (£ per hr)	Intergreen broken penalty (£ per hr)	Stage constraint broken penalty (£ per hr)	Cost of controller stream penalties (£ per hr)
17:00-18:00	1	0.00	0.00	0.00	0.00

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Traffic Stream Results

Traffic Stream Results: Vehicle summary

Time Segment	Arm	Traffic Stream	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
17:00-18:00	A	1	22	317	206	1802	52	12.99	3.06	5.87	10.56	1.33	11.89
	B	1	24	271	30	1547	7	47.82	0.81	3.12	5.66	0.36	6.02
	C	1	62	46	583	1781	52	19.48	11.67	22.37	44.80	5.14	49.94
	D	1	38	139	51	1692	7	51.60	1.44	2.77	10.38	0.64	11.02
	Ar	1	8	1020	18	423	52	13.59	0.36	35.79	0.97	0.08	1.04
	Ax	1	0	Unrestricted	440	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	Bx	1	0	Unrestricted	52	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	Cr	1	3	2934	20	1272	52	1.67	0.20	20.31	0.13	0.04	0.17
	Cx	1	0	Unrestricted	206	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	Dx	1	0	Unrestricted	172	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00

Traffic Stream Results: Flows and signals

Time Segment	Arm	Traffic Stream	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Calculated sat flow (PCU/hr)	Calculated capacity (PCU/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Mean modulus of error	Actual green (s (per cycle))
17:00-18:00	A	1	206	206	0		1802	955	22		317	0.00	52
	B	1	30	30	0		1547	124	24		271	0.00	7
	C	1	583	583	0		1781	944	62		46	0.00	52
	D	1	51	51	0		1692	135	38		139	0.00	7
	Ar	1	18	18	0		423	224	8		1020	0.93	52
	Ax	1	440	440	0		Unrestricted	Unrestricted	0		Unrestricted	0.64	100
	Bx	1	52	52	0		Unrestricted	Unrestricted	0		Unrestricted	0.74	100
	Cr	1	20	20	0		1272	674	3		2934	0.93	52
	Cx	1	206	206	0		Unrestricted	Unrestricted	0		Unrestricted	0.45	100
	Dx	1	172	172	0		Unrestricted	Unrestricted	0		Unrestricted	0.72	100

Traffic Stream Results: Stops and delays

Time Segment	Arm	Traffic Stream	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
17:00-18:00	A	1	36.00	12.99	0.74	10.56	51.61	106.32	1.33
	B	1	18.00	47.82	0.40	5.66	96.39	28.92	0.36
	C	1	36.00	19.48	3.16	44.80	70.35	410.17	5.14
	D	1	36.00	51.60	0.73	10.38	100.61	51.31	0.64
	Ar	1	1.00	13.59	0.07	0.97	70.71	12.73	0.08
	Ax	1	36.00	0.00	0.00	0.00	0.00	0.00	0.00
	Bx	1	36.00	0.00	0.00	0.00	0.00	0.00	0.00
	Cr	1	1.00	1.67	0.01	0.13	29.96	5.99	0.04
	Cx	1	36.00	0.00	0.00	0.00	0.00	0.00	0.00
	Dx	1	36.00	0.00	0.00	0.00	0.00	0.00	0.00

Traffic Stream Results: Queues and blocking

Time Segment	Arm	Traffic Stream	Initial queue (PCU)	Mean max queue (PCU)	Max queue storage (PCU)	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))	Estimated blocking
17:00-18:00	A	1	0.00	3.06	52.17	5.87	0.00	0.00	
	B	1	0.00	0.81	26.09	3.12	0.00	6.00	
	C	1	0.00	11.67	52.17	22.37	0.00	0.00	
	D	1	0.00	1.44	52.17	2.77	0.00	5.00	
	Ar	1	0.00	0.36	1.00	35.79	0.00	21.00	
	Ax	1	0.00	0.00	52.17	0.00	0.00	15.00	
	Bx	1	0.00	0.00	52.17	0.00	0.00	58.00	
	Cr	1	0.00	0.20	1.00	20.31	0.00	32.00	
	Cx	1	0.00	0.00	52.17	0.00	0.00	12.00	
	Dx	1	0.00	0.00	52.17	0.00	0.00	36.00	

Traffic Stream Results: Advanced

Time Segment	Arm	Traffic Stream	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	Warmed up error	Mean Max Queue EoTS (PCU)	Max End of Green Queue EoTS (PCU)	Max End of Red Queue EoTS (PCU)	PCU Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
17:00-18:00	A	1	0.00	0.00	✓	0.00	3.06	0.03	2.72	1.00	0.00	11.89
	B	1	0.00	0.00	✓	0.00	0.81	0.04	0.81	1.00	0.00	6.02
	C	1	0.00	0.00	✓	0.00	11.67	0.50	8.11	1.00	0.00	49.94
	D	1	0.00	0.00	✓	0.00	1.44	0.11	1.42	1.00	0.00	11.02
	Ar	1	0.00	0.00	✓	0.00	0.36	0.00	0.01	1.00	0.00	1.04
	Ax	1	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00
	Bx	1	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00
	Cr	1	0.00	0.00	✓	0.00	0.20	0.00	0.01	1.00	0.00	0.17
	Cx	1	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00
	Dx	1	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00

Pedestrian Crossing Results

Pedestrian Crossings: Pedestrian summary

Time Segment	Crossing	Side	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Mean max queue (Ped)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
17:00-18:00	1	1	0	0	11000	7	0.00	0.00	0.00	0.00
		2	3	20	11000	7	43.71	0.52	3.45	3.45
	2	1	2	20	11000	9	41.86	0.51	3.30	3.30
		2	0	0	11000	9	0.00	0.00	0.00	0.00
	3	1	2	20	11000	8	42.78	0.51	3.37	3.37
		2	2	20	11000	8	42.78	0.51	3.37	3.37
	4	1	0	0	11000	7	0.00	0.00	0.00	0.00
		2	0	0	11000	7	0.00	0.00	0.00	0.00

Pedestrian Crossings: Flows and signals

Time Segment	Crossing	Side	Calculated flow entering (Ped/hr)	Calculated flow out (Ped/hr)	Flow discrepancy (Ped/hr)	Adjusted flow warning	Calculated sat flow (Ped/hr)	Calculated capacity (Ped/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity	Mean modulus of error	Actual green (s (per cycle))
17:00-18:00	1	1	0	0	0		11000	770	0		Unrestricted	0.00	7
		2	20	20	0		11000	770	3		3365	0.00	7
	2	1	20	20	0		11000	990	2		4355	0.00	9
		2	0	0	0		11000	990	0		Unrestricted	0.00	9
	3	1	20	20	0		11000	880	2		3860	0.00	8
		2	20	20	0		11000	880	2		3860	0.00	8
	4	1	0	0	0		11000	770	0		Unrestricted	0.00	7
		2	0	0	0		11000	770	0		Unrestricted	0.00	7

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Pedestrian Crossings: Stops and delays

Time Segment	Crossing	Side	Mean Cruise Time per Ped (s)	Mean Delay per Ped (s)	Total delay (Ped-hr/hr)	Weighted cost of delay (£ per hr)
17:00-18:00	1	1	1.00	0.00	0.00	0.00
		2	8.33	43.71	0.24	3.45
	2	1	5.27	41.86	0.23	3.30
		2	1.00	0.00	0.00	0.00
	3	1	8.40	42.78	0.24	3.37
		2	8.40	42.78	0.24	3.37
	4	1	1.00	0.00	0.00	0.00
		2	1.00	0.00	0.00	0.00

Pedestrian Crossings: Queues and blocking

Time Segment	Crossing	Side	Mean max queue (Ped)	Max queue storage (Ped)	Utilised storage (%)	Excess queue penalty (£ per hr)
17:00-18:00	1	1	0.00	10.00	0.00	0.00
		2	0.52	10.00	5.17	0.00
	2	1	0.51	10.00	5.06	0.00
		2	0.00	10.00	0.00	0.00
	3	1	0.51	10.00	5.11	0.00
		2	0.51	10.00	5.11	0.00
	4	1	0.00	10.00	0.00	0.00
		2	0.00	10.00	0.00	0.00

Pedestrian Crossings: Advanced

Time Segment	Crossing	Side	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Mean Max Queue EoTS (Ped)	Ped Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
17:00-18:00	1	1	0.00	0.00	0.00	1.00	0.00	0.00
		2	0.00	0.00	0.52	1.00	0.00	3.45
	2	1	0.00	0.00	0.51	1.00	0.00	3.30
		2	0.00	0.00	0.00	1.00	0.00	0.00
	3	1	0.00	0.00	0.51	1.00	0.00	3.37
		2	0.00	0.00	0.51	1.00	0.00	3.37
	4	1	0.00	0.00	0.00	1.00	0.00	0.00
		2	0.00	0.00	0.00	1.00	0.00	0.00

Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Ite wit wor over PR
2	13/12/2018 08:58:35	13/12/2018 08:58:37	17:00	100	93.59	6.06	61.76	C/1	0	0	C/1	Cx/1	C/

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
17:00-18:00	62	0	1778	622	10.34	72.49	7.59	80.09

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
17:00-18:00	3	80	62	42.78	13.50	13.50

Network Results: Flows and signals

Time Segment	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Actual green (s (per cycle))
17:00-18:00	1858	1858	0		62		46	684

Network Results: Stops and delays

Time Segment	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
17:00-18:00	33.77	11.73	6.06	85.99	33.12	615.44	7.59

Network Results: Queues and blocking

Time Segment	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))
17:00-18:00	35.79	0.00	185.00

Network Results: Advanced

Time Segment	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	Warmed up error	PCU Factor	Cost of traffic penalties (£ per hr)	Controller stream penalties (£ per hr)	Performance Index (£ per hr)
17:00-18:00	0.00	0.00	✓	0.00	1.00	0.00	0.00	93.59

Point to Point Journey Time

Average Journey Time (s) for Local Matrix: 1

		To							
		1	2	3	4	5	6	7	8
From	1	0.0	85.0	85.0	99.6	0.0	0.0	0.0	0.0
	2	101.8	0.0	101.8	101.8	0.0	0.0	0.0	0.0
	3	91.5	94.1	0.0	91.5	0.0	0.0	0.0	0.0
	4	123.6	0.0	123.6	0.0	0.0	0.0	0.0	0.0
	5	0.0	0.0	0.0	0.0	0.0	47.1	0.0	52.0
	6	0.0	0.0	0.0	0.0	0.0	0.0	51.2	0.0
	7	0.0	0.0	0.0	0.0	0.0	51.2	0.0	0.0
	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Path Journey Time

Path	From Location	To Location	Normal Calculated Flow (PCU/hr)	Pedestrian calculated flow (Ped/hr)	Normal journey time (s)	Pedestrian journey time (s)	Calculated Total Flow (PCU/hr)	Avg journey time (s)
4	2	3	18		101.82		18	101.82
12	2	4	2		101.82		2	101.82
16	6	7		20		51.18	20	51.18
17	7	6		20		51.18	20	51.18
18	7	8		0		0.00	0	0.00
19	8	7		0		0.00	0	0.00
20	5	8		20		52.04	20	52.04
21	8	5		0		0.00	0	0.00
22	5	6		20		47.13	20	47.13
23	6	5		0		0.00	0	0.00
26	1	3	156		84.99		156	84.99
28	1	2	32		84.99		32	84.99
29	3	4	152		91.48		152	91.48
32	3	2	20		94.15		20	94.15
33	1	4	18		99.59		18	99.59
34	4	3	32		123.60		32	123.60
35	4	2	0		0.00		0	0.00
36	2	1	10		101.82		10	101.82
37	4	1	19		123.60		19	123.60
38	3	1	411		91.48		411	91.48

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Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)
A	1	(untitled)	J	1	C	206	1802	52	0.00	22	317	48.99	12.99	51.61	3.06
B	1	(untitled)	J	1	D	30	1547	7	6.00	24	271	65.82	47.82	96.39	0.81
C	1	(untitled)	J	1	A	583	1781	52	0.00	62	46	55.48	19.48	70.35	11.67
D	1	(untitled)	J	1	B	51	1692	7	5.00	38	139	87.60	51.60	100.61	1.44
Ar	1	(untitled)	J	1	C	18	423	52	21.00	8	1020	14.59	13.59	70.71	0.36
Ax	1	(untitled)	J			440	Unrestricted	100	15.00	0	Unrestricted	36.00	0.00	0.00	0.00
Bx	1	(untitled)				52	Unrestricted	100	58.00	0	Unrestricted	36.00	0.00	0.00	0.00
Cr	1	(untitled)	J	1	A	20	1272	52	32.00	3	2934	2.67	1.67	29.96	0.20
Cx	1	(untitled)				206	Unrestricted	100	12.00	0	Unrestricted	36.00	0.00	0.00	0.00
Dx	1	(untitled)				172	Unrestricted	100	36.00	0	Unrestricted	36.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	P
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	
1	1	(untitled)		1	G	0	11000	7	0	Unrestricted	0.00	0.00	0.00	100	
	2	(untitled)		1	G	20	11000	7	3	3365	52.04	43.71	0.52	100	
2	1	(untitled)		1	H	20	11000	9	2	4355	47.13	41.86	0.51	100	
	2	(untitled)		1	H	0	11000	9	0	Unrestricted	0.00	0.00	0.00	100	
3	1	(untitled)		1	E	20	11000	8	2	3860	51.18	42.78	0.51	100	
	2	(untitled)		1	E	20	11000	8	2	3860	51.18	42.78	0.51	100	
4	1	(untitled)		1	F	0	11000	7	0	Unrestricted	0.00	0.00	0.00	100	
	2	(untitled)		1	F	0	11000	7	0	Unrestricted	0.00	0.00	0.00	100	

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	517.72	22.37	23.15	5.11	72.49	7.59	0.00	80.09
Bus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tram	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pedestrians	0.87	1.12	0.78	0.95	13.50	0.00	0.00	13.50
TOTAL	518.59	23.49	22.08	6.06	85.99	7.59	0.00	93.59

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

A3 - AM 2025 DS
D3 - AM 2025 DS*

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Ite wit wor over PR
3	13/12/2018 08:58:37	13/12/2018 08:58:38	07:30	100	220.97	14.55	82.53	A/1	0	0	A/1	Cx/1	A/

Analysis Set Details

Name	Description	Demand set	Include in report	Locked
AM 2025 DS		D3	✓	

Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
AM 2025 DS				07:30	

Network Options

Network timings

Network cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
100		60	1	60

Signals options

Start displacement (s)	End displacement (s)
2	3

Advanced

Phase minimum broken penalty (£)	Phase maximum broken penalty (£)	Intergreen broken penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

Traffic options

Traffic model	Vehicle flow scaling factor (%)	Pedestrian flow scaling factor (%)	Cruise times or speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

Advanced

Resolution	DOS Threshold (%)	Cruise scaling factor (%)	Use link stop weightings	Use link delay weightings	Exclude pedestrians from results calculation	Random delay mode	Type of Vehicle-in-Service	Type of random parameter	PCU Length (m)	Calculate results for Path Segments	Generate PDM Profile Data
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75		✓

Normal Traffic parameters

Dispersion type	Dispersion coefficient
Default	35

Normal Traffic Types

Name	PCU Factor
Normal	1.00

Bus parameters

Name	PCU Factor	Dispersion coefficient1	Dispersion coefficient2	Acceleration (ms^[-2])	Travel time coefficient1	Travel time coefficient2
Bus	1.00	70	15	0.94	30	85

Tram parameters

Name	PCU Factor	Dispersion coefficient1	Dispersion coefficient2	Acceleration (ms^[-2])	Travel time coefficient1	Travel time coefficient2
Tram	1.00	0	0	0.94	100	100

Pedestrian parameters

Dispersion type
Default

Optimisation options

Enable optimisation	Auto redistribute	Optimisation level	Enable OUT Profile accuracy
✓	✓	Offsets And Green Splits	✓

Advanced

Optimisation type	Hill climb increments	OUTProfile accuracy	Use enhanced optimisation	Auto optimisation order	Optimisation order	Master controller	Offsets relative to master controller	Master controller offset after each run
Hill Climb (Fast)	15, 40, -1, 15, 40, 1, -1, 1	50, 50, 5, 5, 0.5, 0.5, 0.05, 0.05		✓	1			Do nothing

Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian monetary value of delay (£ per Ped-hr)
14.20	2.60	14.20

Traffic Nodes

Traffic Nodes

Traffic node	Name	Description
J	(untitled)	

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	(untitled)		J
B	(untitled)		J
C	(untitled)		J
D	(untitled)		J
Ar	(untitled)		J
Ax	(untitled)		J
Bx	(untitled)		
Cr	(untitled)		J
Cx	(untitled)		
Dx	(untitled)		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	(untitled)			300.00	✓	Sum of lanes	1802	✓		Normal	
B	1	(untitled)			150.00	✓	Sum of lanes	1547	✓		Normal	
C	1	(untitled)			300.00	✓	Sum of lanes	1781	✓		Normal	
D	1	(untitled)			300.00	✓	Sum of lanes	1692	✓		Normal	
Ar	1	(untitled)			5.75	✓	Sum of lanes	2005	✓	✓	Normal	
Ax	1	(untitled)			300.00						Normal	
Bx	1	(untitled)			300.00						Normal	
Cr	1	(untitled)			5.75	✓	Sum of lanes	2005	✓	✓	Normal	
Cx	1	(untitled)			300.00						Normal	
Dx	1	(untitled)			300.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface condition	Site quality factor	Gradient (%)	Width (m)	Use connector turning radius	Proportion that turn (%)	Turning radius (m)	Nearside lane	Saturation flow (PCU/hr)
A	1	1	(untitled)		✓	N/A	N/A	0	3.00		25	6.00	✓	1802
B	1	1	(untitled)		✓	N/A	N/A	0	3.00		95	6.00	✓	1547
C	1	1	(untitled)		✓	N/A	N/A	0	3.00		30	6.00	✓	1781
D	1	1	(untitled)		✓	N/A	N/A	0	3.00		93	10.60	✓	1692
Ar	1	1	(untitled)		✓	N/A	N/A	0	2.50		0	6.00		2005
Ax	1	1	(untitled)											
Bx	1	1	(untitled)											
Cr	1	1	(untitled)		✓	N/A	N/A	0	2.50		0	8.50		2005
Cx	1	1	(untitled)											
Dx	1	1	(untitled)											

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Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
A	1	NetworkDefault	100	100	100		0.00		
B	1	NetworkDefault	100	100	100		0.00		
C	1	NetworkDefault	100	100	100		0.00		
D	1	NetworkDefault	100	100	100		0.00		
Ar	1	NetworkDefault	100	100	100		1.00		
Ax	1	NetworkDefault	100	100	100		0.00		
Bx	1	NetworkDefault	100	100	100		0.00		
Cr	1	NetworkDefault	100	100	100		1.00		
Cx	1	NetworkDefault	100	100	100		0.00		
Dx	1	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	1	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	100

Normal - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	1	100	100

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
A	1	580	580
B	1	48	48
C	1	235	235
D	1	307	307
Ar	1	16	16
Ax	1	217	217
Bx	1	27	27
Cr	1	16	16
Cx	1	885	885
Dx	1	41	41

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	C	
B	1	1	D	
C	1	1	A	
D	1	1	B	
Ar	1	1	C	
Cr	1	1	A	

Entry Sources

Arm	Traffic Stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)
A	1	36.00	30.00
B	1	18.00	30.00
C	1	36.00	30.00
D	1	36.00	30.00

Sources

Arm	Traffic Stream	Source	Source traffic stream	Destination traffic stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)	Auto turning radius	Traffic turn style	Turning radius (m)
Ar	1	1	A/1	Ar/1	1.00	30.00	✓	Straight	Straight Movement
Ax	1	1	C/1	Ax/1	36.00	30.00	✓	Straight	Straight Movement
Bx	1	1	D/1	Bx/1	36.00	30.00	✓	Straight	Straight Movement
Cr	1	1	C/1	Cr/1	1.00	30.00	✓	Straight	Straight Movement
Cx	1	1	A/1	Cx/1	36.00	30.00	✓	Straight	Straight Movement
Dx	1	1	B/1	Dx/1	36.00	30.00	✓	Straight	Straight Movement
Ax	1	2	B/1	Ax/1	36.00	30.00	✓	Offside	57.17
Bx	1	2	A/1	Bx/1	36.00	30.00	✓	Nearside	67.46
Cx	1	2	B/1	Cx/1	36.00	30.00	✓	Nearside	87.33
Dx	1	2	C/1	Dx/1	36.00	30.00	✓	Nearside	50.78
Ax	1	3	D/1	Ax/1	36.00	30.00	✓	Nearside	56.71
Bx	1	3	Cr/1	Bx/1	36.00	30.00	✓	Offside	52.48
Cx	1	3	D/1	Cx/1	36.00	30.00	✓	Offside	92.66
Dx	1	3	Ar/1	Dx/1	36.00	30.00	✓	Offside	97.63

Give Way Data

Arm	Traffic Stream	Opposed traffic	Use Step-wise Opposed Turn Model	Number of storage spaces	Use connector turning radius	Radius of turn (m)	Visibility restricted
Ar	1	AllTraffic	✓	1		10.00	
Cr	1	AllTraffic	✓	1		8.00	

Give Way Data - All Movements - Conflicts

Traffic Stream	Description	Controlling type	Controlling from traffic stream	Controlling to traffic stream	Percentage opposing (%)	Upstream signals visible	Conflict shift	Conflict duration
1		TrafficStreamMovement	C/1	Dx/1	100		2	6
		TrafficStreamMovement	C/1	Ax/1	100		2	6
		TrafficStreamMovement	A/1	Cx/1	100		2	6
		TrafficStreamMovement	A/1	Bx/1	100		2	6

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)				Farside	11.00	7.33	5.40
2	(untitled)				Farside	6.40	4.27	5.40
3	(untitled)				Farside	11.10	7.40	5.40
4	(untitled)				Farside	11.10	7.40	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
1	1	G	
2	1	H	
3	1	E	
4	1	F	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

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Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit
1	(untitled)	✓	✓	Path Equalisation			✓			✓	1.25		

Normal Input Flows (PCU/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	6	558	16	0	0	0	0
	2	3	0	42	3	0	0	0	0
	3	197	16	0	22	0	0	0	0
	4	17	5	285	0	0	0	0	0
	5	0	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (PCU/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	20	0	20
	6	0	0	0	0	0	0	20	0
	7	0	0	0	0	0	20	0	0
	8	0	0	0	0	0	0	0	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	A/1	Ax/1	#0000FF
	2	(untitled)	B/1	Bx/1	#00FF00
	3	(untitled)	C/1	Cx/1	#FFFF00
	4	(untitled)	D/1	Dx/1	#FFFF00
	5	(untitled)	1:2E, 2:1E	1:2X, 2:1X	#00FFFF
	6	(untitled)	2:2E, 3:2E	2:2X, 3:2X	#FF00FF
	7	(untitled)	3:1E, 4:2E	3:1X, 4:2X	#008000
	8	(untitled)	4:1E, 1:1E	4:1X, 1:1X	#FFA500

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	4		2	3	B/1, Cx/1	Normal	42
	12		2	4	B/1, Dx/1	Normal	3
	26		1	3	A/1, Cx/1	Normal	558
	28		1	2	A/1, Bx/1	Normal	6
	29		3	4	C/1, Dx/1	Normal	22
	32		3	2	C/1, Cr/1, Bx/1	Normal	16
	33		1	4	A/1, Ar/1, Dx/1	Normal	16
	34		4	3	D/1, Cx/1	Normal	285
	35		4	2	D/1, Bx/1	Normal	5
	36		2	1	B/1, Ax/1	Normal	3
	37		4	1	D/1, Ax/1	Normal	17
	38		3	1	C/1, Ax/1	Normal	197

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	16		6	7	3:2E, 3:1X	Normal	20
	17		7	6	3:1E, 3:2X	Normal	20
	18		7	8	4:2E, 4:1X	Normal	0
	19		8	7	4:1E, 4:2X	Normal	0
	20		5	8	1:2E, 1:1X	Normal	20
	21		8	5	1:1E, 1:2X	Normal	0
	22		5	6	2:1E, 2:2X	Normal	20
	23		6	5	2:2E, 2:1X	Normal	0

Network Default: 100s cycle time: 100 steps

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)
1	(untitled)		1	NetworkDefault	100

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Controller Stream	Phase	Name	Minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	7	300	0	0	Traffic	
	B	(untitled)	7	300	0	0	Traffic	
	C	(untitled)	7	300	0	0	Traffic	
	D	(untitled)	7	300	0	0	Traffic	
	E	(untitled)	7	300	0	0	Pedestrian	0
	F	(untitled)	7	300	0	0	Pedestrian	0
	G	(untitled)	7	300	0	0	Pedestrian	0
	H	(untitled)	7	300	0	0	Pedestrian	0

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)
1	1	A, C	1
	2	B	1
	3	D	1
	4	E, F, G, H	1

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends
1	1	(untitled)	Single	1, 2, 3, 4	35, 62, 74, 88
	2	(untitled)	Single	1, 4, 2, 3	0, 31, 63, 91
	3	(untitled)	Single	1, 3, 4, 2	0, 29, 59, 91
	4	(untitled)	Single	1, 2, 4, 3	0, 29, 59, 91
	5	(untitled)	Single	1, 4, 3, 2	0, 31, 63, 91
	6	(untitled)	Single	1, 3, 2, 4	0, 29, 57, 87

		To							
		A	B	C	D	E	F	G	H
From	A		6		5	5	6	7	7
	B	5		5	5	7	5	6	6
	C		5		6	6	7	5	5
	D	5	5	5		6	7	7	5
	E	9	9	9	9				
	F	9	9	9	9				
	G	9	9	9	9				
	H	5	5	5	6				

		To			
		1	2	3	4
From	1				
	2				
	3				
	4				

		To			
		1	2	3	4
From	1	0	6	6	7
	2	5	0	5	7
	3	5	5	0	7
	4	9	9	9	0

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A,C	97	35	38	1	7
	2	✓	2	B	41	62	21	1	7
	3	✓	3	D	67	74	7	1	7
	4	✓	4	E,F,G,H	81	88	7	1	7

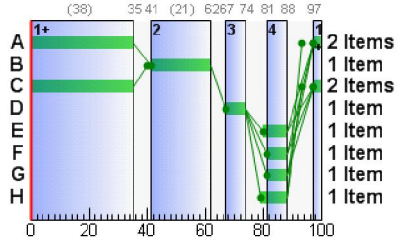
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	97	35	38
	B	1	✓	41	62	21
	C	1	✓	97	35	38
	D	1	✓	67	74	7
	E	1	✓	80	88	8
	F	1	✓	81	88	7
	G	1	✓	81	88	7
	H	1	✓	79	88	9

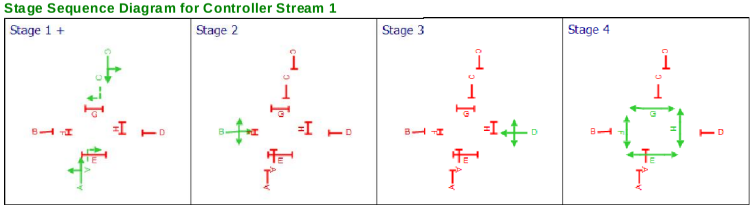
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	J	1	C	97	35	38
B	1	J	1	D	67	74	7
C	1	J	1	A	97	35	38
D	1	J	1	B	41	62	21
Ar	1	J	1	C	97	35	38
Cr	1	J	1	A	97	35	38

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Resultant penalties

Time Segment	Controller stream	Phase min max penalty (£ per hr)	Intergreen broken penalty (£ per hr)	Stage constraint broken penalty (£ per hr)	Cost of controller stream penalties (£ per hr)
07:30-08:30	1	0.00	0.00	0.00	0.00

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Traffic Stream Results

Traffic Stream Results: Vehicle summary

Time Segment	Arm	Traffic Stream	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
07:30-08:30	A	1	83	9	580	1802	38	39.03	16.21	31.06	89.29	7.17	96.46
	B	1	39	132	48	1547	7	52.78	1.37	5.27	9.99	0.61	10.60
	C	1	34	166	235	1781	38	22.76	4.66	8.92	21.10	2.06	23.16
	D	1	82	9	307	1692	21	58.23	9.90	18.97	70.52	4.36	74.88
	Ar	1	4	2005	16	960	38	2.76	0.21	20.72	0.17	0.04	0.21
	Ax	1	0	Unrestricted	217	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	Bx	1	0	Unrestricted	27	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	Cr	1	28	222	16	147	38	32.59	0.46	46.14	2.06	0.10	2.15
	Cx	1	0	Unrestricted	885	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	Dx	1	0	Unrestricted	41	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00

Traffic Stream Results: Flows and signals

Time Segment	Arm	Traffic Stream	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Calculated sat flow (PCU/hr)	Calculated capacity (PCU/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Mean modulus of error	Actual green (s (per cycle))
07:30-08:30	A	1	580	580	0		1802	703	83		9	0.00	38
	B	1	48	48	0		1547	124	39		132	0.00	7
	C	1	235	235	0		1781	695	34		166	0.00	38
	D	1	307	307	0		1692	372	82		9	0.00	21
	Ar	1	16	16	0		960	374	4		2005	1.21	38
	Ax	1	217	217	0		Unrestricted	Unrestricted	0		Unrestricted	0.83	100
	Bx	1	27	27	0		Unrestricted	Unrestricted	0		Unrestricted	0.61	100
	Cr	1	16	16	0		147	57	28		222	1.21	38
	Cx	1	885	885	0		Unrestricted	Unrestricted	0		Unrestricted	0.45	100
	Dx	1	41	41	0		Unrestricted	Unrestricted	0		Unrestricted	0.82	100

Traffic Stream Results: Stops and delays

Time Segment	Arm	Traffic Stream	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
07:30-08:30	A	1	36.00	39.03	6.29	89.29	98.64	572.11	7.17
	B	1	18.00	52.78	0.70	9.99	101.71	48.82	0.61
	C	1	36.00	22.76	1.49	21.10	69.81	164.05	2.06
	D	1	36.00	58.23	4.97	70.52	113.36	348.03	4.36
	Ar	1	1.00	2.76	0.01	0.17	41.02	6.56	0.04
	Ax	1	36.00	0.00	0.00	0.00	0.00	0.00	0.00
	Bx	1	36.00	0.00	0.00	0.00	0.00	0.00	0.00
	Cr	1	1.00	32.59	0.14	2.06	102.84	16.45	0.10
	Cx	1	36.00	0.00	0.00	0.00	0.00	0.00	0.00
	Dx	1	36.00	0.00	0.00	0.00	0.00	0.00	0.00

Traffic Stream Results: Queues and blocking

Time Segment	Arm	Traffic Stream	Initial queue (PCU)	Mean max queue (PCU)	Max queue storage (PCU)	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))	Estimated blocking
07:30-08:30	A	1	0.00	16.21	52.17	31.06	0.00	0.00	
	B	1	0.00	1.37	26.09	5.27	0.00	5.00	
	C	1	0.00	4.66	52.17	8.92	0.00	0.00	
	D	1	0.00	9.90	52.17	18.97	0.00	0.00	
	Ar	1	0.00	0.21	1.00	20.72	0.00	23.00	
	Ax	1	0.00	0.00	52.17	0.00	0.00	31.00	
	Bx	1	0.00	0.00	52.17	0.00	0.00	91.00	
	Cr	1	0.00	0.46	1.00	46.14	0.00	1.00	
	Cx	1	0.00	0.00	52.17	0.00	0.00	0.00	
	Dx	1	0.00	0.00	52.17	0.00	0.00	65.00	

Traffic Stream Results: Advanced

Time Segment	Arm	Traffic Stream	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	Warmed up error	Mean Max Queue EoTS (PCU)	Max End of Green Queue EoTS (PCU)	Max End of Red Queue EoTS (PCU)	PCU Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
07:30-08:30	A	1	0.00	0.00	✓	0.00	16.25	1.91	11.73	1.00	0.00	96.46
	B	1	0.00	0.00	✓	0.00	1.38	0.12	1.35	1.00	0.00	10.60
	C	1	0.00	0.00	✓	0.00	4.66	0.09	4.07	1.00	0.00	23.16
	D	1	0.00	0.00	✓	0.00	9.97	1.86	8.52	1.00	0.00	74.88
	Ar	1	0.00	0.00	✓	0.00	0.21	0.00	0.01	1.00	0.00	0.21
	Ax	1	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00
	Bx	1	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00
	Cr	1	0.00	0.00	✓	0.00	0.46	0.05	0.06	1.00	0.00	2.15
	Cx	1	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00
	Dx	1	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00

Pedestrian Crossing Results

Pedestrian Crossings: Pedestrian summary

Time Segment	Crossing	Side	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Mean max queue (Ped)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
07:30-08:30	1	1	0	0	11000	7	0.00	0.00	0.00	0.00
		2	3	20	11000	7	43.71	0.52	3.45	3.45
	2	1	2	20	11000	9	41.86	0.51	3.30	3.30
		2	0	0	11000	9	0.00	0.00	0.00	0.00
	3	1	2	20	11000	8	42.78	0.51	3.37	3.37
		2	2	20	11000	8	42.78	0.51	3.37	3.37
	4	1	0	0	11000	7	0.00	0.00	0.00	0.00
		2	0	0	11000	7	0.00	0.00	0.00	0.00

Pedestrian Crossings: Flows and signals

Time Segment	Crossing	Side	Calculated flow entering (Ped/hr)	Calculated flow out (Ped/hr)	Flow discrepancy (Ped/hr)	Adjusted flow warning	Calculated sat flow (Ped/hr)	Calculated capacity (Ped/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity	Mean modulus of error	Actual green (s (per cycle))
07:30-08:30	1	1	0	0	0		11000	770	0		Unrestricted	0.00	7
		2	20	20	0		11000	770	3		3365	0.00	7
	2	1	20	20	0		11000	990	2		4355	0.00	9
		2	0	0	0		11000	990	0		Unrestricted	0.00	9
	3	1	20	20	0		11000	880	2		3860	0.00	8
		2	20	20	0		11000	880	2		3860	0.00	8
	4	1	0	0	0		11000	770	0		Unrestricted	0.00	7
		2	0	0	0		11000	770	0		Unrestricted	0.00	7

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Pedestrian Crossings: Stops and delays

Time Segment	Crossing	Side	Mean Cruise Time per Ped (s)	Mean Delay per Ped (s)	Total delay (Ped-hr/hr)	Weighted cost of delay (£ per hr)
07:30-08:30	1	1	1.00	0.00	0.00	0.00
		2	8.33	43.71	0.24	3.45
	2	1	5.27	41.86	0.23	3.30
		2	1.00	0.00	0.00	0.00
	3	1	8.40	42.78	0.24	3.37
		2	8.40	42.78	0.24	3.37
	4	1	1.00	0.00	0.00	0.00
		2	1.00	0.00	0.00	0.00

Pedestrian Crossings: Queues and blocking

Time Segment	Crossing	Side	Mean max queue (Ped)	Max queue storage (Ped)	Utilised storage (%)	Excess queue penalty (£ per hr)
07:30-08:30	1	1	0.00	10.00	0.00	0.00
		2	0.52	10.00	5.17	0.00
	2	1	0.51	10.00	5.06	0.00
		2	0.00	10.00	0.00	0.00
	3	1	0.51	10.00	5.11	0.00
		2	0.51	10.00	5.11	0.00
	4	1	0.00	10.00	0.00	0.00
		2	0.00	10.00	0.00	0.00

Pedestrian Crossings: Advanced

Time Segment	Crossing	Side	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Mean Max Queue EoTS (Ped)	Ped Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
07:30-08:30	1	1	0.00	0.00	0.00	1.00	0.00	0.00
		2	0.00	0.00	0.52	1.00	0.00	3.45
	2	1	0.00	0.00	0.51	1.00	0.00	3.30
		2	0.00	0.00	0.00	1.00	0.00	0.00
	3	1	0.00	0.00	0.51	1.00	0.00	3.37
		2	0.00	0.00	0.51	1.00	0.00	3.37
	4	1	0.00	0.00	0.00	1.00	0.00	0.00
		2	0.00	0.00	0.00	1.00	0.00	0.00

Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Ite wit wor over PR
3	13/12/2018 08:58:37	13/12/2018 08:58:38	07:30	100	220.97	14.55	82.53	A/1	0	0	A/1	Cx/1	A/

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
07:30-08:30	83	0	2372	580	20.64	193.12	14.34	207.47

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
07:30-08:30	3	80	62	42.78	13.50	13.50

Network Results: Flows and signals

Time Segment	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Actual green (s (per cycle))
07:30-08:30	2452	2452	0		83		9	642

Network Results: Stops and delays

Time Segment	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
07:30-08:30	34.26	21.36	14.55	206.62	47.15	1156.02	14.34

Network Results: Queues and blocking

Time Segment	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))
07:30-08:30	46.14	0.00	216.00

Network Results: Advanced

Time Segment	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	Warmed up error	PCU Factor	Cost of traffic penalties (£ per hr)	Controller stream penalties (£ per hr)	Performance Index (£ per hr)
07:30-08:30	0.00	0.00	✓	0.00	1.00	0.00	0.00	220.97

Point to Point Journey Time

Average Journey Time (s) for Local Matrix: 1

		To							
		1	2	3	4	5	6	7	8
From	1	0.0	111.0	111.0	114.8	0.0	0.0	0.0	0.0
	2	106.8	0.0	106.8	106.8	0.0	0.0	0.0	0.0
	3	94.8	128.3	0.0	94.8	0.0	0.0	0.0	0.0
	4	130.2	130.2	130.2	0.0	0.0	0.0	0.0	0.0
	5	0.0	0.0	0.0	0.0	0.0	47.1	0.0	52.0
	6	0.0	0.0	0.0	0.0	0.0	0.0	51.2	0.0
	7	0.0	0.0	0.0	0.0	0.0	51.2	0.0	0.0
	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Path Journey Time

Path	From Location	To Location	Normal Calculated Flow (PCU/hr)	Pedestrian calculated flow (Ped/hr)	Normal journey time (s)	Pedestrian journey time (s)	Calculated Total Flow (PCU/hr)	Avg journey time (s)
4	2	3	42		106.78		42	106.78
12	2	4	3		106.78		3	106.78
16	6	7		20		51.18	20	51.18
17	7	6		20		51.18	20	51.18
18	7	8		0		0.00	0	0.00
19	8	7		0		0.00	0	0.00
20	5	8		20		52.04	20	52.04
21	8	5		0		0.00	0	0.00
22	5	6		20		47.13	20	47.13
23	6	5		0		0.00	0	0.00
26	1	3	558		111.03		558	111.03
28	1	2	6		111.03		6	111.03
29	3	4	22		94.76		22	94.76
32	3	2	16		128.35		16	128.35
33	1	4	16		114.78		16	114.78
34	4	3	285		130.23		285	130.23
35	4	2	5		130.23		5	130.23
36	2	1	3		106.78		3	106.78
37	4	1	17		130.23		17	130.23
38	3	1	197		94.76		197	94.76

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Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)
A	1	(untitled)	J	1	C	580	1802	38	0.00	83	9	75.03	39.03	98.64	16.21
B	1	(untitled)	J	1	D	48	1547	7	5.00	39	132	70.78	52.78	101.71	1.37
C	1	(untitled)	J	1	A	235	1781	38	0.00	34	166	58.76	22.76	69.81	4.66
D	1	(untitled)	J	1	B	307	1692	21	0.00	82	9	94.23	58.23	113.36	9.90
Ar	1	(untitled)	J	1	C	16	960	38	23.00	4	2005	3.76	2.76	41.02	0.21
Ax	1	(untitled)	J			217	Unrestricted	100	31.00	0	Unrestricted	36.00	0.00	0.00	0.00
Bx	1	(untitled)				27	Unrestricted	100	91.00	0	Unrestricted	36.00	0.00	0.00	0.00
Cr	1	(untitled)	J	1	A	16	147	38	1.00	28	222	33.59	32.59	102.84	0.46
Cx	1	(untitled)				885	Unrestricted	100	0.00	0	Unrestricted	36.00	0.00	0.00	0.00
Dx	1	(untitled)				41	Unrestricted	100	65.00	0	Unrestricted	36.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	P
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	
1	1	(untitled)		1	G	0	11000	7	0	Unrestricted	0.00	0.00	0.00	100	
	2	(untitled)		1	G	20	11000	7	3	3365	52.04	43.71	0.52	100	
2	1	(untitled)		1	H	20	11000	9	2	4355	47.13	41.86	0.51	100	
	2	(untitled)		1	H	0	11000	9	0	Unrestricted	0.00	0.00	0.00	100	
3	1	(untitled)		1	E	20	11000	8	2	3860	51.18	42.78	0.51	100	
	2	(untitled)		1	E	20	11000	8	2	3860	51.18	42.78	0.51	100	
4	1	(untitled)		1	F	0	11000	7	0	Unrestricted	0.00	0.00	0.00	100	
	2	(untitled)		1	F	0	11000	7	0	Unrestricted	0.00	0.00	0.00	100	

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	694.98	36.77	18.90	13.60	193.12	14.34	0.00	207.47
Bus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tram	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pedestrians	0.87	1.12	0.78	0.95	13.50	0.00	0.00	13.50
TOTAL	695.86	37.89	18.37	14.55	206.62	14.34	0.00	220.97

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

A4 - PM 2025 DS
D4 - PM 2025 DS*

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Ite wit wor over PR
4	13/12/2018 08:58:38	13/12/2018 08:58:39	17:00	100	107.81	6.97	67.59	C/1	0	0	C/1	Cx/1	C/

Analysis Set Details

Name	Description	Demand set	Include in report	Locked
PM 2025 DS		D4	✓	

Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
PM 2025 DS				17:00	

Network Options

Network timings

Network cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
100		60	1	60

Signals options

Start displacement (s)	End displacement (s)
2	3

Advanced

Phase minimum broken penalty (£)	Phase maximum broken penalty (£)	Intergreen broken penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

Traffic options

Traffic model	Vehicle flow scaling factor (%)	Pedestrian flow scaling factor (%)	Cruise times or speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

Advanced

Resolution	DOS Threshold (%)	Cruise scaling factor (%)	Use link stop weightings	Use link delay weightings	Exclude pedestrians from results calculation	Random delay mode	Type of Vehicle-in-Service	Type of random parameter	PCU Length (m)	Calculate results for Path Segments	Generate PDM Profile Data
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75		✓

Normal Traffic parameters

Dispersion type	Dispersion coefficient
Default	35

Normal Traffic Types

Name	PCU Factor
Normal	1.00

Bus parameters

Name	PCU Factor	Dispersion coefficient1	Dispersion coefficient2	Acceleration (ms^[-2])	Travel time coefficient1	Travel time coefficient2
Bus	1.00	70	15	0.94	30	85

Tram parameters

Name	PCU Factor	Dispersion coefficient1	Dispersion coefficient2	Acceleration (ms^[-2])	Travel time coefficient1	Travel time coefficient2
Tram	1.00	0	0	0.94	100	100

Pedestrian parameters

Dispersion type
Default

Optimisation options

Enable optimisation	Auto redistribute	Optimisation level	Enable OUT Profile accuracy
✓	✓	Offsets And Green Splits	✓

Advanced

Optimisation type	Hill climb increments	OUTProfile accuracy	Use enhanced optimisation	Auto optimisation order	Optimisation order	Master controller	Offsets relative to master controller	Master controller offset after each run
Hill Climb (Fast)	15, 40, -1, 15, 40, 1, -1, 1	50, 50, 5, 5, 0.5, 0.5, 0.05, 0.05		✓	1			Do nothing

Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian monetary value of delay (£ per Ped-hr)
14.20	2.60	14.20

Traffic Nodes

Traffic Nodes

Traffic node	Name	Description
J	(untitled)	

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	(untitled)		J
B	(untitled)		J
C	(untitled)		J
D	(untitled)		J
Ar	(untitled)		J
Ax	(untitled)		J
Bx	(untitled)		
Cr	(untitled)		J
Cx	(untitled)		
Dx	(untitled)		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	(untitled)			300.00	✓	Sum of lanes	1802	✓		Normal	
B	1	(untitled)			150.00	✓	Sum of lanes	1547	✓		Normal	
C	1	(untitled)			300.00	✓	Sum of lanes	1781	✓		Normal	
D	1	(untitled)			300.00	✓	Sum of lanes	1678	✓		Normal	
Ar	1	(untitled)			5.75	✓	Sum of lanes	1604	✓	✓	Normal	
Ax	1	(untitled)			300.00						Normal	
Bx	1	(untitled)			300.00						Normal	
Cr	1	(untitled)			5.75	✓	Sum of lanes	1704	✓	✓	Normal	
Cx	1	(untitled)			300.00						Normal	
Dx	1	(untitled)			300.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface condition	Site quality factor	Gradient (%)	Width (m)	Use connector turning radius	Proportion that turn (%)	Turning radius (m)	Nearside lane	Saturation flow (PCU/hr)
A	1	1	(untitled)		✓	N/A	N/A	0	3.00		25	6.00	✓	1802
B	1	1	(untitled)		✓	N/A	N/A	0	3.00		95	6.00	✓	1547
C	1	1	(untitled)		✓	N/A	N/A	0	3.00		30	6.00	✓	1781
D	1	1	(untitled)		✓	N/A	N/A	0	3.00		100	10.60	✓	1678
Ar	1	1	(untitled)		✓	N/A	N/A	0	2.50		100	6.00		1604
Ax	1	1	(untitled)											
Bx	1	1	(untitled)											
Cr	1	1	(untitled)		✓	N/A	N/A	0	2.50		100	8.50		1704
Cx	1	1	(untitled)											
Dx	1	1	(untitled)											

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Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
A	1	NetworkDefault	100	100	100		0.00		
B	1	NetworkDefault	100	100	100		0.00		
C	1	NetworkDefault	100	100	100		0.00		
D	1	NetworkDefault	100	100	100		0.00		
Ar	1	NetworkDefault	100	100	100		1.00		
Ax	1	NetworkDefault	100	100	100		0.00		
Bx	1	NetworkDefault	100	100	100		0.00		
Cr	1	NetworkDefault	100	100	100		1.00		
Cx	1	NetworkDefault	100	100	100		0.00		
Dx	1	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	1	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	100

Normal - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	1	100	100

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
A	1	237	237
B	1	30	30
C	1	638	638
D	1	59	59
Ar	1	19	19
Ax	1	480	480
Bx	1	52	52
Cr	1	20	20
Cx	1	243	243
Dx	1	189	189

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	C	
B	1	1	D	
C	1	1	A	
D	1	1	B	
Ar	1	1	C	
Cr	1	1	A	

Entry Sources

Arm	Traffic Stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)
A	1	36.00	30.00
B	1	18.00	30.00
C	1	36.00	30.00
D	1	36.00	30.00

Sources

Arm	Traffic Stream	Source	Source traffic stream	Destination traffic stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)	Auto turning radius	Traffic turn style	Turning radius (m)
Ar	1	1	A/1	Ar/1	1.00	30.00	✓	Straight	Straight Movement
Ax	1	1	C/1	Ax/1	36.00	30.00	✓	Straight	Straight Movement
Bx	1	1	D/1	Bx/1	36.00	30.00	✓	Straight	Straight Movement
Cr	1	1	C/1	Cr/1	1.00	30.00	✓	Straight	Straight Movement
Cx	1	1	A/1	Cx/1	36.00	30.00	✓	Straight	Straight Movement
Dx	1	1	B/1	Dx/1	36.00	30.00	✓	Straight	Straight Movement
Ax	1	2	B/1	Ax/1	36.00	30.00	✓	Offside	57.17
Bx	1	2	A/1	Bx/1	36.00	30.00	✓	Nearside	67.46
Cx	1	2	B/1	Cx/1	36.00	30.00	✓	Nearside	87.33
Dx	1	2	C/1	Dx/1	36.00	30.00	✓	Nearside	50.78
Ax	1	3	D/1	Ax/1	36.00	30.00	✓	Nearside	56.71
Bx	1	3	Cr/1	Bx/1	36.00	30.00	✓	Offside	52.48
Cx	1	3	D/1	Cx/1	36.00	30.00	✓	Offside	92.66
Dx	1	3	Ar/1	Dx/1	36.00	30.00	✓	Offside	97.63

Give Way Data

Arm	Traffic Stream	Opposed traffic	Use Step-wise Opposed Turn Model	Number of storage spaces	Use connector turning radius	Radius of turn (m)	Visibility restricted
Ar	1	AllTraffic	✓	1		10.00	
Cr	1	AllTraffic	✓	1		8.00	

Give Way Data - All Movements - Conflicts

Traffic Stream	Description	Controlling type	Controlling from traffic stream	Controlling to traffic stream	Percentage opposing (%)	Upstream signals visible	Conflict shift	Conflict duration
1		TrafficStreamMovement	C/1	Dx/1	100		2	6
		TrafficStreamMovement	C/1	Ax/1	100		2	6
		TrafficStreamMovement	A/1	Cx/1	100		2	6
		TrafficStreamMovement	A/1	Bx/1	100		2	6

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)				Farside	11.00	7.33	5.40
2	(untitled)				Farside	6.40	4.27	5.40
3	(untitled)				Farside	11.10	7.40	5.40
4	(untitled)				Farside	11.10	7.40	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
1	1	G	
2	1	H	
3	1	E	
4	1	F	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

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Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit
1	(untitled)	✓	✓	Path Equalisation			✓			✓	1.25		

Normal Input Flows (PCU/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	32	186	19	0	0	0	0
	2	10	0	18	2	0	0	0	0
	3	450	20	0	168	0	0	0	0
	4	20	0	39	0	0	0	0	0
	5	0	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (PCU/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	20	0	20
	6	0	0	0	0	0	0	20	0
	7	0	0	0	0	0	20	0	0
	8	0	0	0	0	0	0	0	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	A/1	Ax/1	#0000FF
	2	(untitled)	B/1	Bx/1	#00FF00
	3	(untitled)	C/1	Cx/1	#FFFF00
	4	(untitled)	D/1	Dx/1	#FFFF00
	5	(untitled)	1:2E, 2:1E	1:2X, 2:1X	#00FFFF
	6	(untitled)	2:2E, 3:2E	2:2X, 3:2X	#FF00FF
	7	(untitled)	3:1E, 4:2E	3:1X, 4:2X	#008000
	8	(untitled)	4:1E, 1:1E	4:1X, 1:1X	#FFA500

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	4		2	3	B/1, Cx/1	Normal	18
	12		2	4	B/1, Dx/1	Normal	2
	26		1	3	A/1, Cx/1	Normal	186
	28		1	2	A/1, Bx/1	Normal	32
	29		3	4	C/1, Dx/1	Normal	168
	32		3	2	C/1, Cr/1, Bx/1	Normal	20
	33		1	4	A/1, Ar/1, Dx/1	Normal	19
	34		4	3	D/1, Cx/1	Normal	39
	35		4	2	D/1, Bx/1	Normal	0
	36		2	1	B/1, Ax/1	Normal	10
	37		4	1	D/1, Ax/1	Normal	20
	38		3	1	C/1, Ax/1	Normal	450

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	16		6	7	3:2E, 3:1X	Normal	20
	17		7	6	3:1E, 3:2X	Normal	20
	18		7	8	4:2E, 4:1X	Normal	0
	19		8	7	4:1E, 4:2X	Normal	0
	20		5	8	1:2E, 1:1X	Normal	20
	21		8	5	1:1E, 1:2X	Normal	0
	22		5	6	2:1E, 2:2X	Normal	20
	23		6	5	2:2E, 2:1X	Normal	0

Signal Timings

Network Default: 100s cycle time; 100 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)
1	(untitled)		1	NetworkDefault	100

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	7	300	0	0	Traffic	
	B	(untitled)	7	300	0	0	Traffic	
	C	(untitled)	7	300	0	0	Traffic	
	D	(untitled)	7	300	0	0	Traffic	
	E	(untitled)	7	300	0	0	Pedestrian	0
	F	(untitled)	7	300	0	0	Pedestrian	0
	G	(untitled)	7	300	0	0	Pedestrian	0
	H	(untitled)	7	300	0	0	Pedestrian	0

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Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)
1	1	A, C	1
	2	B	1
	3	D	1
	4	E, F, G, H	1

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends
1	1	(untitled)	Single	1, 2, 3, 4	48, 61, 73, 87
	2	(untitled)	Single	1, 4, 2, 3	0, 31, 63, 91
	3	(untitled)	Single	1, 3, 4, 2	0, 29, 59, 91
	4	(untitled)	Single	1, 2, 4, 3	0, 29, 59, 91
	5	(untitled)	Single	1, 4, 3, 2	0, 31, 63, 91
	6	(untitled)	Single	1, 3, 2, 4	0, 29, 57, 87

Intergreen Matrix for Controller Stream 1

		To							
		A	B	C	D	E	F	G	H
From	A		6		5	5	6	7	7
	B	5		5	5	7	5	6	6
	C		5		6	6	7	5	5
	D	5	5	5		6	7	7	5
	E	9	9	9	9				
	F	9	9	9	9				
	G	9	9	9	9				
	H	5	5	5	6				

Banned Stage transitions for Controller Stream 1

		To			
		1	2	3	4
From	1				
	2				
	3				
	4				

Interstage Matrix for Controller Stream 1

		To			
		1	2	3	4
From	1	0	6	6	7
	2	5	0	5	7
	3	5	5	0	7
	4	9	9	9	0

Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A,C	96	48	52	1	7
	2	✓	2	B	54	61	7	1	7
	3	✓	3	D	66	73	7	1	7
	4	✓	4	E,F,G,H	80	87	7	1	7

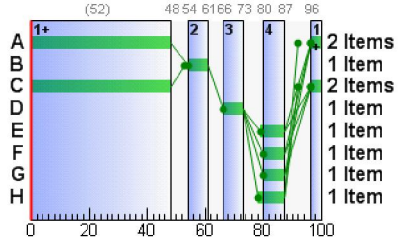
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	96	48	52
	B	1	✓	54	61	7
	C	1	✓	96	48	52
	D	1	✓	66	73	7
	E	1	✓	79	87	8
	F	1	✓	80	87	7
	G	1	✓	80	87	7
	H	1	✓	78	87	9

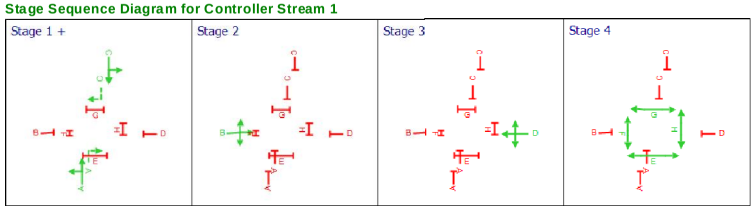
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	J	1	C	96	48	52
B	1	J	1	D	66	73	7
C	1	J	1	A	96	48	52
D	1	J	1	B	54	61	7
Ar	1	J	1	C	96	48	52
Cr	1	J	1	A	96	48	52

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Resultant penalties

Time Segment	Controller stream	Phase min max penalty (£ per hr)	Intergreen broken penalty (£ per hr)	Stage constraint broken penalty (£ per hr)	Cost of controller stream penalties (£ per hr)
17:00-18:00	1	0.00	0.00	0.00	0.00

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Traffic Stream Results

Traffic Stream Results: Vehicle summary

Time Segment	Arm	Traffic Stream	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
17:00-18:00	A	1	25	263	237	1802	52	13.34	3.60	6.89	12.47	1.57	14.04
	B	1	24	271	30	1547	7	47.82	0.81	3.12	5.66	0.36	6.02
	C	1	68	33	638	1781	52	21.15	13.64	26.14	53.23	5.96	59.19
	D	1	44	105	59	1678	7	54.24	1.73	3.31	12.62	0.77	13.39
	Ar	1	14	555	19	261	52	18.29	0.41	41.09	1.37	0.09	1.46
	Ax	1	0	Unrestricted	480	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	Bx	1	0	Unrestricted	52	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	Cr	1	4	2284	20	999	52	2.03	0.20	20.14	0.16	0.04	0.20
	Cx	1	0	Unrestricted	243	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	Dx	1	0	Unrestricted	189	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00

Traffic Stream Results: Flows and signals

Time Segment	Arm	Traffic Stream	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Calculated sat flow (PCU/hr)	Calculated capacity (PCU/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Mean modulus of error	Actual green (s (per cycle))
17:00-18:00	A	1	237	237	0		1802	955	25		263	0.00	52
	B	1	30	30	0		1547	124	24		271	0.00	7
	C	1	638	638	0		1781	944	68		33	0.00	52
	D	1	59	59	0		1678	134	44		105	0.00	7
	Ar	1	19	19	0		261	138	14		555	0.93	52
	Ax	1	480	480	0		Unrestricted	Unrestricted	0		Unrestricted	0.64	100
	Bx	1	52	52	0		Unrestricted	Unrestricted	0		Unrestricted	0.74	100
	Cr	1	20	20	0		999	530	4		2284	0.93	52
	Cx	1	243	243	0		Unrestricted	Unrestricted	0		Unrestricted	0.45	100
	Dx	1	189	189	0		Unrestricted	Unrestricted	0		Unrestricted	0.72	100

Traffic Stream Results: Stops and delays

Time Segment	Arm	Traffic Stream	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
17:00-18:00	A	1	36.00	13.34	0.88	12.47	52.85	125.25	1.57
	B	1	18.00	47.82	0.40	5.66	96.39	28.92	0.36
	C	1	36.00	21.15	3.75	53.23	74.51	475.35	5.96
	D	1	36.00	54.24	0.89	12.62	103.90	61.30	0.77
	Ar	1	1.00	18.29	0.10	1.37	77.53	14.73	0.09
	Ax	1	36.00	0.00	0.00	0.00	0.00	0.00	0.00
	Bx	1	36.00	0.00	0.00	0.00	0.00	0.00	0.00
	Cr	1	1.00	2.03	0.01	0.16	32.01	6.40	0.04
	Cx	1	36.00	0.00	0.00	0.00	0.00	0.00	0.00
	Dx	1	36.00	0.00	0.00	0.00	0.00	0.00	0.00

Traffic Stream Results: Queues and blocking

Time Segment	Arm	Traffic Stream	Initial queue (PCU)	Mean max queue (PCU)	Max queue storage (PCU)	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))	Estimated blocking
17:00-18:00	A	1	0.00	3.60	52.17	6.89	0.00	0.00	
	B	1	0.00	0.81	26.09	3.12	0.00	6.00	
	C	1	0.00	13.64	52.17	26.14	0.00	0.00	
	D	1	0.00	1.73	52.17	3.31	0.00	4.00	
	Ar	1	0.00	0.41	1.00	41.09	0.00	17.00	
	Ax	1	0.00	0.00	52.17	0.00	0.00	14.00	
	Bx	1	0.00	0.00	52.17	0.00	0.00	56.00	
	Cr	1	0.00	0.20	1.00	20.14	0.00	39.00	
	Cx	1	0.00	0.00	52.17	0.00	0.00	11.00	
	Dx	1	0.00	0.00	52.17	0.00	0.00	34.00	

Traffic Stream Results: Advanced

Time Segment	Arm	Traffic Stream	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	Warmed up error	Mean Max Queue EoTS (PCU)	Max End of Green Queue EoTS (PCU)	Max End of Red Queue EoTS (PCU)	PCU Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
17:00-18:00	A	1	0.00	0.00	✓	0.00	3.60	0.04	3.14	1.00	0.00	14.04
	B	1	0.00	0.00	✓	0.00	0.81	0.04	0.81	1.00	0.00	6.02
	C	1	0.00	0.00	✓	0.00	13.64	0.70	9.03	1.00	0.00	59.19
	D	1	0.00	0.00	✓	0.00	1.73	0.17	1.68	1.00	0.00	13.39
	Ar	1	0.00	0.00	✓	0.00	0.41	0.01	0.02	1.00	0.00	1.46
	Ax	1	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00
	Bx	1	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00
	Cr	1	0.00	0.00	✓	0.00	0.20	0.00	0.01	1.00	0.00	0.20
	Cx	1	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00
	Dx	1	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00

Pedestrian Crossing Results

Pedestrian Crossings: Pedestrian summary

Time Segment	Crossing	Side	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Mean max queue (Ped)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
17:00-18:00	1	1	0	0	11000	7	0.00	0.00	0.00	0.00
		2	3	20	11000	7	43.71	0.52	3.45	3.45
	2	1	2	20	11000	9	41.86	0.51	3.30	3.30
		2	0	0	11000	9	0.00	0.00	0.00	0.00
	3	1	2	20	11000	8	42.78	0.51	3.37	3.37
		2	2	20	11000	8	42.78	0.51	3.37	3.37
	4	1	0	0	11000	7	0.00	0.00	0.00	0.00
		2	0	0	11000	7	0.00	0.00	0.00	0.00

Pedestrian Crossings: Flows and signals

Time Segment	Crossing	Side	Calculated flow entering (Ped/hr)	Calculated flow out (Ped/hr)	Flow discrepancy (Ped/hr)	Adjusted flow warning	Calculated sat flow (Ped/hr)	Calculated capacity (Ped/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity	Mean modulus of error	Actual green (s (per cycle))
17:00-18:00	1	1	0	0	0		11000	770	0		Unrestricted	0.00	7
		2	20	20	0		11000	770	3		3365	0.00	7
	2	1	20	20	0		11000	990	2		4355	0.00	9
		2	0	0	0		11000	990	0		Unrestricted	0.00	9
	3	1	20	20	0		11000	880	2		3860	0.00	8
		2	20	20	0		11000	880	2		3860	0.00	8
	4	1	0	0	0		11000	770	0		Unrestricted	0.00	7
		2	0	0	0		11000	770	0		Unrestricted	0.00	7

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Pedestrian Crossings: Stops and delays

Time Segment	Crossing	Side	Mean Cruise Time per Ped (s)	Mean Delay per Ped (s)	Total delay (Ped-hr/hr)	Weighted cost of delay (£ per hr)
17:00-18:00	1	1	1.00	0.00	0.00	0.00
		2	8.33	43.71	0.24	3.45
	2	1	5.27	41.86	0.23	3.30
		2	1.00	0.00	0.00	0.00
	3	1	8.40	42.78	0.24	3.37
		2	8.40	42.78	0.24	3.37
	4	1	1.00	0.00	0.00	0.00
		2	1.00	0.00	0.00	0.00

Pedestrian Crossings: Queues and blocking

Time Segment	Crossing	Side	Mean max queue (Ped)	Max queue storage (Ped)	Utilised storage (%)	Excess queue penalty (£ per hr)
17:00-18:00	1	1	0.00	10.00	0.00	0.00
		2	0.52	10.00	5.17	0.00
	2	1	0.51	10.00	5.06	0.00
		2	0.00	10.00	0.00	0.00
	3	1	0.51	10.00	5.11	0.00
		2	0.51	10.00	5.11	0.00
	4	1	0.00	10.00	0.00	0.00
		2	0.00	10.00	0.00	0.00

Pedestrian Crossings: Advanced

Time Segment	Crossing	Side	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Mean Max Queue EoTS (Ped)	Ped Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
17:00-18:00	1	1	0.00	0.00	0.00	1.00	0.00	0.00
		2	0.00	0.00	0.52	1.00	0.00	3.45
	2	1	0.00	0.00	0.51	1.00	0.00	3.30
		2	0.00	0.00	0.00	1.00	0.00	0.00
	3	1	0.00	0.00	0.51	1.00	0.00	3.37
		2	0.00	0.00	0.51	1.00	0.00	3.37
	4	1	0.00	0.00	0.00	1.00	0.00	0.00
		2	0.00	0.00	0.00	1.00	0.00	0.00

Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Ite wit wor over PR
4	13/12/2018 08:58:38	13/12/2018 08:58:39	17:00	100	107.81	6.97	67.59	C/1	0	0	C/1	Cx/1	C/

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
17:00-18:00	68	0	1967	622	11.02	85.52	8.79	94.31

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
17:00-18:00	3	80	62	42.78	13.50	13.50

Network Results: Flows and signals

Time Segment	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Actual green (s (per cycle))
17:00-18:00	2047	2047	0		68		33	684

Network Results: Stops and delays

Time Segment	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
17:00-18:00	33.96	12.26	6.97	99.02	34.78	711.96	8.79

Network Results: Queues and blocking

Time Segment	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))
17:00-18:00	41.09	0.00	181.00

Network Results: Advanced

Time Segment	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	Warmed up error	PCU Factor	Cost of traffic penalties (£ per hr)	Controller stream penalties (£ per hr)	Performance Index (£ per hr)
17:00-18:00	0.00	0.00	✓	0.00	1.00	0.00	0.00	107.81

Point to Point Journey Time

Average Journey Time (s) for Local Matrix: 1

		To							
		1	2	3	4	5	6	7	8
From	1	0.0	85.3	85.3	104.6	0.0	0.0	0.0	0.0
	2	101.8	0.0	101.8	101.8	0.0	0.0	0.0	0.0
	3	93.2	96.2	0.0	93.2	0.0	0.0	0.0	0.0
	4	126.2	0.0	126.2	0.0	0.0	0.0	0.0	0.0
	5	0.0	0.0	0.0	0.0	0.0	47.1	0.0	52.0
	6	0.0	0.0	0.0	0.0	0.0	0.0	51.2	0.0
	7	0.0	0.0	0.0	0.0	0.0	51.2	0.0	0.0
	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Path Journey Time

Path	From Location	To Location	Normal Calculated Flow (PCU/hr)	Pedestrian calculated flow (Ped/hr)	Normal journey time (s)	Pedestrian journey time (s)	Calculated Total Flow (PCU/hr)	Avg journey time (s)
4	2	3	18		101.82		18	101.82
12	2	4	2		101.82		2	101.82
16	6	7		20		51.18	20	51.18
17	7	6		20		51.18	20	51.18
18	7	8		0		0.00	0	0.00
19	8	7		0		0.00	0	0.00
20	5	8		20		52.04	20	52.04
21	8	5		0		0.00	0	0.00
22	5	6		20		47.13	20	47.13
23	6	5		0		0.00	0	0.00
26	1	3	186		85.34		186	85.34
28	1	2	32		85.34		32	85.34
29	3	4	168		93.15		168	93.15
32	3	2	20		96.19		20	96.19
33	1	4	19		104.63		19	104.63
34	4	3	39		126.24		39	126.24
35	4	2	0		0.00		0	0.00
36	2	1	10		101.82		10	101.82
37	4	1	20		126.24		20	126.24
38	3	1	450		93.15		450	93.15

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Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)
A	1	(untitled)	J	1	C	237	1802	52	0.00	25	263	49.34	13.34	52.85	3.60
B	1	(untitled)	J	1	D	30	1547	7	6.00	24	271	65.82	47.82	96.39	0.81
C	1	(untitled)	J	1	A	638	1781	52	0.00	68	33	57.15	21.15	74.51	13.64
D	1	(untitled)	J	1	B	59	1678	7	4.00	44	105	90.24	54.24	103.90	1.73
Ar	1	(untitled)	J	1	C	19	261	52	17.00	14	555	19.29	18.29	77.53	0.41
Ax	1	(untitled)	J			480	Unrestricted	100	14.00	0	Unrestricted	36.00	0.00	0.00	0.00
Bx	1	(untitled)				52	Unrestricted	100	56.00	0	Unrestricted	36.00	0.00	0.00	0.00
Cr	1	(untitled)	J	1	A	20	999	52	39.00	4	2284	3.03	2.03	32.01	0.20
Cx	1	(untitled)				243	Unrestricted	100	11.00	0	Unrestricted	36.00	0.00	0.00	0.00
Dx	1	(untitled)				189	Unrestricted	100	34.00	0	Unrestricted	36.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	P
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	
1	1	(untitled)		1	G	0	11000	7	0	Unrestricted	0.00	0.00	0.00	100	
	2	(untitled)		1	G	20	11000	7	3	3365	52.04	43.71	0.52	100	
2	1	(untitled)		1	H	20	11000	9	2	4355	47.13	41.86	0.51	100	
	2	(untitled)		1	H	0	11000	9	0	Unrestricted	0.00	0.00	0.00	100	
3	1	(untitled)		1	E	20	11000	8	2	3860	51.18	42.78	0.51	100	
	2	(untitled)		1	E	20	11000	8	2	3860	51.18	42.78	0.51	100	
4	1	(untitled)		1	F	0	11000	7	0	Unrestricted	0.00	0.00	0.00	100	
	2	(untitled)		1	F	0	11000	7	0	Unrestricted	0.00	0.00	0.00	100	

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	574.12	25.16	22.82	6.02	85.52	8.79	0.00	94.31
Bus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tram	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pedestrians	0.87	1.12	0.78	0.95	13.50	0.00	0.00	13.50
TOTAL	575.00	26.28	21.88	6.97	99.02	8.79	0.00	107.81

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Ite wit wor over PR
5	13/12/2018 08:58:39	13/12/2018 08:58:39	07:30	100	266.66	17.63	88.12	D/1	0	0	D/1	Cx/1	D/

Analysis Set Details

Name	Description	Demand set	Include in report	Locked
AM 2035 DS		D5	✓	

Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
AM 2035 DS				07:30	

Network timings

Network cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
100		60	1	60

Signals options

Start displacement (s)	End displacement (s)
2	3

Advanced

Phase minimum broken penalty (£)	Phase maximum broken penalty (£)	Intergreen broken penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

Traffic options

Traffic model	Vehicle flow scaling factor (%)	Pedestrian flow scaling factor (%)	Cruise times or speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

Advanced

Resolution	DOS Threshold (%)	Cruise scaling factor (%)	Use link stop weightings	Use link delay weightings	Exclude pedestrians from results calculation	Random delay mode	Type of Vehicle-in-Service	Type of random parameter	PCU Length (m)	Calculate results for Path Segments	Generate PDM Profile Data
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75		✓

Dispersion type	Dispersion coefficient
Default	35

Name	PCU Factor
Normal	1.00

Name	PCU Factor	Dispersion coefficient1	Dispersion coefficient2	Acceleration (ms^[-2])	Travel time coefficient1	Travel time coefficient2
Bus	1.00	70	15	0.94	30	85

Name	PCU Factor	Dispersion coefficient1	Dispersion coefficient2	Acceleration (ms^[-2])	Travel time coefficient1	Travel time coefficient2
Tram	1.00	0	0	0.94	100	100

Dispersion type
Default

Enable optimisation	Auto redistribute	Optimisation level	Enable OUT Profile accuracy
✓	✓	Offsets And Green Splits	✓

Optimisation type	Hill climb increments	OUTProfile accuracy	Use enhanced optimisation	Auto optimisation order	Optimisation order	Master controller	Offsets relative to master controller	Master controller offset after each run
Hill Climb (Fast)	15, 40, -1, 15, 40, 1, -1, 1	50, 50, 5, 5, 0.5, 0.5, 0.05, 0.05		✓	1			Do nothing

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian monetary value of delay (£ per Ped-hr)
14.20	2.60	14.20

Traffic Nodes

Traffic node	Name	Description
J	(untitled)	

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	(untitled)		J
B	(untitled)		J
C	(untitled)		J
D	(untitled)		J
Ar	(untitled)		J
Ax	(untitled)		J
Bx	(untitled)		
Cr	(untitled)		J
Cx	(untitled)		
Dx	(untitled)		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	(untitled)			300.00	✓	Sum of lanes	1802	✓		Normal	
B	1	(untitled)			150.00	✓	Sum of lanes	1547	✓		Normal	
C	1	(untitled)			300.00	✓	Sum of lanes	1781	✓		Normal	
D	1	(untitled)			300.00	✓	Sum of lanes	1692	✓		Normal	
Ar	1	(untitled)			5.75	✓	Sum of lanes	2005	✓	✓	Normal	
Ax	1	(untitled)			300.00						Normal	
Bx	1	(untitled)			300.00						Normal	
Cr	1	(untitled)			5.75	✓	Sum of lanes	2005	✓	✓	Normal	
Cx	1	(untitled)			300.00						Normal	
Dx	1	(untitled)			300.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface condition	Site quality factor	Gradient (%)	Width (m)	Use connector turning radius	Proportion that turn (%)	Turning radius (m)	Nearside lane	Saturation flow (PCU/hr)
A	1	1	(untitled)		✓	N/A	N/A	0	3.00		25	6.00	✓	1802
B	1	1	(untitled)		✓	N/A	N/A	0	3.00		95	6.00	✓	1547
C	1	1	(untitled)		✓	N/A	N/A	0	3.00		30	6.00	✓	1781
D	1	1	(untitled)		✓	N/A	N/A	0	3.00		93	10.60	✓	1692
Ar	1	1	(untitled)		✓	N/A	N/A	0	2.50		0	6.00		2005
Ax	1	1	(untitled)											
Bx	1	1	(untitled)											
Cr	1	1	(untitled)		✓	N/A	N/A	0	2.50		0	8.50		2005
Cx	1	1	(untitled)											
Dx	1	1	(untitled)											

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Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
A	1	NetworkDefault	100	100	100		0.00		
B	1	NetworkDefault	100	100	100		0.00		
C	1	NetworkDefault	100	100	100		0.00		
D	1	NetworkDefault	100	100	100		0.00		
Ar	1	NetworkDefault	100	100	100		1.00		
Ax	1	NetworkDefault	100	100	100		0.00		
Bx	1	NetworkDefault	100	100	100		0.00		
Cr	1	NetworkDefault	100	100	100		1.00		
Cx	1	NetworkDefault	100	100	100		0.00		
Dx	1	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	1	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	100

Normal - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	1	100	100

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
A	1	616	616
B	1	48	48
C	1	251	251
D	1	328	328
Ar	1	17	17
Ax	1	233	233
Bx	1	27	27
Cr	1	16	16
Cx	1	940	940
Dx	1	43	43

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	C	
B	1	1	D	
C	1	1	A	
D	1	1	B	
Ar	1	1	C	
Cr	1	1	A	

Entry Sources

Arm	Traffic Stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)
A	1	36.00	30.00
B	1	18.00	30.00
C	1	36.00	30.00
D	1	36.00	30.00

Sources

Arm	Traffic Stream	Source	Source traffic stream	Destination traffic stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)	Auto turning radius	Traffic turn style	Turning radius (m)
Ar	1	1	A/1	Ar/1	1.00	30.00	✓	Straight	Straight Movement
Ax	1	1	C/1	Ax/1	36.00	30.00	✓	Straight	Straight Movement
Bx	1	1	D/1	Bx/1	36.00	30.00	✓	Straight	Straight Movement
Cr	1	1	C/1	Cr/1	1.00	30.00	✓	Straight	Straight Movement
Cx	1	1	A/1	Cx/1	36.00	30.00	✓	Straight	Straight Movement
Dx	1	1	B/1	Dx/1	36.00	30.00	✓	Straight	Straight Movement
Ax	1	2	B/1	Ax/1	36.00	30.00	✓	Offside	57.17
Bx	1	2	A/1	Bx/1	36.00	30.00	✓	Nearside	67.46
Cx	1	2	B/1	Cx/1	36.00	30.00	✓	Nearside	87.33
Dx	1	2	C/1	Dx/1	36.00	30.00	✓	Nearside	50.78
Ax	1	3	D/1	Ax/1	36.00	30.00	✓	Nearside	56.71
Bx	1	3	Cr/1	Bx/1	36.00	30.00	✓	Offside	52.48
Cx	1	3	D/1	Cx/1	36.00	30.00	✓	Offside	92.66
Dx	1	3	Ar/1	Dx/1	36.00	30.00	✓	Offside	97.63

Give Way Data

Arm	Traffic Stream	Opposed traffic	Use Step-wise Opposed Turn Model	Number of storage spaces	Use connector turning radius	Radius of turn (m)	Visibility restricted
Ar	1	AllTraffic	✓	1		10.00	
Cr	1	AllTraffic	✓	1		8.00	

Give Way Data - All Movements - Conflicts

Traffic Stream	Description	Controlling type	Controlling from traffic stream	Controlling to traffic stream	Percentage opposing (%)	Upstream signals visible	Conflict shift	Conflict duration
1		TrafficStreamMovement	C/1	Dx/1	100		2	6
		TrafficStreamMovement	C/1	Ax/1	100		2	6
		TrafficStreamMovement	A/1	Cx/1	100		2	6
		TrafficStreamMovement	A/1	Bx/1	100		2	6

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)				Farside	11.00	7.33	5.40
2	(untitled)				Farside	6.40	4.27	5.40
3	(untitled)				Farside	11.10	7.40	5.40
4	(untitled)				Farside	11.10	7.40	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
1	1	G	
2	1	H	
3	1	E	
4	1	F	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

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Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit
1	(untitled)	✓	✓	Path Equalisation			✓			✓	1.25		

Normal Input Flows (PCU/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	6	593	17	0	0	0	0
	2	3	0	42	3	0	0	0	0
	3	212	16	0	23	0	0	0	0
	4	18	5	305	0	0	0	0	0
	5	0	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (PCU/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	20	0	20
	6	0	0	0	0	0	0	20	0
	7	0	0	0	0	0	20	0	0
	8	0	0	0	0	0	0	0	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	A/1	Ax/1	#0000FF
	2	(untitled)	B/1	Bx/1	#00FF00
	3	(untitled)	C/1	Cx/1	#FFFF00
	4	(untitled)	D/1	Dx/1	#FFFF00
	5	(untitled)	1:2E, 2:1E	1:2X, 2:1X	#00FFFF
	6	(untitled)	2:2E, 3:2E	2:2X, 3:2X	#FF00FF
	7	(untitled)	3:1E, 4:2E	3:1X, 4:2X	#008000
	8	(untitled)	4:1E, 1:1E	4:1X, 1:1X	#FFA500

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	4		2	3	B/1, Cx/1	Normal	42
	12		2	4	B/1, Dx/1	Normal	3
	26		1	3	A/1, Cx/1	Normal	593
	28		1	2	A/1, Bx/1	Normal	6
	29		3	4	C/1, Dx/1	Normal	23
	32		3	2	C/1, Cr/1, Bx/1	Normal	16
	33		1	4	A/1, Ar/1, Dx/1	Normal	17
	34		4	3	D/1, Cx/1	Normal	305
	35		4	2	D/1, Bx/1	Normal	5
	36		2	1	B/1, Ax/1	Normal	3
	37		4	1	D/1, Ax/1	Normal	18
	38		3	1	C/1, Ax/1	Normal	212

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	16		6	7	3:2E, 3:1X	Normal	20
	17		7	6	3:1E, 3:2X	Normal	20
	18		7	8	4:2E, 4:1X	Normal	0
	19		8	7	4:1E, 4:2X	Normal	0
	20		5	8	1:2E, 1:1X	Normal	20
	21		8	5	1:1E, 1:2X	Normal	0
	22		5	6	2:1E, 2:2X	Normal	20
	23		6	5	2:2E, 2:1X	Normal	0

Signal Timings

Network Default: 100s cycle time; 100 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)
1	(untitled)		1	NetworkDefault	100

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	7	300	0	0	Traffic	
	B	(untitled)	7	300	0	0	Traffic	
	C	(untitled)	7	300	0	0	Traffic	
	D	(untitled)	7	300	0	0	Traffic	
	E	(untitled)	7	300	0	0	Pedestrian	0
	F	(untitled)	7	300	0	0	Pedestrian	0
	G	(untitled)	7	300	0	0	Pedestrian	0
	H	(untitled)	7	300	0	0	Pedestrian	0

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)
1	1	A, C	1
	2	B	1
	3	D	1
	4	E, F, G, H	1

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends
1	1	(untitled)	Single	1, 2, 3, 4	35, 62, 74, 88
	2	(untitled)	Single	1, 4, 2, 3	0, 31, 63, 91
	3	(untitled)	Single	1, 3, 4, 2	0, 29, 59, 91
	4	(untitled)	Single	1, 2, 4, 3	0, 29, 59, 91
	5	(untitled)	Single	1, 4, 3, 2	0, 31, 63, 91
	6	(untitled)	Single	1, 3, 2, 4	0, 29, 57, 87

Intergreen Matrix for Controller Stream 1

		To							
		A	B	C	D	E	F	G	H
From	A		6		5	5	6	7	7
	B	5		5	5	7	5	6	6
	C		5		6	6	7	5	5
	D	5	5	5		6	7	7	5
	E	9	9	9	9				
	F	9	9	9	9				
	G	9	9	9	9				
	H	5	5	5	6				

Banned Stage transitions for Controller Stream 1

		To			
		1	2	3	4
From	1				
	2				
	3				
	4				

Interstage Matrix for Controller Stream 1

		To			
		1	2	3	4
From	1	0	6	6	7
	2	5	0	5	7
	3	5	5	0	7
	4	9	9	9	0

Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A,C	97	35	38	1	7
	2	✓	2	B	41	62	21	1	7
	3	✓	3	D	67	74	7	1	7
	4	✓	4	E,F,G,H	81	88	7	1	7

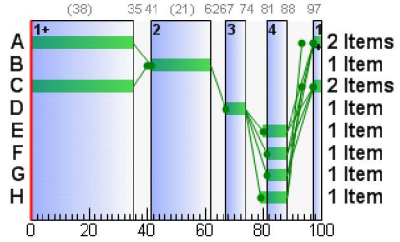
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	97	35	38
	B	1	✓	41	62	21
	C	1	✓	97	35	38
	D	1	✓	67	74	7
	E	1	✓	80	88	8
	F	1	✓	81	88	7
	G	1	✓	81	88	7
	H	1	✓	79	88	9

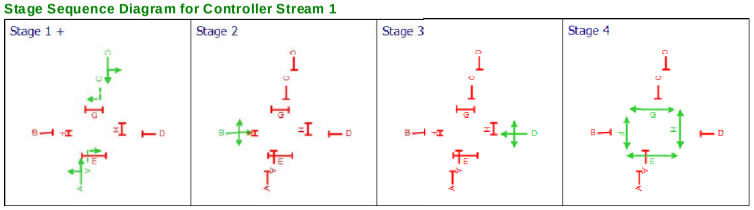
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	J	1	C	97	35	38
B	1	J	1	D	67	74	7
C	1	J	1	A	97	35	38
D	1	J	1	B	41	62	21
Ar	1	J	1	C	97	35	38
Cr	1	J	1	A	97	35	38

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Resultant penalties

Time Segment	Controller stream	Phase min max penalty (£ per hr)	Intergreen broken penalty (£ per hr)	Stage constraint broken penalty (£ per hr)	Cost of controller stream penalties (£ per hr)
07:30-08:30	1	0.00	0.00	0.00	0.00

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Traffic Stream Results

Traffic Stream Results: Vehicle summary

Time Segment	Arm	Traffic Stream	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
07:30-08:30	A	1	88	3	616	1802	38	45.01	18.61	35.66	109.36	8.20	117.57
	B	1	39	132	48	1547	7	52.78	1.37	5.27	9.99	0.61	10.60
	C	1	36	149	251	1781	38	23.12	4.98	9.55	22.89	2.21	25.10
	D	1	88	2	328	1692	21	68.48	11.55	22.13	88.60	5.06	93.67
	Ar	1	5	1804	17	922	38	3.05	0.22	22.14	0.20	0.04	0.25
	Ax	1	0	Unrestricted	233	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	Bx	1	0	Unrestricted	27	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	Cr	1	40	125	16	103	38	92.80	0.54	54.17	5.86	0.11	5.97
	Cx	1	0	Unrestricted	940	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	Dx	1	0	Unrestricted	43	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00

Traffic Stream Results: Flows and signals

Time Segment	Arm	Traffic Stream	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Calculated sat flow (PCU/hr)	Calculated capacity (PCU/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Mean modulus of error	Actual green (s (per cycle))
07:30-08:30	A	1	616	616	0		1802	703	88		3	0.00	38
	B	1	48	48	0		1547	124	39		132	0.00	7
	C	1	251	251	0		1781	695	36		149	0.00	38
	D	1	328	328	0		1692	372	88		2	0.00	21
	Ar	1	17	17	0		922	360	5		1804	1.21	38
	Ax	1	233	233	0		Unrestricted	Unrestricted	0		Unrestricted	0.83	100
	Bx	1	27	27	0		Unrestricted	Unrestricted	0		Unrestricted	0.68	100
	Cr	1	16	16	0		103	40	40		125	1.21	38
	Cx	1	940	940	0		Unrestricted	Unrestricted	0		Unrestricted	0.44	100
	Dx	1	43	43	0		Unrestricted	Unrestricted	0		Unrestricted	0.82	100

Traffic Stream Results: Stops and delays

Time Segment	Arm	Traffic Stream	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
07:30-08:30	A	1	36.00	45.01	7.70	109.36	106.22	654.31	8.20
	B	1	18.00	52.78	0.70	9.99	101.71	48.82	0.61
	C	1	36.00	23.12	1.61	22.89	70.26	176.36	2.21
	D	1	36.00	68.48	6.24	88.60	123.12	403.84	5.06
	Ar	1	1.00	3.05	0.01	0.20	42.29	7.19	0.04
	Ax	1	36.00	0.00	0.00	0.00	0.00	0.00	0.00
	Bx	1	36.00	0.00	0.00	0.00	0.00	0.00	0.00
	Cr	1	1.00	92.80	0.41	5.86	120.06	19.21	0.11
	Cx	1	36.00	0.00	0.00	0.00	0.00	0.00	0.00
	Dx	1	36.00	0.00	0.00	0.00	0.00	0.00	0.00

Traffic Stream Results: Queues and blocking

Time Segment	Arm	Traffic Stream	Initial queue (PCU)	Mean max queue (PCU)	Max queue storage (PCU)	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))	Estimated blocking
07:30-08:30	A	1	0.00	18.61	52.17	35.66	0.00	0.00	
	B	1	0.00	1.37	26.09	5.27	0.00	5.00	
	C	1	0.00	4.98	52.17	9.55	0.00	0.00	
	D	1	0.00	11.55	52.17	22.13	0.00	0.00	
	Ar	1	0.00	0.22	1.00	22.14	0.00	22.00	
	Ax	1	0.00	0.00	52.17	0.00	0.00	29.00	
	Bx	1	0.00	0.00	52.17	0.00	0.00	89.00	
	Cr	1	0.00	0.54	1.00	54.17	0.00	0.00	
	Cx	1	0.00	0.00	52.17	0.00	0.00	0.00	
	Dx	1	0.00	0.00	52.17	0.00	0.00	64.00	

Traffic Stream Results: Advanced

Time Segment	Arm	Traffic Stream	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	Warmed up error	Mean Max Queue EoTS (PCU)	Max End of Green Queue EoTS (PCU)	Max End of Red Queue EoTS (PCU)	PCU Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
07:30-08:30	A	1	0.00	0.00	✓	0.00	18.72	2.98	13.42	1.00	0.00	117.57
	B	1	0.00	0.00	✓	0.00	1.38	0.12	1.35	1.00	0.00	10.60
	C	1	0.00	0.00	✓	0.00	4.98	0.10	4.36	1.00	0.00	25.10
	D	1	0.00	0.00	✓	0.00	11.75	3.00	10.11	1.00	0.00	93.67
	Ar	1	0.00	0.00	✓	0.00	0.22	0.00	0.01	1.00	0.00	0.25
	Ax	1	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00
	Bx	1	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00
	Cr	1	0.00	0.00	✓	0.00	0.54	0.44	0.44	1.00	0.00	5.97
	Cx	1	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00
	Dx	1	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00

Pedestrian Crossing Results

Pedestrian Crossings: Pedestrian summary

Time Segment	Crossing	Side	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Mean max queue (Ped)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
07:30-08:30	1	1	0	0	11000	7	0.00	0.00	0.00	0.00
		2	3	20	11000	7	43.71	0.52	3.45	3.45
	2	1	2	20	11000	9	41.86	0.51	3.30	3.30
		2	0	0	11000	9	0.00	0.00	0.00	0.00
	3	1	2	20	11000	8	42.78	0.51	3.37	3.37
		2	2	20	11000	8	42.78	0.51	3.37	3.37
	4	1	0	0	11000	7	0.00	0.00	0.00	0.00
		2	0	0	11000	7	0.00	0.00	0.00	0.00

Pedestrian Crossings: Flows and signals

Time Segment	Crossing	Side	Calculated flow entering (Ped/hr)	Calculated flow out (Ped/hr)	Flow discrepancy (Ped/hr)	Adjusted flow warning	Calculated sat flow (Ped/hr)	Calculated capacity (Ped/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity	Mean modulus of error	Actual green (s (per cycle))
07:30-08:30	1	1	0	0	0		11000	770	0		Unrestricted	0.00	7
		2	20	20	0		11000	770	3		3365	0.00	7
	2	1	20	20	0		11000	990	2		4355	0.00	9
		2	0	0	0		11000	990	0		Unrestricted	0.00	9
	3	1	20	20	0		11000	880	2		3860	0.00	8
		2	20	20	0		11000	880	2		3860	0.00	8
	4	1	0	0	0		11000	770	0		Unrestricted	0.00	7
		2	0	0	0		11000	770	0		Unrestricted	0.00	7

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Pedestrian Crossings: Stops and delays

Time Segment	Crossing	Side	Mean Cruise Time per Ped (s)	Mean Delay per Ped (s)	Total delay (Ped-hr/hr)	Weighted cost of delay (£ per hr)
07:30-08:30	1	1	1.00	0.00	0.00	0.00
		2	8.33	43.71	0.24	3.45
	2	1	5.27	41.86	0.23	3.30
		2	1.00	0.00	0.00	0.00
	3	1	8.40	42.78	0.24	3.37
		2	8.40	42.78	0.24	3.37
	4	1	1.00	0.00	0.00	0.00
		2	1.00	0.00	0.00	0.00

Pedestrian Crossings: Queues and blocking

Time Segment	Crossing	Side	Mean max queue (Ped)	Max queue storage (Ped)	Utilised storage (%)	Excess queue penalty (£ per hr)
07:30-08:30	1	1	0.00	10.00	0.00	0.00
		2	0.52	10.00	5.17	0.00
	2	1	0.51	10.00	5.06	0.00
		2	0.00	10.00	0.00	0.00
	3	1	0.51	10.00	5.11	0.00
		2	0.51	10.00	5.11	0.00
	4	1	0.00	10.00	0.00	0.00
		2	0.00	10.00	0.00	0.00

Pedestrian Crossings: Advanced

Time Segment	Crossing	Side	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Mean Max Queue EoTS (Ped)	Ped Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
07:30-08:30	1	1	0.00	0.00	0.00	1.00	0.00	0.00
		2	0.00	0.00	0.52	1.00	0.00	3.45
	2	1	0.00	0.00	0.51	1.00	0.00	3.30
		2	0.00	0.00	0.00	1.00	0.00	0.00
	3	1	0.00	0.00	0.51	1.00	0.00	3.37
		2	0.00	0.00	0.51	1.00	0.00	3.37
	4	1	0.00	0.00	0.00	1.00	0.00	0.00
		2	0.00	0.00	0.00	1.00	0.00	0.00

Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Ite wit wor over PR
5	13/12/2018 08:58:39	13/12/2018 08:58:39	07:30	100	266.66	17.63	88.12	D/1	0	0	D/1	Cx/1	D/

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
07:30-08:30	88	0	2519	580	23.84	236.91	16.25	253.16

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
07:30-08:30	3	80	62	42.78	13.50	13.50

Network Results: Flows and signals

Time Segment	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Actual green (s (per cycle))
07:30-08:30	2599	2599	0		88		2	642

Network Results: Stops and delays

Time Segment	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
07:30-08:30	34.35	24.43	17.63	250.41	50.39	1309.74	16.25

Network Results: Queues and blocking

Time Segment	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))
07:30-08:30	54.17	0.00	209.00

Network Results: Advanced

Time Segment	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	Warmed up error	PCU Factor	Cost of traffic penalties (£ per hr)	Controller stream penalties (£ per hr)	Performance Index (£ per hr)
07:30-08:30	0.00	0.00	✓	0.00	1.00	0.00	0.00	266.66

Point to Point Journey Time

Average Journey Time (s) for Local Matrix: 1

		To							
		1	2	3	4	5	6	7	8
From	1	0.0	117.0	117.0	121.1	0.0	0.0	0.0	0.0
	2	106.8	0.0	106.8	106.8	0.0	0.0	0.0	0.0
	3	95.1	188.9	0.0	95.1	0.0	0.0	0.0	0.0
	4	140.5	140.5	140.5	0.0	0.0	0.0	0.0	0.0
	5	0.0	0.0	0.0	0.0	0.0	47.1	0.0	52.0
	6	0.0	0.0	0.0	0.0	0.0	0.0	51.2	0.0
	7	0.0	0.0	0.0	0.0	0.0	51.2	0.0	0.0
	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Path Journey Time

Path	From Location	To Location	Normal Calculated Flow (PCU/hr)	Pedestrian calculated flow (Ped/hr)	Normal journey time (s)	Pedestrian journey time (s)	Calculated Total Flow (PCU/hr)	Avg journey time (s)
4	2	3	42		106.78		42	106.78
12	2	4	3		106.78		3	106.78
16	6	7		20		51.18	20	51.18
17	7	6		20		51.18	20	51.18
18	7	8		0		0.00	0	0.00
19	8	7		0		0.00	0	0.00
20	5	8		20		52.04	20	52.04
21	8	5		0		0.00	0	0.00
22	5	6		20		47.13	20	47.13
23	6	5		0		0.00	0	0.00
26	1	3	593		117.01		593	117.01
28	1	2	6		117.01		6	117.01
29	3	4	23		95.12		23	95.12
32	3	2	16		188.92		16	188.92
33	1	4	17		121.06		17	121.06
34	4	3	305		140.48		305	140.48
35	4	2	5		140.48		5	140.48
36	2	1	3		106.78		3	106.78
37	4	1	18		140.48		18	140.48
38	3	1	212		95.12		212	95.12

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Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)
A	1	(untitled)	J	1	C	616	1802	38	0.00	88	3	81.01	45.01	106.22	18.61
B	1	(untitled)	J	1	D	48	1547	7	5.00	39	132	70.78	52.78	101.71	1.37
C	1	(untitled)	J	1	A	251	1781	38	0.00	36	149	59.12	23.12	70.26	4.98
D	1	(untitled)	J	1	B	328	1692	21	0.00	88	2	104.48	68.48	123.12	11.55
Ar	1	(untitled)	J	1	C	17	922	38	22.00	5	1804	4.05	3.05	42.29	0.22
Ax	1	(untitled)	J			233	Unrestricted	100	29.00	0	Unrestricted	36.00	0.00	0.00	0.00
Bx	1	(untitled)				27	Unrestricted	100	89.00	0	Unrestricted	36.00	0.00	0.00	0.00
Cr	1	(untitled)	J	1	A	16	103	38	0.00	40	125	93.80	92.80	120.06	0.54
Cx	1	(untitled)				940	Unrestricted	100	0.00	0	Unrestricted	36.00	0.00	0.00	0.00
Dx	1	(untitled)				43	Unrestricted	100	64.00	0	Unrestricted	36.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	P
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	
1	1	(untitled)		1	G	0	11000	7	0	Unrestricted	0.00	0.00	0.00	100	
	2	(untitled)		1	G	20	11000	7	3	3365	52.04	43.71	0.52	100	
2	1	(untitled)		1	H	20	11000	9	2	4355	47.13	41.86	0.51	100	
	2	(untitled)		1	H	0	11000	9	0	Unrestricted	0.00	0.00	0.00	100	
3	1	(untitled)		1	E	20	11000	8	2	3860	51.18	42.78	0.51	100	
	2	(untitled)		1	E	20	11000	8	2	3860	51.18	42.78	0.51	100	
4	1	(untitled)		1	F	0	11000	7	0	Unrestricted	0.00	0.00	0.00	100	
	2	(untitled)		1	F	0	11000	7	0	Unrestricted	0.00	0.00	0.00	100	

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	738.79	41.31	17.88	16.68	236.91	16.25	0.00	253.16
Bus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tram	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pedestrians	0.87	1.12	0.78	0.95	13.50	0.00	0.00	13.50
TOTAL	739.66	42.43	17.43	17.63	250.41	16.25	0.00	266.66

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Ite wit wor over PR
6	13/12/2018 08:58:40	13/12/2018 08:58:41	17:00	100	119.08	7.70	72.04	C/1	0	0	C/1	Cx/1	C/

Analysis Set Details

Name	Description	Demand set	Include in report	Locked
PM 2035 DS		D6	✓	

Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
PM 2035 DS				17:00	

Network timings

Network cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
100		60	1	60

Signals options

Start displacement (s)	End displacement (s)

Phase minimum broken penalty (£)	Phase maximum broken penalty (£)	Intergreen broken penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

Traffic model	Vehicle flow scaling factor (%)	Pedestrian flow scaling factor (%)	Cruise times or speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

Resolution	DOS Threshold (%)	Cruise scaling factor (%)	Use link stop weightings	Use link delay weightings	Exclude pedestrians from results calculation	Random delay mode	Type of Vehicle-in-Service	Type of random parameter	PCU Length (m)	Calculate results for Path Segments	Generate PDM Profile Data
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75		✓

Dispersion type	Dispersion coefficient
Default	35

Name	PCU Factor
Normal	1.00

Name	PCU Factor	Dispersion coefficient1	Dispersion coefficient2	Acceleration (ms^[-2])	Travel time coefficient1	Travel time coefficient2
Bus	1.00	70	15	0.94	30	85

Name	PCU Factor	Dispersion coefficient1	Dispersion coefficient2	Acceleration (ms^[-2])	Travel time coefficient1	Travel time coefficient2
Tram	1.00	0	0	0.94	100	100

Dispersion type
Default

Enable optimisation	Auto redistribute	Optimisation level	Enable OUT Profile accuracy
✓	✓	Offsets And Green Splits	✓

Optimisation type	Hill climb increments	OUTProfile accuracy	Use enhanced optimisation	Auto optimisation order	Optimisation order	Master controller	Offsets relative to master controller	Master controller offset after each run
Hill Climb (Fast)	15, 40, -1, 15, 40, 1, -1, 1	50, 50, 5, 5, 0.5, 0.5, 0.05, 0.05		✓	1			Do nothing

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian monetary value of delay (£ per Ped-hr)
14.20	2.60	14.20

Traffic Nodes

Traffic node	Name	Description
J	(untitled)	

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	(untitled)		J
B	(untitled)		J
C	(untitled)		J
D	(untitled)		J
Ar	(untitled)		J
Ax	(untitled)		J
Bx	(untitled)		
Cr	(untitled)		J
Cx	(untitled)		
Dx	(untitled)		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	(untitled)			300.00	✓	Sum of lanes	1802	✓		Normal	
B	1	(untitled)			150.00	✓	Sum of lanes	1547	✓		Normal	
C	1	(untitled)			300.00	✓	Sum of lanes	1781	✓		Normal	
D	1	(untitled)			300.00	✓	Sum of lanes	1678	✓		Normal	
Ar	1	(untitled)			5.75	✓	Sum of lanes	1604	✓	✓	Normal	
Ax	1	(untitled)			300.00						Normal	
Bx	1	(untitled)			300.00						Normal	
Cr	1	(untitled)			5.75	✓	Sum of lanes	1704	✓	✓	Normal	
Cx	1	(untitled)			300.00						Normal	
Dx	1	(untitled)			300.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface condition	Site quality factor	Gradient (%)	Width (m)	Use connector turning radius	Proportion that turn (%)	Turning radius (m)	Nearside lane	Saturation flow (PCU/hr)
A	1	1	(untitled)		✓	N/A	N/A	0	3.00		25	6.00	✓	1802
B	1	1	(untitled)		✓	N/A	N/A	0	3.00		95	6.00	✓	1547
C	1	1	(untitled)		✓	N/A	N/A	0	3.00		30	6.00	✓	1781
D	1	1	(untitled)		✓	N/A	N/A	0	3.00		100	10.60	✓	1678
Ar	1	1	(untitled)		✓	N/A	N/A	0	2.50		100	6.00		1604
Ax	1	1	(untitled)											
Bx	1	1	(untitled)											
Cr	1	1	(untitled)		✓	N/A	N/A	0	2.50		100	8.50		1704
Cx	1	1	(untitled)											
Dx	1	1	(untitled)											

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Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
A	1	NetworkDefault	100	100	100		0.00		
B	1	NetworkDefault	100	100	100		0.00		
C	1	NetworkDefault	100	100	100		0.00		
D	1	NetworkDefault	100	100	100		0.00		
Ar	1	NetworkDefault	100	100	100		1.00		
Ax	1	NetworkDefault	100	100	100		0.00		
Bx	1	NetworkDefault	100	100	100		0.00		
Cr	1	NetworkDefault	100	100	100		1.00		
Cx	1	NetworkDefault	100	100	100		0.00		
Dx	1	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	1	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	100

Normal - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	1	100	100

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
A	1	250	250
B	1	30	30
C	1	680	680
D	1	64	64
Ar	1	20	20
Ax	1	512	512
Bx	1	52	52
Cr	1	20	20
Cx	1	258	258
Dx	1	202	202

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	C	
B	1	1	D	
C	1	1	A	
D	1	1	B	
Ar	1	1	C	
Cr	1	1	A	

Entry Sources

Arm	Traffic Stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)
A	1	36.00	30.00
B	1	18.00	30.00
C	1	36.00	30.00
D	1	36.00	30.00

Sources

Arm	Traffic Stream	Source	Source traffic stream	Destination traffic stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)	Auto turning radius	Traffic turn style	Turning radius (m)
Ar	1	1	A/1	Ar/1	1.00	30.00	✓	Straight	Straight Movement
Ax	1	1	C/1	Ax/1	36.00	30.00	✓	Straight	Straight Movement
Bx	1	1	D/1	Bx/1	36.00	30.00	✓	Straight	Straight Movement
Cr	1	1	C/1	Cr/1	1.00	30.00	✓	Straight	Straight Movement
Cx	1	1	A/1	Cx/1	36.00	30.00	✓	Straight	Straight Movement
Dx	1	1	B/1	Dx/1	36.00	30.00	✓	Straight	Straight Movement
Ax	1	2	B/1	Ax/1	36.00	30.00	✓	Offside	57.17
Bx	1	2	A/1	Bx/1	36.00	30.00	✓	Nearside	67.46
Cx	1	2	B/1	Cx/1	36.00	30.00	✓	Nearside	87.33
Dx	1	2	C/1	Dx/1	36.00	30.00	✓	Nearside	50.78
Ax	1	3	D/1	Ax/1	36.00	30.00	✓	Nearside	56.71
Bx	1	3	Cr/1	Bx/1	36.00	30.00	✓	Offside	52.48
Cx	1	3	D/1	Cx/1	36.00	30.00	✓	Offside	92.66
Dx	1	3	Ar/1	Dx/1	36.00	30.00	✓	Offside	97.63

Give Way Data

Arm	Traffic Stream	Opposed traffic	Use Step-wise Opposed Turn Model	Number of storage spaces	Use connector turning radius	Radius of turn (m)	Visibility restricted
Ar	1	AllTraffic	✓	1		10.00	
Cr	1	AllTraffic	✓	1		8.00	

Give Way Data - All Movements - Conflicts

Traffic Stream	Description	Controlling type	Controlling from traffic stream	Controlling to traffic stream	Percentage opposing (%)	Upstream signals visible	Conflict shift	Conflict duration
1		TrafficStreamMovement	C/1	Dx/1	100		2	6
		TrafficStreamMovement	C/1	Ax/1	100		2	6
		TrafficStreamMovement	A/1	Cx/1	100		2	6
		TrafficStreamMovement	A/1	Bx/1	100		2	6

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)				Farside	11.00	7.33	5.40
2	(untitled)				Farside	6.40	4.27	5.40
3	(untitled)				Farside	11.10	7.40	5.40
4	(untitled)				Farside	11.10	7.40	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
1	1	G	
2	1	H	
3	1	E	
4	1	F	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

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Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit
1	(untitled)	✓	✓	Path Equalisation			✓			✓	1.25		

Normal Input Flows (PCU/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	32	198	20	0	0	0	0
	2	10	0	18	2	0	0	0	0
	3	480	20	0	180	0	0	0	0
	4	22	0	42	0	0	0	0	0
	5	0	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (PCU/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	20	0	20
	6	0	0	0	0	0	0	20	0
	7	0	0	0	0	0	20	0	0
	8	0	0	0	0	0	0	0	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	A/1	Ax/1	#0000FF
	2	(untitled)	B/1	Bx/1	#00FF00
	3	(untitled)	C/1	Cx/1	#FFFF00
	4	(untitled)	D/1	Dx/1	#FFFF00
	5	(untitled)	1:2E, 2:1E	1:2X, 2:1X	#00FFFF
	6	(untitled)	2:2E, 3:2E	2:2X, 3:2X	#FF00FF
	7	(untitled)	3:1E, 4:2E	3:1X, 4:2X	#008000
	8	(untitled)	4:1E, 1:1E	4:1X, 1:1X	#FFA500

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	4		2	3	B/1, Cx/1	Normal	18
	12		2	4	B/1, Dx/1	Normal	2
	26		1	3	A/1, Cx/1	Normal	198
	28		1	2	A/1, Bx/1	Normal	32
	29		3	4	C/1, Dx/1	Normal	180
	32		3	2	C/1, Cr/1, Bx/1	Normal	20
	33		1	4	A/1, Ar/1, Dx/1	Normal	20
	34		4	3	D/1, Cx/1	Normal	42
	35		4	2	D/1, Bx/1	Normal	0
	36		2	1	B/1, Ax/1	Normal	10
	37		4	1	D/1, Ax/1	Normal	22
	38		3	1	C/1, Ax/1	Normal	480

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	16		6	7	3:2E, 3:1X	Normal	20
	17		7	6	3:1E, 3:2X	Normal	20
	18		7	8	4:2E, 4:1X	Normal	0
	19		8	7	4:1E, 4:2X	Normal	0
	20		5	8	1:2E, 1:1X	Normal	20
	21		8	5	1:1E, 1:2X	Normal	0
	22		5	6	2:1E, 2:2X	Normal	20
	23		6	5	2:2E, 2:1X	Normal	0

Signal Timings

Network Default: 100s cycle time; 100 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)
1	(untitled)		1	NetworkDefault	100

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	7	300	0	0	Traffic	
	B	(untitled)	7	300	0	0	Traffic	
	C	(untitled)	7	300	0	0	Traffic	
	D	(untitled)	7	300	0	0	Traffic	
	E	(untitled)	7	300	0	0	Pedestrian	0
	F	(untitled)	7	300	0	0	Pedestrian	0
	G	(untitled)	7	300	0	0	Pedestrian	0
	H	(untitled)	7	300	0	0	Pedestrian	0

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)
1	1	A, C	1
	2	B	1
	3	D	1
	4	E, F, G, H	1

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends
1	1	(untitled)	Single	1, 2, 3, 4	47, 60, 72, 86
	2	(untitled)	Single	1, 4, 2, 3	0, 31, 63, 91
	3	(untitled)	Single	1, 3, 4, 2	0, 29, 59, 91
	4	(untitled)	Single	1, 2, 4, 3	0, 29, 59, 91
	5	(untitled)	Single	1, 4, 3, 2	0, 31, 63, 91
	6	(untitled)	Single	1, 3, 2, 4	0, 29, 57, 87

Intergreen Matrix for Controller Stream 1

		To							
		A	B	C	D	E	F	G	H
From	A		6		5	5	6	7	7
	B	5		5	5	7	5	6	6
	C		5		6	6	7	5	5
	D	5	5	5		6	7	7	5
	E	9	9	9	9				
	F	9	9	9	9				
	G	9	9	9	9				
	H	5	5	5	6				

Banned Stage transitions for Controller Stream 1

		To			
		1	2	3	4
From	1				
	2				
	3				
	4				

Interstage Matrix for Controller Stream 1

		To			
		1	2	3	4
From	1	0	6	6	7
	2	5	0	5	7
	3	5	5	0	7
	4	9	9	9	0

Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A,C	95	47	52	1	7
	2	✓	2	B	53	60	7	1	7
	3	✓	3	D	65	72	7	1	7
	4	✓	4	E,F,G,H	79	86	7	1	7

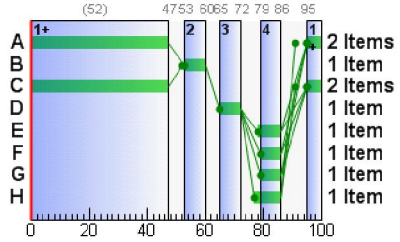
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	95	47	52
	B	1	✓	53	60	7
	C	1	✓	95	47	52
	D	1	✓	65	72	7
	E	1	✓	78	86	8
	F	1	✓	79	86	7
	G	1	✓	79	86	7
	H	1	✓	77	86	9

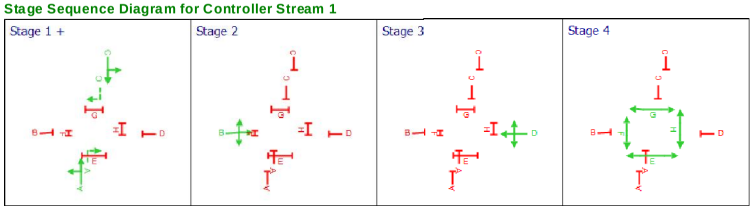
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	J	1	C	95	47	52
B	1	J	1	D	65	72	7
C	1	J	1	A	95	47	52
D	1	J	1	B	53	60	7
Ar	1	J	1	C	95	47	52
Cr	1	J	1	A	95	47	52

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Resultant penalties

Time Segment	Controller stream	Phase min max penalty (£ per hr)	Intergreen broken penalty (£ per hr)	Stage constraint broken penalty (£ per hr)	Cost of controller stream penalties (£ per hr)
17:00-18:00	1	0.00	0.00	0.00	0.00

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Traffic Stream Results

Traffic Stream Results: Vehicle summary

Time Segment	Arm	Traffic Stream	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
17:00-18:00	A	1	26	244	250	1802	52	13.50	3.80	7.28	13.31	1.67	14.98
	B	1	24	271	30	1547	7	47.82	0.81	3.12	5.66	0.36	6.02
	C	1	72	25	680	1781	52	22.72	15.08	28.91	60.94	6.65	67.59
	D	1	48	89	64	1678	7	56.01	1.90	3.65	14.14	0.85	14.99
	Ar	1	17	418	20	217	52	21.58	0.46	45.76	1.70	0.10	1.80
	Ax	1	0	Unrestricted	512	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	Bx	1	0	Unrestricted	52	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	Cr	1	4	2217	20	971	52	1.96	0.20	20.36	0.15	0.04	0.19
	Cx	1	0	Unrestricted	258	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	Dx	1	0	Unrestricted	202	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00

Traffic Stream Results: Flows and signals

Time Segment	Arm	Traffic Stream	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Calculated sat flow (PCU/hr)	Calculated capacity (PCU/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Mean modulus of error	Actual green (s (per cycle))
17:00-18:00	A	1	250	250	0		1802	955	26		244	0.00	52
	B	1	30	30	0		1547	124	24		271	0.00	7
	C	1	680	680	0		1781	944	72		25	0.00	52
	D	1	64	64	0		1678	134	48		89	0.00	7
	Ar	1	20	20	0		217	115	17		418	0.93	52
	Ax	1	512	512	0		Unrestricted	Unrestricted	0		Unrestricted	0.64	100
	Bx	1	52	52	0		Unrestricted	Unrestricted	0		Unrestricted	0.73	100
	Cr	1	20	20	0		971	515	4		2217	0.93	52
	Cx	1	258	258	0		Unrestricted	Unrestricted	0		Unrestricted	0.45	100
	Dx	1	202	202	0		Unrestricted	Unrestricted	0		Unrestricted	0.71	100

Traffic Stream Results: Stops and delays

Time Segment	Arm	Traffic Stream	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
17:00-18:00	A	1	36.00	13.50	0.94	13.31	53.33	133.33	1.67
	B	1	18.00	47.82	0.40	5.66	96.39	28.92	0.36
	C	1	36.00	22.72	4.29	60.94	78.02	530.51	6.65
	D	1	36.00	56.01	1.00	14.14	105.45	67.49	0.85
	Ar	1	1.00	21.58	0.12	1.70	82.12	16.42	0.10
	Ax	1	36.00	0.00	0.00	0.00	0.00	0.00	0.00
	Bx	1	36.00	0.00	0.00	0.00	0.00	0.00	0.00
	Cr	1	1.00	1.96	0.01	0.15	31.91	6.38	0.04
	Cx	1	36.00	0.00	0.00	0.00	0.00	0.00	0.00
	Dx	1	36.00	0.00	0.00	0.00	0.00	0.00	0.00

Traffic Stream Results: Queues and blocking

Time Segment	Arm	Traffic Stream	Initial queue (PCU)	Mean max queue (PCU)	Max queue storage (PCU)	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))	Estimated blocking
17:00-18:00	A	1	0.00	3.80	52.17	7.28	0.00	0.00	
	B	1	0.00	0.81	26.09	3.12	0.00	6.00	
	C	1	0.00	15.08	52.17	28.91	0.00	0.00	
	D	1	0.00	1.90	52.17	3.65	0.00	0.00	
	Ar	1	0.00	0.46	1.00	45.76	0.00	14.00	
	Ax	1	0.00	0.00	52.17	0.00	0.00	14.00	
	Bx	1	0.00	0.00	52.17	0.00	0.00	54.00	
	Cr	1	0.00	0.20	1.00	20.36	0.00	38.00	
	Cx	1	0.00	0.00	52.17	0.00	0.00	11.00	
	Dx	1	0.00	0.00	52.17	0.00	0.00	33.00	

Traffic Stream Results: Advanced

Time Segment	Arm	Traffic Stream	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	Warmed up error	Mean Max Queue EoTS (PCU)	Max End of Green Queue EoTS (PCU)	Max End of Red Queue EoTS (PCU)	PCU Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
17:00-18:00	A	1	0.00	0.00	✓	0.00	3.80	0.05	3.31	1.00	0.00	14.98
	B	1	0.00	0.00	✓	0.00	0.81	0.04	0.81	1.00	0.00	6.02
	C	1	0.00	0.00	✓	0.00	15.09	0.92	9.80	1.00	0.00	67.59
	D	1	0.00	0.00	✓	0.00	1.90	0.22	1.85	1.00	0.00	14.99
	Ar	1	0.00	0.00	✓	0.00	0.46	0.02	0.03	1.00	0.00	1.80
	Ax	1	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00
	Bx	1	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00
	Cr	1	0.00	0.00	✓	0.00	0.20	0.00	0.01	1.00	0.00	0.19
	Cx	1	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00
	Dx	1	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00

Pedestrian Crossing Results

Pedestrian Crossings: Pedestrian summary

Time Segment	Crossing	Side	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Mean max queue (Ped)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
17:00-18:00	1	1	0	0	11000	7	0.00	0.00	0.00	0.00
		2	3	20	11000	7	43.71	0.52	3.45	3.45
	2	1	2	20	11000	9	41.86	0.51	3.30	3.30
		2	0	0	11000	9	0.00	0.00	0.00	0.00
	3	1	2	20	11000	8	42.78	0.51	3.37	3.37
		2	2	20	11000	8	42.78	0.51	3.37	3.37
	4	1	0	0	11000	7	0.00	0.00	0.00	0.00
		2	0	0	11000	7	0.00	0.00	0.00	0.00

Pedestrian Crossings: Flows and signals

Time Segment	Crossing	Side	Calculated flow entering (Ped/hr)	Calculated flow out (Ped/hr)	Flow discrepancy (Ped/hr)	Adjusted flow warning	Calculated sat flow (Ped/hr)	Calculated capacity (Ped/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity	Mean modulus of error	Actual green (s (per cycle))
17:00-18:00	1	1	0	0	0		11000	770	0		Unrestricted	0.00	7
		2	20	20	0		11000	770	3		3365	0.00	7
	2	1	20	20	0		11000	990	2		4355	0.00	9
		2	0	0	0		11000	990	0		Unrestricted	0.00	9
	3	1	20	20	0		11000	880	2		3860	0.00	8
		2	20	20	0		11000	880	2		3860	0.00	8
	4	1	0	0	0		11000	770	0		Unrestricted	0.00	7
		2	0	0	0		11000	770	0		Unrestricted	0.00	7

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Pedestrian Crossings: Stops and delays

Time Segment	Crossing	Side	Mean Cruise Time per Ped (s)	Mean Delay per Ped (s)	Total delay (Ped-hr/hr)	Weighted cost of delay (£ per hr)
17:00-18:00	1	1	1.00	0.00	0.00	0.00
		2	8.33	43.71	0.24	3.45
	2	1	5.27	41.86	0.23	3.30
		2	1.00	0.00	0.00	0.00
	3	1	8.40	42.78	0.24	3.37
		2	8.40	42.78	0.24	3.37
	4	1	1.00	0.00	0.00	0.00
		2	1.00	0.00	0.00	0.00

Pedestrian Crossings: Queues and blocking

Time Segment	Crossing	Side	Mean max queue (Ped)	Max queue storage (Ped)	Utilised storage (%)	Excess queue penalty (£ per hr)
17:00-18:00	1	1	0.00	10.00	0.00	0.00
		2	0.52	10.00	5.17	0.00
	2	1	0.51	10.00	5.06	0.00
		2	0.00	10.00	0.00	0.00
	3	1	0.51	10.00	5.11	0.00
		2	0.51	10.00	5.11	0.00
	4	1	0.00	10.00	0.00	0.00
		2	0.00	10.00	0.00	0.00

Pedestrian Crossings: Advanced

Time Segment	Crossing	Side	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Mean Max Queue EoTS (Ped)	Ped Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
17:00-18:00	1	1	0.00	0.00	0.00	1.00	0.00	0.00
		2	0.00	0.00	0.52	1.00	0.00	3.45
	2	1	0.00	0.00	0.51	1.00	0.00	3.30
		2	0.00	0.00	0.00	1.00	0.00	0.00
	3	1	0.00	0.00	0.51	1.00	0.00	3.37
		2	0.00	0.00	0.51	1.00	0.00	3.37
	4	1	0.00	0.00	0.00	1.00	0.00	0.00
		2	0.00	0.00	0.00	1.00	0.00	0.00

Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Ite wit wor over PR
6	13/12/2018 08:58:40	13/12/2018 08:58:41	17:00	100	119.08	7.70	72.04	C/1	0	0	C/1	Cx/1	C/

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
17:00-18:00	72	0	2088	622	11.64	95.91	9.67	105.57

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
17:00-18:00	3	80	62	42.78	13.50	13.50

Time Segment	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Actual green (s (per cycle))
17:00-18:00	2168	2168	0		72		25	684

Time Segment	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
17:00-18:00	34.06	12.79	7.70	109.41	36.12	783.05	9.67

Time Segment	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))
17:00-18:00	45.76	0.00	170.00

Time Segment	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	Warmed up error	PCU Factor	Cost of traffic penalties (£ per hr)	Controller stream penalties (£ per hr)	Performance Index (£ per hr)
17:00-18:00	0.00	0.00	✓	0.00	1.00	0.00	0.00	119.08

Average Journey Time (s) for Local Matrix: 1

		To							
		1	2	3	4	5	6	7	8
From	1	0.0	85.5	85.5	108.1	0.0	0.0	0.0	0.0
	2	101.8	0.0	101.8	101.8	0.0	0.0	0.0	0.0
	3	94.7	97.7	0.0	94.7	0.0	0.0	0.0	0.0
	4	128.0	0.0	128.0	0.0	0.0	0.0	0.0	0.0
	5	0.0	0.0	0.0	0.0	0.0	47.1	0.0	52.0
	6	0.0	0.0	0.0	0.0	0.0	0.0	51.2	0.0
	7	0.0	0.0	0.0	0.0	0.0	51.2	0.0	0.0
	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Path Journey Time

Path	From Location	To Location	Normal Calculated Flow (PCU/hr)	Pedestrian calculated flow (Ped/hr)	Normal journey time (s)	Pedestrian journey time (s)	Calculated Total Flow (PCU/hr)	Avg journey time (s)
4	2	3	18		101.82		18	101.82
12	2	4	2		101.82		2	101.82
16	6	7		20		51.18	20	51.18
17	7	6		20		51.18	20	51.18
18	7	8		0		0.00	0	0.00
19	8	7		0		0.00	0	0.00
20	5	8		20		52.04	20	52.04
21	8	5		0		0.00	0	0.00
22	5	6		20		47.13	20	47.13
23	6	5		0		0.00	0	0.00
26	1	3	198		85.50		198	85.50
28	1	2	32		85.50		32	85.50
29	3	4	180		94.72		180	94.72
32	3	2	20		97.68		20	97.68
33	1	4	20		108.08		20	108.08
34	4	3	42		128.01		42	128.01
35	4	2	0		0.00		0	0.00
36	2	1	10		101.82		10	101.82
37	4	1	22		128.01		22	128.01
38	3	1	480		94.72		480	94.72

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Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)
A	1	(untitled)	J	1	C	250	1802	52	0.00	26	244	49.50	13.50	53.33	3.80
B	1	(untitled)	J	1	D	30	1547	7	6.00	24	271	65.82	47.82	96.39	0.81
C	1	(untitled)	J	1	A	680	1781	52	0.00	72	25	58.72	22.72	78.02	15.08
D	1	(untitled)	J	1	B	64	1678	7	0.00	48	89	92.01	56.01	105.45	1.90
Ar	1	(untitled)	J	1	C	20	217	52	14.00	17	418	22.58	21.58	82.12	0.46
Ax	1	(untitled)	J			512	Unrestricted	100	14.00	0	Unrestricted	36.00	0.00	0.00	0.00
Bx	1	(untitled)				52	Unrestricted	100	54.00	0	Unrestricted	36.00	0.00	0.00	0.00
Cr	1	(untitled)	J	1	A	20	971	52	38.00	4	2217	2.96	1.96	31.91	0.20
Cx	1	(untitled)				258	Unrestricted	100	11.00	0	Unrestricted	36.00	0.00	0.00	0.00
Dx	1	(untitled)				202	Unrestricted	100	33.00	0	Unrestricted	36.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	P
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	
1	1	(untitled)		1	G	0	11000	7	0	Unrestricted	0.00	0.00	0.00	100	
	2	(untitled)		1	G	20	11000	7	3	3365	52.04	43.71	0.52	100	
2	1	(untitled)		1	H	20	11000	9	2	4355	47.13	41.86	0.51	100	
	2	(untitled)		1	H	0	11000	9	0	Unrestricted	0.00	0.00	0.00	100	
3	1	(untitled)		1	E	20	11000	8	2	3860	51.18	42.78	0.51	100	
	2	(untitled)		1	E	20	11000	8	2	3860	51.18	42.78	0.51	100	
4	1	(untitled)		1	F	0	11000	7	0	Unrestricted	0.00	0.00	0.00	100	
	2	(untitled)		1	F	0	11000	7	0	Unrestricted	0.00	0.00	0.00	100	

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	610.13	27.10	22.52	6.75	95.91	9.67	0.00	105.57
Bus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tram	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pedestrians	0.87	1.12	0.78	0.95	13.50	0.00	0.00	13.50
TOTAL	611.00	28.21	21.66	7.70	109.41	9.67	0.00	119.08

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

A11.4 GOCAR LETTER OF INTENT

Glenveagh Living,
15 Merrion Square North,
Dublin 2

To Whom It May Concern,

This is a letter to confirm that GoCar intends to provide three shared car club vehicles in the proposed residential development at the East Road scheme, located in East Wall, Dublin 1, with final terms to be agreed.

GoCar is Ireland's leading car sharing service with 40,000 members and over 600 cars and vans across 18 counties in Ireland. Each GoCar which is placed in a community has the potential to replace the journeys of up to 15 private cars.

The Department of Housing's Design Standards for New Apartments - Guidelines for Planning Authorities 2018 outline: "For all types of location, where it is sought to eliminate or reduce car parking provision, it is necessary to ensure... provision is also to be made for alternative mobility solutions including facilities for car sharing club vehicles."

GoCar members sign up online and can book cars or vans via the website or mobile app. Rates start from €4 for half an hour, with fuel, insurance and maintenance included. As such, it is both convenient and cost effective. It allows individuals to have the benefits of a private car, without having the large costs and hassle associated with car ownership. GoCar is ideal for people or organisations who only need occasional access to a car, for families who need a second car sometimes, and for others who would like occasional access to a vehicle of a different type than they use day-to-day.

Carsharing is a sustainable service. By allowing multiple people to use the same vehicle at different times, car sharing reduces car ownership, car dependency, congestion, noise and air pollution. It frees up land which would otherwise be used for additional parking spaces. Most GoCar users only use a car when necessary, and walk and use public transport more often than car owners.

By having GoCar car club vehicles in a residential development such as this, residents will have access to pay-as-you-go driving, in close proximity to their homes, which will increase usership of the service.

I trust that this information is satisfactory. For any queries, please do not hesitate to contact me.

Regards,

Rob Kearns
Head of Growth
GoCar Carsharing Limited
M: 083 822 3924
E: rob.kearns@gocar.ie

A12.1 DESCRIPTION OF IMPACTS EPA

A12.1 Appendix

Description of Impacts (Draft), (EPA, 2017)

Impact Characteristic	Term	Description
Quality	Positive	A change which improves the quality of the environment
	Neutral	A change which does not affect the quality of the environment
	Negative / Adverse	A change which reduces the quality of the environment
Significance	Imperceptible	An effect capable of measurement but without noticeable consequences
	Not significant	An effect which causes noticeable changes in the character of the environment but without noticeable consequences
	Slight Effects	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities
	Moderate Effects	An effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends
	Significant Effects	An effect, which by its character, magnitude, duration or intensity alters a sensitive aspect of the environment
	Very Significant	An effect which, by its character, magnitude, duration or intensity significantly alters the majority of a sensitive aspect of the environment
	Profound Effects	An impact which obliterates sensitive characteristics
Extent & Context	Extent	Describe the size of the area, the number of sites, and the proportion of a population affected by an effect
	Context	Describe whether the extent, duration or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?)
Probability	Likely Effects	The effects that can reasonably be expected to occur as a result of the planned project if all mitigation measures are properly implemented
	Unlikely Effects	The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.
Duration	Momentary	Effects lasting from seconds to minutes
	Brief	Effects lasting less than a day
	Temporary	Effects lasting less than a year
	Short-term	Effects lasting one to seven years
	Medium-term	Effects lasting seven to fifteen years
	Long-term	Effects lasting fifteen to sixty years
	Permanent	Effects lasting over sixty years
	Reversible Effects	Effects that can be undone, for example through remediation or restoration
	Frequency of Effects	Describe how often the effect will occur. (once, rarely, occasionally, frequently, constantly – or hourly daily, weekly, monthly, annually.

Impact Characteristic	Term	Description
Type	Indirect Effects (a.k.a. Secondary Effects)	Impact on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway.
	Cumulative	The addition of many small impacts to create one larger, more significant impact
	'Do Nothing'	The environment as it would be in the future should no development of any kind be carried out
	Worst case Effects	The effects arising from a project in the case where mitigation measures substantially fail.
	Indeterminable	When the full consequences of a change in the environment cannot be described
	Irreversible	When the character, distinctiveness, diversity, or reproductive capacity of an environment is permanently lost
	Residual	The degree of environmental change that will occur after the proposed mitigation measures have taken effect
	Synergistic	Where the resultant effect is of greater significance than the sum of its constituents

A12.2 CRITERIA FOR RATING SITE ATTRIBUTES NRA

A12.2 Appendix

Criteria for Rating Site Attributes – Estimation of Importance of Hydrology Attributes. National Roads Authority (NRA, 2009)

Table 1: Criteria for rating site importance of Geological Features (NRA)

Importance	Criteria	Typical Example
Very High	Attribute has a high quality, significance or value on a regional or national scale Degree or extent of soil contamination is significant on a national or regional scale Volume of peat and / or soft organic soil underlying route is significant on a national or regional scale.	Geological feature rare on a regional or national scale (NHA) Large existing quarry or pit Proven economically extractable mineral resource
High	Attribute has a high quality, significance or value on a local scale. Degree or extent of soil contamination is significant on a local scale. Volume of peat and /or soft organic soil underlying route is significant on a local scale.	Contaminated soil on site with previous heavy industrial usage Large recent landfill site for mixed wastes Geological feature of high value on a local scale (County Geological Site) Well drained and / or high fertility soils Moderately sized existing quarry or pit Marginally economic extractable mineral resource
Medium	Attribute has a medium quality, significance or value on a local scale Degree or extent of soil contamination is moderate on a local scale Volume of peat and / or soft organic soil underlying route is moderate on a local scale	Contaminated soil on site with previous light industrial usage Small recent landfill site for mixed wastes Moderately drained and / or moderate fertility soils Small existing quarry or pit Sub-economic extractable mineral resource
Low	Attribute has a low quality, significance or value on a local scale Degree or extent of soil contamination is minor on a local scale. Volume of peat and / or soft organic soil underlying route is small on a local scale	Large historical and / or recent site for construction and demolition wastes. Small historical and / or recent landfill site for construction and demolition wastes. Poorly drained and / or low fertility soils. Uneconomically extractable mineral resource.

Table 2: Criteria for rating impact magnitude at EIS stage – Estimation of magnitude of impact on soil / geology attribute (NRA)

Magnitude of Impact	Criteria	Typical Examples
Large Adverse	Results in loss of attribute.	Loss of high proportion of future quarry or pit reserves.
Moderate Adverse	Results in impact on integrity of attribute or loss of part of attribute.	Loss of moderate proportion of future quarry or pit reserves
Small Adverse	Results in minor impact on integrity of attribute or loss of small part of attribute.	Loss of small proportion of future quarry or pit reserves
Negligible	Results in an impact on attribute but of insufficient magnitude to affect either use or integrity.	No measurable changes in attributes
Minor Beneficial	Results in minor improvement of attribute quality.	Minor enhancement of geological heritage feature
Moderate Beneficial	Results in moderate improvement of attribute quality.	Moderate enhancement of geological heritage feature
Major Beneficial	Results in major improvement of attribute quality.	Major enhancement of geological heritage feature

Table 3: Criteria for rating Site Attributes - Estimation of Importance of Hydrogeology Attributes (NRA)

Magnitude of Impact	Criteria	Typical Examples
Extremely High	Attribute has a high quality or value on an international scale	Groundwater supports river, wetland or surface water body ecosystem protected by EU legislation e.g. SAC or SPA status.
Very High	Attribute has a high quality or value on a regional or national scale	Regionally Important Aquifer with multiple well fields Groundwater supports river, wetland or surface water body ecosystem protected by national legislation – NHA status Regionally important potable water source supplying >2500 homes Inner source protection area for regionally important water source
High	Attribute has a high quality or value on a local scale	Regionally Important Aquifer Groundwater provides large proportion of baseflow to local rivers Locally important potable water source supplying >1000 homes Outer source protection area for regionally important water source Inner source protection area for locally important water source
Medium	Attribute has a medium quality or value on a local scale	Locally Important Aquifer Potable water source supplying >50 homes Outer source protection area for locally important water source
Low	Attribute has a low quality or value on a local scale	Poor Bedrock Aquifer Potable water source supplying <50 homes

Table 4: Criteria for Rating Impact Significance at EIS Stage – Estimation of Magnitude of Impact on Hydrogeology Attribute (NRA)

Magnitude of Impact	Criteria	Typical Examples
Large Adverse	Results in loss of attribute and /or quality and integrity of attribute	Removal of large proportion of aquifer. Changes to aquifer or unsaturated zone resulting in extensive change to existing water supply springs and wells, river baseflow or ecosystems. Potential high risk of pollution to groundwater from routine run-off. Calculated risk of serious pollution incident >2% annually.
Moderate Adverse	Results in impact on integrity of attribute or loss of part of attribute	Removal of moderate proportion of aquifer. Changes to aquifer or unsaturated zone resulting in moderate change to existing water supply springs and wells, river baseflow or ecosystems. Potential medium risk of pollution to groundwater from routine run-off. Calculated risk of serious pollution incident >1% annually.
Small Adverse	Results in minor impact on integrity of attribute or loss of small part of attribute	Removal of small proportion of aquifer. Changes to aquifer or unsaturated zone resulting in minor change to water supply springs and wells, river baseflow or ecosystems. Potential low risk of pollution to groundwater from routine run-off. Calculated risk of serious pollution incident >0.5% annually.
Negligible	Results in an impact on attribute but of insufficient magnitude to affect either use or integrity	Calculated risk of serious pollution incident <0.5% annually.

Table 5: Rating of Significant Environmental Impacts at EIS Stage (NRA)

Importance of Attribute	Magnitude of Importance			
	Negligible	Small Adverse	Moderate Adverse	Large Adverse
Extremely High	Imperceptible	Significant	Profound	Profound
Very High	Imperceptible	Significant/moderate	Profound/Significant	Profound
High	Imperceptible	Moderate/Slight	Significant/moderate	Profound/Significant
Medium	Imperceptible	Slight	Moderate	Significant
Low	Imperceptible	Imperceptible	Slight	Slight/Moderate

A12.3 ENVIRONMENTAL DESK STUDY AND WASTE CHARACTERISATION ASSESSMENT

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O'Callaghan Moran & Associates
ENVIRONMENTAL MANAGEMENT FOR BUSINESS

Environmental Desk Study and Waste Characterisation Assessment

Proposed Student Accommodation Site

East Road

Dublin 3

Prepared For: -

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

Prepared By: -

O' Callaghan Moran & Associates,
Unit 15 Melbourne Business Park,
Model Farm Road,
Cork.

June 2018

TABLE OF CONTENTS

APPENDICES

1 INTRODUCTION

Ground Investigations Ireland Limited (GII) on behalf of DBFL Consulting Engineers requested O'Callaghan Moran & Associates (OCM) to undertake an Environmental Desk Study Assessment and waste classification assessment of samples collected from made ground and natural ground at a proposed development site at East Road Dublin 3.

The objective of the environmental assessment was to determine the potential for soil contamination given the historical site use and its location near the Dublin Port area. The waste classification assessment is required to determine offsite disposal options for any potential contaminated soils or sols generated during site development works for foundations and underground services.

1.1 Methodology

The assessment included a site inspection by an OCM Senior Environmental Scientist, a desk study of available information on the site history and intrusive site investigations undertaken by GII.

The data sources reviewed in the desk study included:

- Ordnance Survey of Ireland (OSI) Maps.

- Geological Survey of Ireland (GSI) and Teagasc subsoil, geology, aquifer vulnerability and classification maps.

GII provided a description of the ground conditions and collected samples of the made and natural ground from twenty one window sample borehole locations. The samples were analysed at an accredited laboratory and the results formed the basis for a waste classification assessment, which was undertaken by OCM in accordance with the Environmental Protection Agency (EPA) Guidelines on the Classification of Waste (2015).

2 SITE DESCRIPTION AND ENVIRONMENAL SETTING

2.1 Site Location

The site is located at 1-3 East Road in the Dublin Docklands. (Figure 2.1).

2.2 Site Layout

The existing site layout is shown on Figure 2.2. It is currently used as a depot for Hireco a truck trailer rental company.

2.3 Site History

The site history was derived from a review of the Ordnance Survey of Ireland (OSI) historic maps.

The historic OSI map from 1837 shows that Forbes Castle was originally located on the site and was surrounded by undeveloped land. A railway siding extended into the site by 1888 for the Dublin Warehouse Siding Company. At this time the remainder of the site was in use as a timber yard. This site use remained up until the 1970s??

2.4 Proposed Development

It is proposed to redevelop the site as Student Residential Accommodation.

2.5 Geology and Hydrogeology

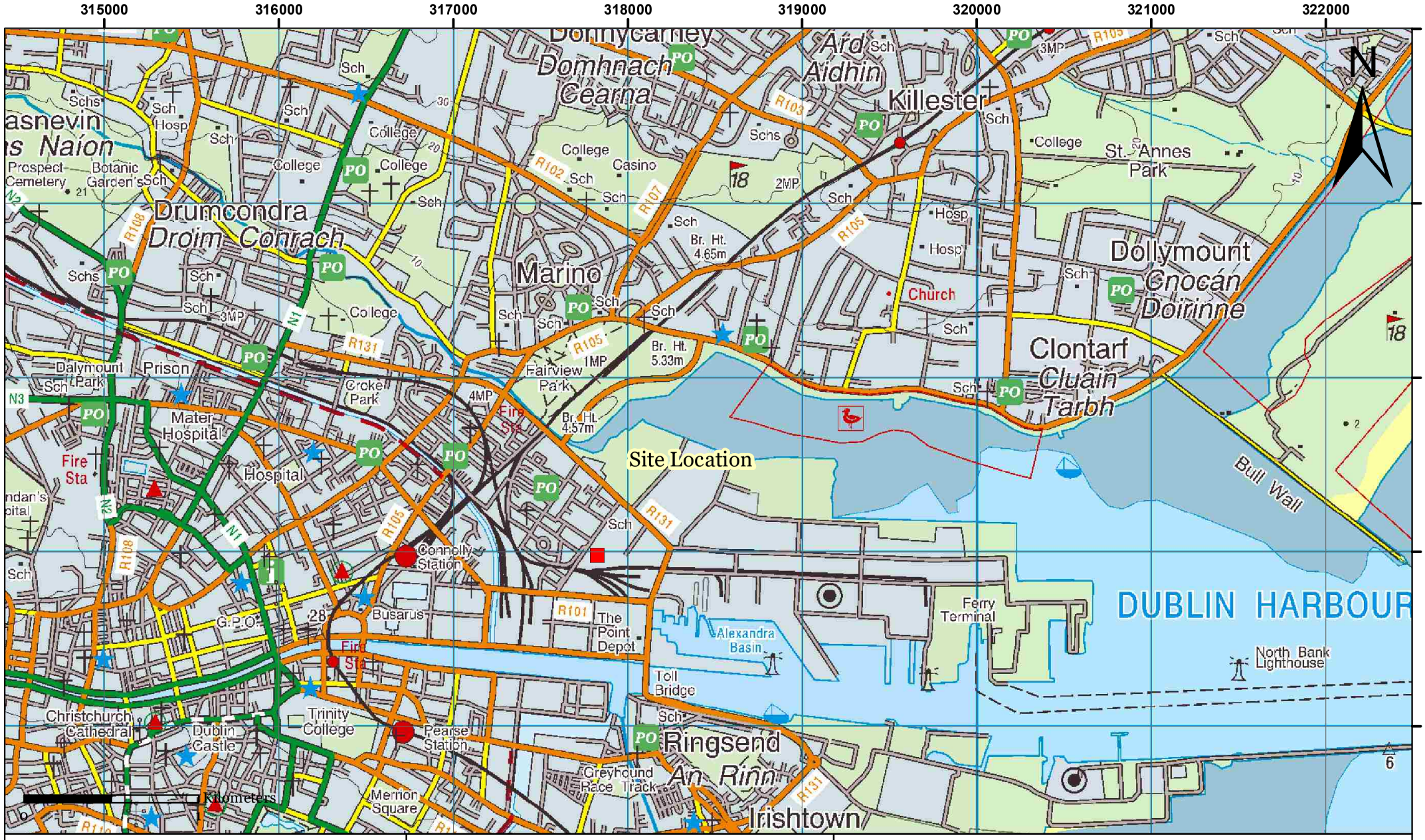
Information on the local and regional geology and hydrogeology was derived from a desk study, which included GSI geology databases and Teagasc Soil Maps for the region.

2.6 Soils and Subsoil

The subsoil distribution is shown on Figure 2.3. The Teagasc Soil and Subsoils maps indicate the site is underlain by Made Ground and this was confirmed by the site investigation which established the presence of c1m of made ground overlying a estuarine silts with shell fragments

2.7 Bedrock

The bedrock geology is shown on Figure 2.4. The site is underlain by argillaceous dark, grey to black limestone and shale from the Calp limestone formation.



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TITLE
Site Location

Details:
Site Location

Figure 2.1

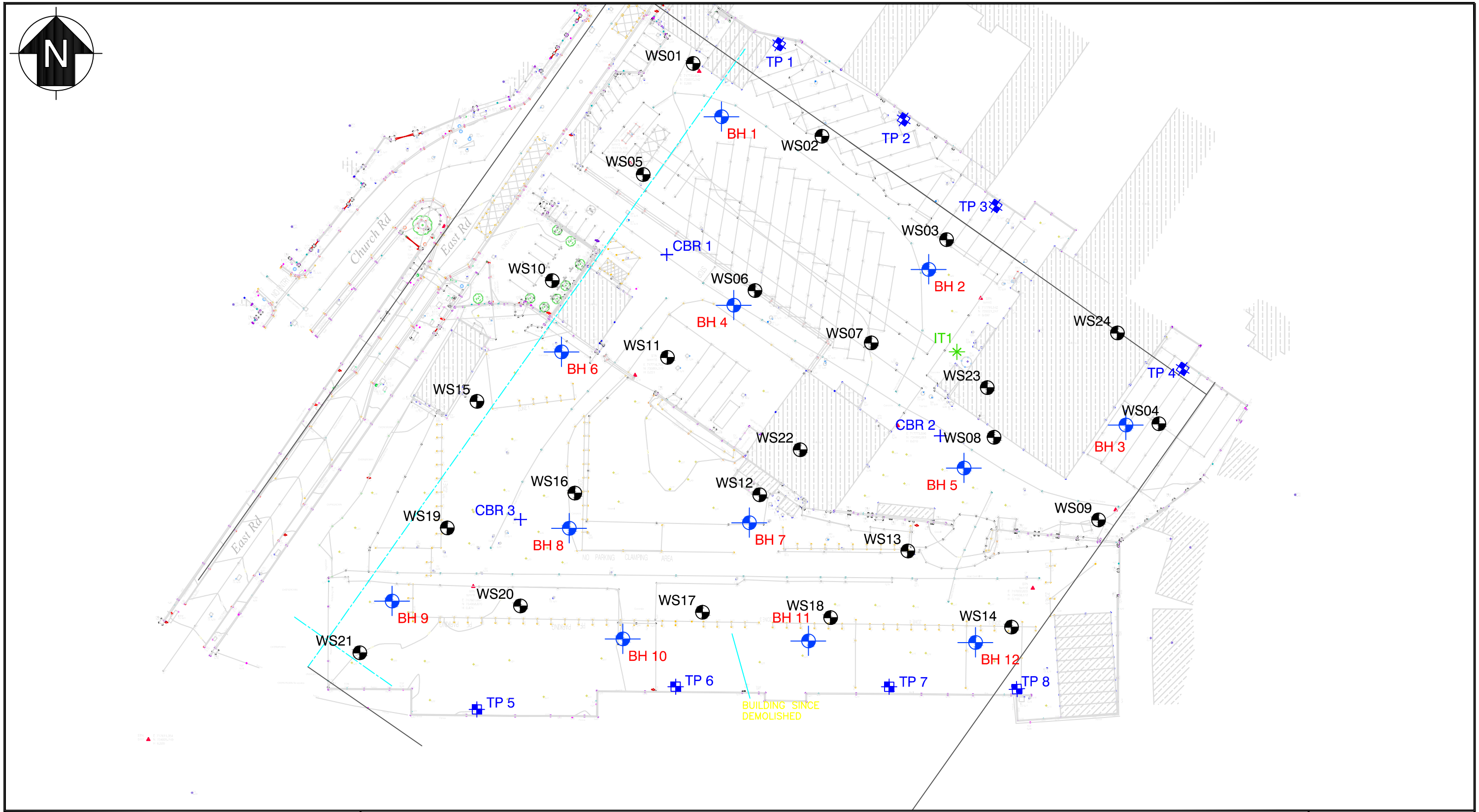

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FIGURE No.

2.2

TITLE

Site Layout

SCALE

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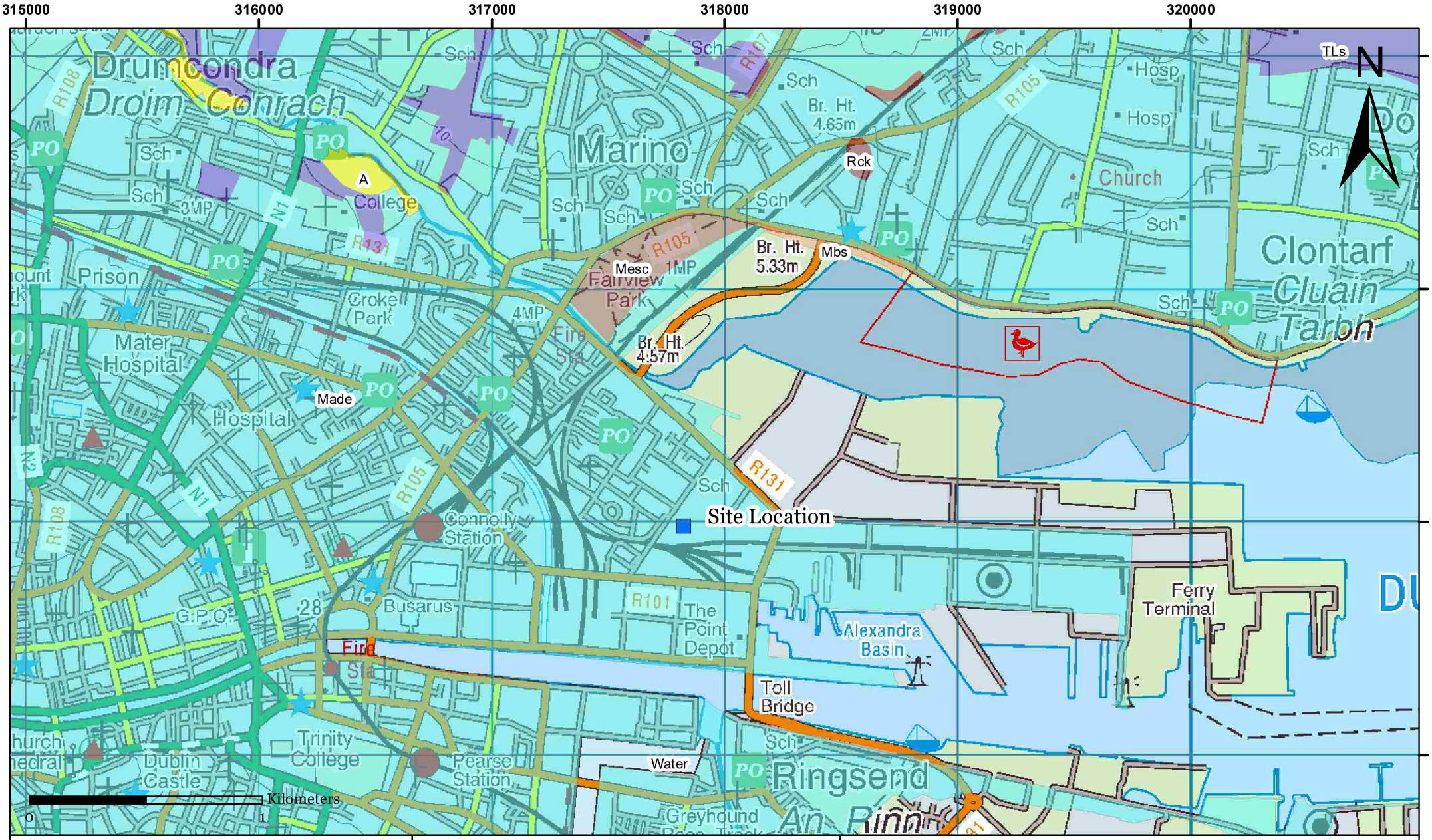
A



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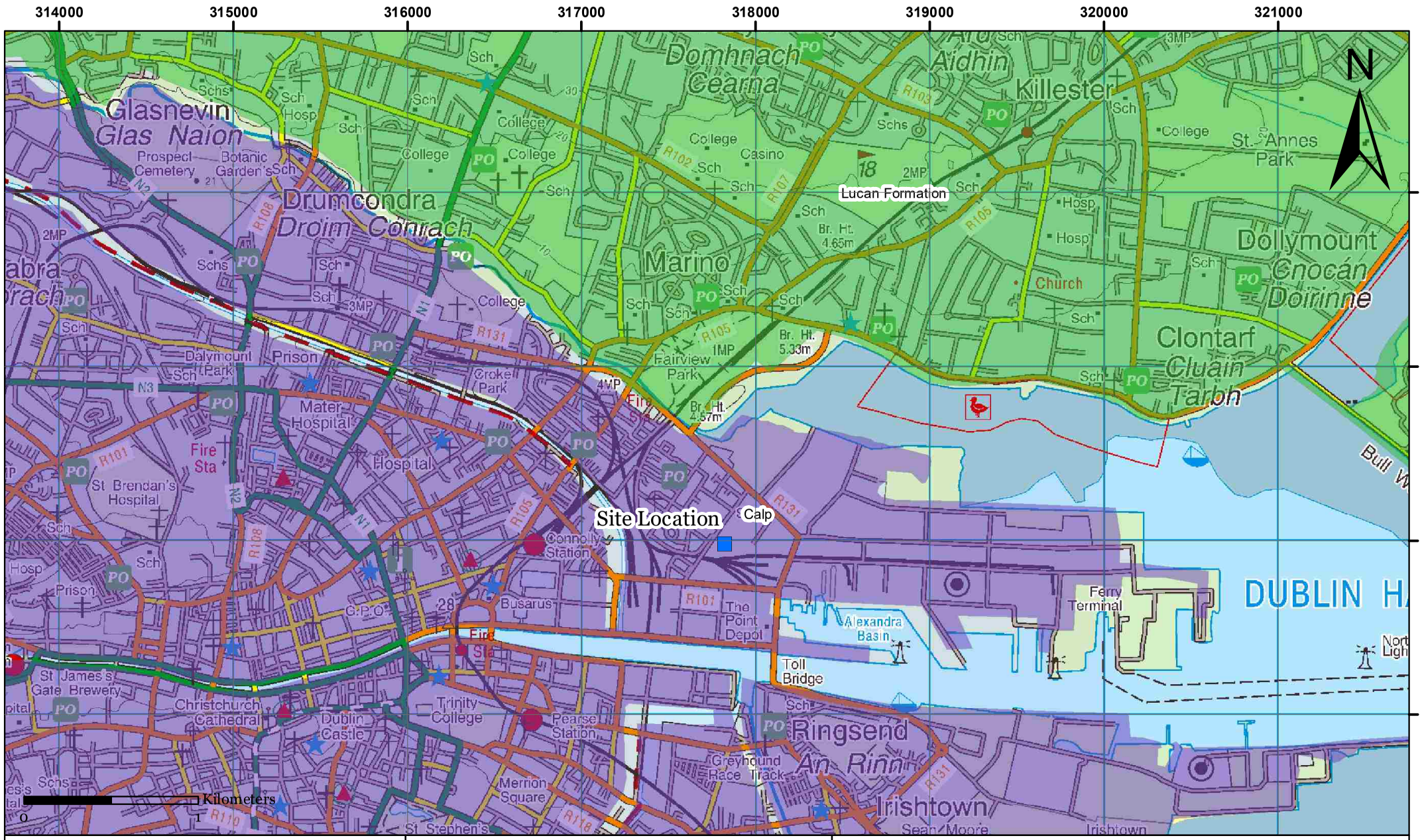
TITLE
Subsoils

Details:
- Site Location
- A - Alluvium undifferentiated
- Made - Made Ground
- Mbs-Beach Sands
- Mesc-Estuarine Sediments
- Rck - Bedrock at surface
- TLs - Limestone till (Carboniferous)

Figure 2.3


314000
315000
316000
317000
318000
319000
320000
321000
237000
236000
235000
234000
N
Site Location
Calp
Lucan Formation
Glasnevin
Glas Naíon
Drumcondra
Droim Conrach
Domhnach Cearna
Marino
Killester
Aidhin
Clontarf
Cluain Tarbh
Dollymount
Cnocán Doirinne
Ringsend
An Rinn
Irishtown
DUBLIN H
Kilometers
0
1
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CLIENT
Ground Investigations Ireland
TITLE
Bedrock Geology
Details:
Site Location
Calp-Dark grey to black limestone & shale
Lucan Formation-Dark limestone & shale('calp)
Figure 2.4

2.8 Hydrogeology

2.8.1 Aquifer Classification

The GSI has developed a classification system for aquifers based on the value of the resource and their hydrogeological characteristics. The underlying bedrock aquifer is classified as a Locally Important Aquifer (L**l**), Bedrock which is Moderately Productive only in Local Zones (Figure 2.5)

2.8.2 Aquifer Vulnerability

Aquifer vulnerability is defined by the GSI as the intrinsic geological and hydrogeological characteristics that determine the ease with which groundwater may be contaminated by human activities. Vulnerability categories range from Extreme (**E**) to High (**H**) to Moderate (**M**) to Low (**L**) and are dependent on the nature and thickness of subsoils above the water table.

The GSI vulnerability map indicates that the vulnerability at the site is. Low. The groundwater vulnerability is shown on Figure 2.6.

2.8.3 Groundwater Flow Direction

Groundwater is expected to flow from northwest to the east and southeast toward Dublin Bay.

2.8.4 Well Search

OCM conducted a review of the GSI groundwater well database to identify groundwater wells in the vicinity of the site. The closest recorded well is at Sheriff Street Upper c250m southwest of the site. The borehole depth is c7m but there is no well construction or use detail. This is most likely a geotechnical borehole 9Figure 2.7).

2.9 Ecologically Sensitive/Designated Areas

The closest special area of conservation (SAC) is the North Dublin Bay Special Protection Area which is c1km to the east of the site (Figure 2.8).

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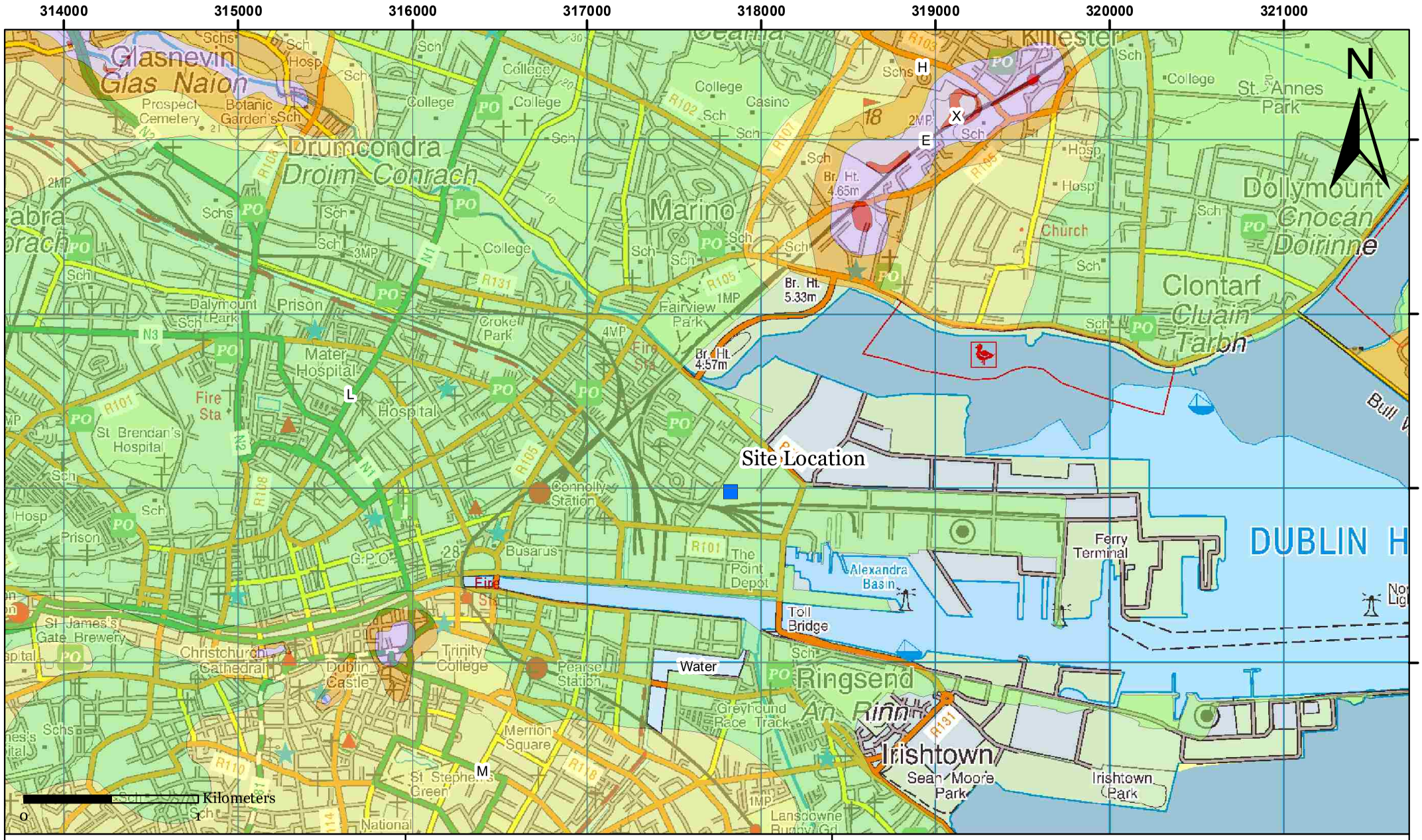
TITLE
Aquifer Classification

Details:
- Site Location
- Ll - Locally Important Aquifer. Mod. Productive only in Local Zones
- Unclas-Unclassified

Figure 2.5



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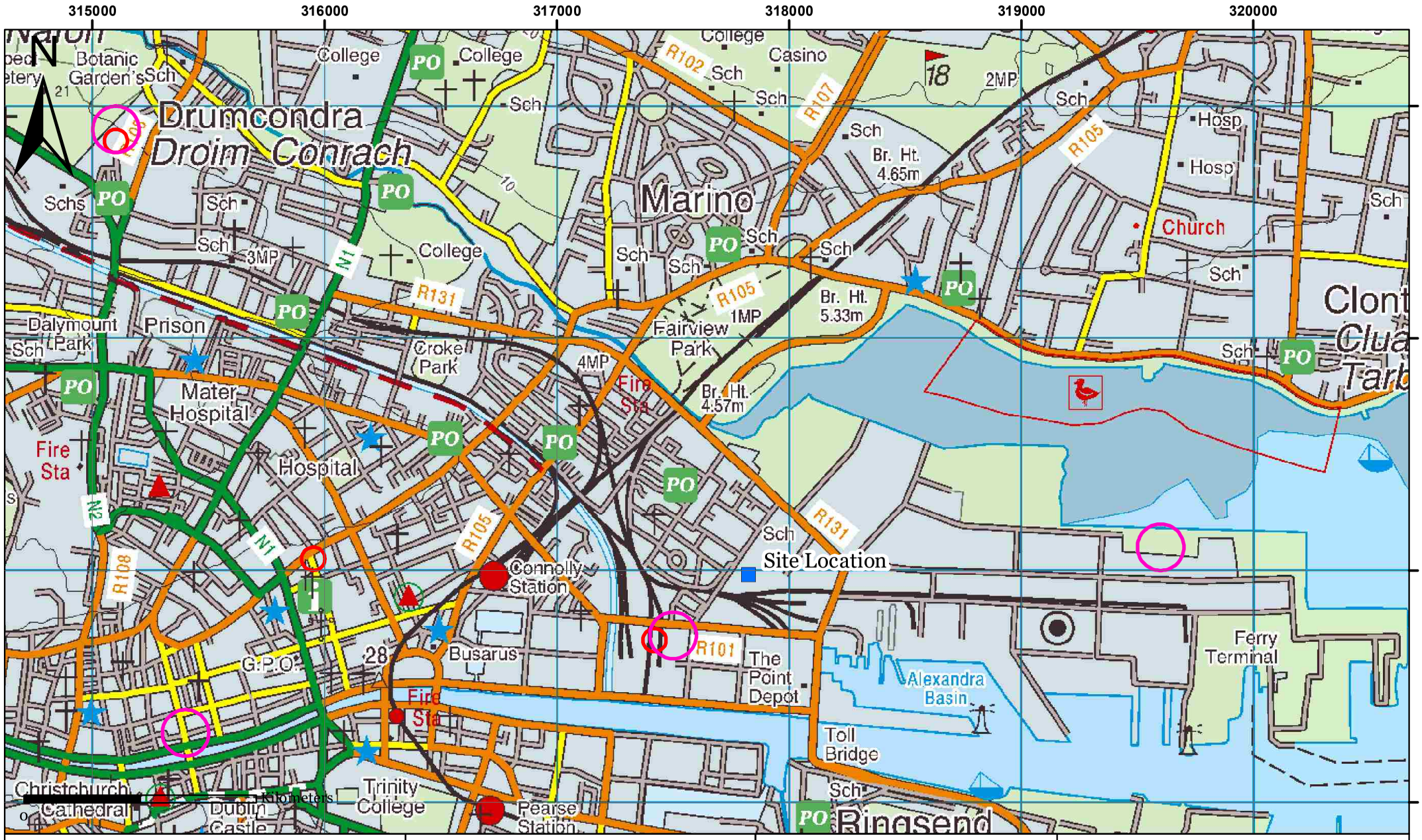
TITLE

Groundwater Vulnerability

Details:

- Site Location
- Bedrock near Surface
- Extreme
- High
- Moderate
- Low

Figure 2.6



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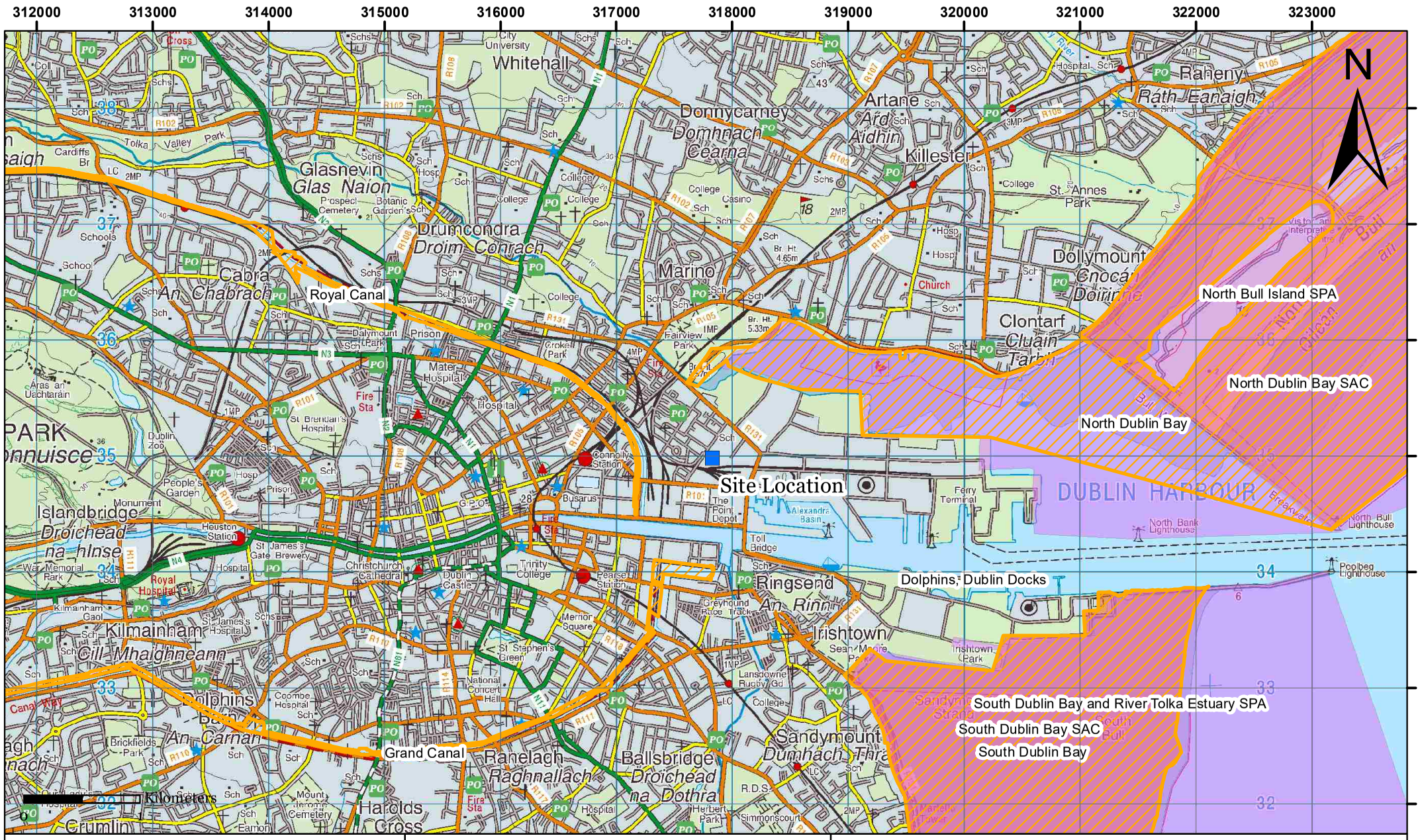
TITLE
GSI Well Location Data

Details:
Unfortunately many of the borehole logs in the GSI database do not contain accurate location information. The size of the circles shown above is inversely proportional to the accuracy of the well location (i.e. small circles represent high accuracy, where relatively larger circles represent lower accuracy).

- Site Location
- Well Accuracy: 100m to 200m
- Well Accuracy: 50m to 100m

Figure 2.7



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TITLE
NPWS

Details:
- Site Location
- Proposed Natural Heritage Areas
- SPAs
- SACs

Figure 2.8

3 SOILS ASSESSMENT

3.1 Soil Sampling and Laboratory Analysis

3.1.1 Site Investigation

The site investigation was completed by GII in March 2018 and included the collection of forty one composite samples from twenty one window sample boreholes (WS-1 – WS-24) and BH-05. The locations are shown on Figure 3.1.

3.1.1 Ground Conditions

The logs of the window sample borings indicate that the subsurface comprises c1m of Made Ground comprising dark grey/black slightly sandy slightly gravelly Clay and Sand with occasional red brick fragments. This is underlain by Natural Ground comprising Brown/grey fine to medium SAND with frequent shell fragments and Grey slightly sandy clayey SILT with frequent shell fragments. The window sample logs are in Appendix 1.

3.1.2 Sample Collection

The samples were collected by GII and were placed in laboratory prepared containers and stored in coolers prior to shipment to Exova Jones Environmental.

3.1.3 Laboratory Analysis

The samples were tested for Total Heavy Metals, Total Organic Carbon (TOC), BTEX (benzene, toluene, ethylbenzene and xylene) aliphatic and aromatic hydrocarbons, Polychlorinated Biphenyls (PCB), Mineral Oil, PAH and asbestos. Leachate generated from the samples was tested for arsenic, barium, cadmium, chromium, copper, mercury, molybdenum, nickel, lead, antimony, selenium and zinc, chloride, fluoride, soluble sulphate, phenols, dissolved organic carbon (DOC), total dissolved solids (TDS).

The results were also compared to the Land Quality Management/Chartered Institute of Environmental Health (LQM/CIEH) S4ULs Human Health Risk Assessment-Risk Levels (S4ULs) to establish the risk posed if any to construction workers or future users of the developed site.

This parameter range also facilitates an assessment of the potentially hazardous properties of the waste, and also allows a determination of appropriate off-site management options based on the Waste Acceptance Criteria (WAC) applied by landfill operators for any material requiring excavation and removal form the site.

The analytical methods were all ISO/CEN approved and the method detection limits were below the relevant guidance/threshold values. The full laboratory report is in Appendix 2.

3.2 **Environmental Baseline Assessment**

The results are summarised Tables 3.1 and 3.2. The tables also include, for comparative purposes, the S4ULs for residential end use to assess human health risk. None of the parameters exceed the S4ULs. Those samples with values exceeding the S4ULs are shown below and the full suite of samples compared to the S4ULs are presented in Appendix 3.

3.2.1 Interpretation

The S4UL limits for residential end use were exceeded in twelve of the forty one samples analysed. Exceedances were for inorganic arsenic in five samples, mercury in six samples and PAHs in five samples.

The exceeding values are primarily in the upper 0.5m of the made ground with two deeper samples (WS-3 (1.5m) and WS-23 (1m). It is likely that this material will be removed from the site as part of the site redevelopment work and as such the remaining ground will not present a risk to construction workers or future site users.

3.2.2 Remedial/Mitigation Measures

To mitigate the environmental exposure risk to construction workers and adjacent properties, dust generation during site excavation works should be minimised. Water spray should be use to mitigate dust generation.

Construction works should wear long sleeved clothing protective glasses and gloves as part of their personnel protective equipment (PPE).

Where possible the material in those locations where the S4ULs were exceeded should be excavated and removed for appropriate offsite disposal.

Where material will remain on site a barrier layer of granular fill should be placed between the soils and the redeveloped site formation level.

Table 3.1 Samples with Metals Parameters exceeding the S4UL

Parameter	Units	WS03	WS06	WS10	WS12	WS14	WS19	WS20	WS21	WS22	WS24	Residential without homegrown		
		1.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	1 % SOM	2.5% SOM	6 % SOM
		04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	21/05/2018	21/05/2018			
Metals														
Antimony ***(Not Listed)***	mg/kg	8	10	5	5	5	6	6	5	6	3	NE	NE	NE
Inorganic Arsenic	mg/kg	71	79.1	35.4	43.7	32.7	42	43.6	31.5	41.7	27.8	NE	NE	40
Barium (***Not Listed***)	mg/kg	212	185	151	165	101	162	190	124	103	114	NE	NE	NE
Cadmium	mg/kg	0.1	0.8	0.8	0.7	1	0.7	0.7	0.7	0.5	0.8	NE	NE	85
Chromium III	mg/kg	69.5	64.3	90.1	88.2	17.4	73.6	63.3	77.7	106.8	35.8	NE	NE	910
Copper	mg/kg	186	179	119	250	100	210	115	102	79	85	NE	NE	7,100
Hexavalent Chromium	mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	NE	NE	6*
Lead (***Not Listed***)	mg/kg	229	288	350	321	397	703	346	320	272	301			
Elementalmercury	mg/kg	0.7	0.9	1.4	1.2	2.5	1.2	1	1.6	0.8	1.4	NE	NE	1.2
Molybdenum (***Not Listed***)	mg/kg	14.8	12.7	9.4	9.8	3.6	7.7	10.4	9.5	14	3.6			
Nickel	mg/kg	126	129.9	45.3	67.5	59.1	64.8	70.8	48.7	35.4	33.9	NE	NE	180*
Selenium	mg/kg	2	2	2	1	1	2	1	2	1	1	NE	NE	430
Zinc	mg/kg	225	232	200	530	323	220	169	173	184	208	NE	NE	40,000

NE denotes; Not established

Table 3.2 PAH Parameters exceeding the S4UL

Parameter	Units	WS10	WS19	WS23	WS23	WS24	Residential without homegrown		
		0.50	0.50	0.50	1.00	0.50	1 % SOM	2.5% SOM	6 % SOM
		04/04/2018	04/04/2018	21/05/2018	21/05/2018	21/05/2018			
PAH MS									
Naphthalene	mg/kg	0.26	<0.04	1.92	0.69	0.45	2.3*	5.6*	13*
Acenaphthylene	mg/kg	0.32	0.14	0.48	0.12	0.13	2,900	4,600	6,000
Acenaphthene	mg/kg	0.26	0.34	12.13	3.67	1.05	3,000	4,700	6,000
Fluorene	mg/kg	0.24	0.3	7.94	3.08	0.66	2,800	3,800	4,500
Phenanthrene	mg/kg	3.26	4.7	26.74	14.88	6.95	1,300	1,500	1,500
Anthracene	mg/kg	0.66	1.06	5.37	2.86	0.87	31,000	35,000	37,000
Fluoranthene	mg/kg	7.04	7.76	33.15	16.33	9.61	1,500	1,600	1,600
Pyrene	mg/kg	6.15	6.63	29.01	13.68	8.59	3,700	3,800	3,800
Benzo(a)anthracene	mg/kg	2.49	2.8	13.26	8.58	4.21	11	14	15
Chrysene	mg/kg	3.29	3.73	14.8	6.1	5.3	30	31	32
Benzo(bk)fluoranthene (***Not Listed***)	mg/kg	7.23	6.67	21.05	10.22	7.51	NE	NE	NE
Benzo(a)pyrene (only)	mg/kg	3.78	3.45	11.64	5.76	4.14	3.2	3.2	3.2
Indeno(123cd)pyrene	mg/kg	2.33	2.06	6.99	3.15	2.46	45	46	46
Dibenzo(ah)anthracene	mg/kg	0.71	0.43	1.75	0.73	0.57	0.31	0.32	0.32
Benzo(ghi)perylene	mg/kg	2.31	2.01	6.92	3.12	2.64	360	360	360
Coronene ***(Not Listed)***	mg/kg	0.53	0.39	0.97	0.5	0.46	NE	NE	NE
PAH 6 Total	mg/kg	22.69	21.95	79.75	38.58	26.36	NE	NE	NE
PAH 17 Total	mg/kg	40.86	42.47	194.12	93.47	55.6	NE	NE	NE
Benzo(b)fluoranthene	mg/kg	5.21	4.8	15.16	7.36	5.41	3.9	4.0	4.0
Benzo(k)fluoranthene	mg/kg	2.02	1.87	5.89	2.86	2.1	110	110	110
Benzo(j)fluoranthene (***Not Listed***)	mg/kg	2	1	6	3	1	NE	NE	NE
Mineral Oil (C10-C40) (***Not Listed***)	mg/kg	<30	<30	NA	NA	NA	NE	NE	NE

NE denotes; Not Established

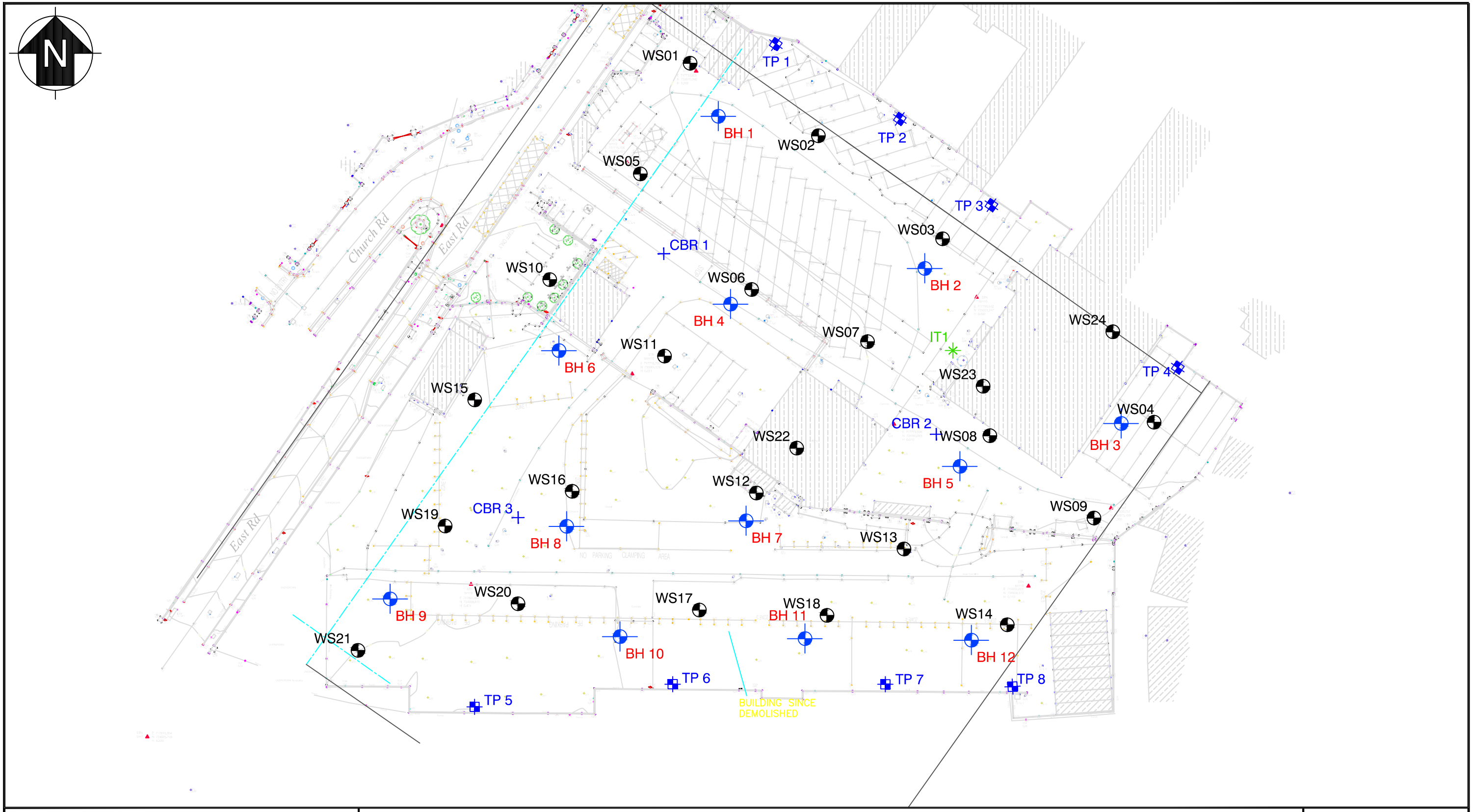

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FIGURE No.

3.1

TITLE

Sample Locations

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4 WASTE CLASSIFICATION ASSESSMENT

4.1 Waste Classification

The Haz Waste Online Classification Engine, developed in the UK by One Touch Data Ltd, was used to determine the waste classification. This tool was developed specifically to establish whether waste is non-hazardous or hazardous and has been approved for use in Ireland by the Environmental Protection Agency. The results are on Table 4.1 and the full Waste Classification Report is in Appendix 4. Asbestos was detected in the samples from BH-1, 3 and 7. Quantification analysis indicates that the asbestos level is non-hazardous.

Table 4.1Waste Classification Results

Soil and Stone (LoW 17 05 03)			
Sample No.	**Depth**	**Classification**	**Determinand**
WS03	0.50	Hazardous	Lead,Zinc
WS09	0.50	Hazardous	Asbestos
WS23	0.50	Hazardous	TPHs (C6 to C40)
WS23	1.00	Hazardous	Zinc
Soil and Stone (LoW 17 05 04)			
Sample No.	**Depth**	**Classification**	**Determinand**
WS01	0.50	Non-Hazardous	-
WS01	1.50	Non-Hazardous	-
WS03	1.50	Non-Hazardous	-
WS03	2.50	Non-Hazardous	-
WS04	0.50	Non-Hazardous	-
WS04	1.50	Non-Hazardous	-
WS05	0.50	Non-Hazardous	-
WS06	0.50	Non-Hazardous	-
WS06	1.50	Non-Hazardous	-
WS10	0.50	Non-Hazardous	-
WS10	1.50	Non-Hazardous	-
WS10	2.50	Non-Hazardous	-
WS12	0.50	Non-Hazardous	-
WS12	1.50	Non-Hazardous	-
WS12	2.50	Non-Hazardous	-
WS13	0.50	Non-Hazardous	-
WS14	0.50	Non-Hazardous	-
WS14	1.50	Non-Hazardous	-
WS15	1.50	Non-Hazardous	-
WS16	0.50	Non-Hazardous	-
WS16	1.50	Non-Hazardous	-
WS17	0.50	Non-Hazardous	-
WS18	0.50	Non-Hazardous	-
WS18	1.50	Non-Hazardous	-
WS19	0.50	Non-Hazardous	-
WS20	0.50	Non-Hazardous	-
WS21	0.50	Non-Hazardous	-
WS21	1.50	Non-Hazardous	-
WS21	2.50	Non-Hazardous	-
WS22	0.50	Non-Hazardous	-
WS22	1.50	Non-Hazardous	-
WS22	2.50	Non-Hazardous	-
WS24	0.50	Non-Hazardous	-
WS24	1.50	Non-Hazardous	-
WS24	2.50	Non-Hazardous	-
BH05	1.70 + 2.00	Non-Hazardous	-
BH05	3.00	Non-Hazardous	-

The Made Ground in WS-03 (0.5m, WS-09 (0.5m, WS-23, 0.5m and WS-23 1m) are classified as Hazardous and the appropriate List of Waste (LoW) code is 17 05 03 (Soil and stone containing Hazardous Substances. The remaining samples are classified as Non-Hazardous and the appropriate List of is (LoW) code is 17 05 04 (Soil and Stone). Asbestos was detected in three samples WS-3, 9 and 14 (all at 0.5m) and in the samples from both samples in BH-5. The levels are in the Non-Hazardous Range for asbestos detection in WS-3 and 14 but are Hazardous in WS-9. The asbestos in WS-9 is described as asbestos cement debris.

4.2 Waste Acceptance Criteria

The results of the WAC testing are presented in Table 4.2 and 4.4 which includes for comparative purposes the WAC for Inert, Non Hazardous and Hazardous Waste Landfills pursuant to Article 16 of the EU Landfill Directive 1999/31/EC Annex II which establishes criteria and procedures for the acceptance of waste at landfills.

The inert WAC was exceeded in twenty of the forty one samples. WS-3, 0.5 and 1.5m, WS-4, 0.5m, WS-6, 0.5m and 1.5m, WS-9, 0.5m, WS-13, 0.5m, WS-14, 0.5m, Ws-15, 0.5m, WS-160.5m, WS-20, 0.5m, WS-21, 0.5m. WS-22, 0.5m, WS-22, 1.5m, WS-23, 0.5m WS-23, 1m, WS-24, 0.5m and BH-5, 1.7+2m, and BH-5, 3m. The remaining samples meet the inert WAC.

4.3 Waste Management Options

The Made Ground in WS-03 (0.5m, WS-09 (0.5m), WS-23, 0.5m and WS-23, 1m) are classified as Hazardous (LoW) code is 17 05 03 (Soil and stone containing Hazardous Substances) and must be sent to a hazardous waste facility for treatment/disposal.

The remaining material is classified as Non-Hazardous and the appropriate LoW is 17 05 04 (Soil and Stone).

The material in WS-14, BH-5, 1.7+2m, and BH-5, 3m contain asbestos and cannot be disposed to landfill in Ireland. It must be exported for disposal to a landfill licensed to accept asbestos contaminated waste.

The material exceeding the inert WAC is suitable for disposal to Non-Hazardous Waste Landfill in Ireland subject to approval of the landfill operator.

The remaining material is suitable for reuse on site or for recovery to a permitted waste recovery facility subject to approval of the facility operator.

A soils excavation plan is shown on Figures 4.1-4.3.

Table 4.2 WAC Results

Parameter	Unit	WS01	WS01	WS03	WS03	WS03	WS04	WS04	WS05	WS06	WS06	WS09	WS10	WS10	WS10	WS12	WS12	Inert Landfill	Non-Hazardous Landfill
Depth	**m**	0.50	1.50	0.50	1.50	2.50	0.50	1.50	0.50	0.50	1.50	0.50	0.50	1.50	2.50	0.50	1.50		
Antimony	mg/kg	<0.02	<0.02	0.27	0.07	<0.02	0.02	0.05	<0.02	0.08	0.03	0.34	0.14	<0.02	<0.02	0.05	0.04	0.06	0.7
Arsenic	mg/kg	0.113	0.05	<0.025	<0.025	<0.025	<0.025	<0.025	0.126	0.053	<0.025	0.036	0.104	0.037	<0.025	0.038	0.045	0.5	2
Barium	mg/kg	<0.03	<0.03	0.92	0.07	0.04	0.22	0.04	<0.03	<0.03	<0.03	0.69	0.17	<0.03	<0.03	0.12	<0.03	20	100
Cadmium	mg/kg	<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	<0.005	<0.005	0.04	1
Chromium	mg/kg	<0.015	<0.015	<0.015	<0.015	<0.015	0.051	<0.015	<0.015	<0.015	<0.015	0.022	<0.015	<0.015	<0.015	<0.015	<0.015	0.5	10
Copper	mg/kg	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	0.13	<0.07	<0.07	0.1	<0.07	2	50
Lead	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	<0.05	<0.05	<0.05	<0.05	0.5	10
Molybdenum	mg/kg	0.13	0.05	0.15	0.34	0.15	0.09	0.16	0.03	0.05	0.98	0.13	0.73	0.04	0.06	0.04	0.05	0.5	10
Nickel	mg/kg	<0.02	<0.02	0.05	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.04	<0.02	<0.02	<0.02	<0.02	0.4	10
Selenium	mg/kg	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.04	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.05	0.1	0.5
Zinc	mg/kg	<0.03	<0.03	0.9	<0.03	0.04	<0.03	<0.03	<0.03	<0.03	<0.03	0.06	0.08	<0.03	<0.03	0.04	<0.03	4	50
Mercury	mg/kg	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	0.0003	<0.0001	<0.0001	0.001	<0.0001	0.01	0.2
Phenol	mg/kg	<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	<0.1	<0.1	1	NE
Fluoride	mg/kg	4	<3	4	4	<3	<3	5	<3	4	<3	<3	7	<3	<3	7	<3	10	150
Chloride	mg/kg	57	4	112	18	9	9	10	28	19	9	6	8	<3	9	97	28	800	15,000
Sulphate	mg/kg	75.8	17.2	1982.1	303	493	7665.5	192.1	99.1	69.5	623.4	343.2	586.4	19.6	70.7	93.8	64.2	1000*	20000*
DOC **	mg/kg	30	30	80	70	<20	<20	50	30	30	60	30	160	30	20	30	<20	500	800
pH	pH units	9.07	8.85	7.86	8.1	8.15	8.29	8.07	8.91	8.35	8.1	8.5	8.27	8.71	8.78	8.34	8.57	NE	NE
TDS ***	mg/kg	880	500	4691	1661	1249	13382	1351	660	1560	1990	1499	3640	750	<350	1701	971	4,000	60,000
TOC	%	6.63	0.57	NDP	19.81	0.98	1.36	4.71	2.91	16.72	1.41	NDP	10.56	0.13	0.39	11.54	0.5	3	NE
Benzene	mg/kg	<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	<0.005	<0.005	6	NE
Toluene	mg/kg	<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	<0.005	<0.005	6	NE
Ethylbenzene	mg/kg	<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	<0.005	<0.005	6	NE
m/p-Xylene	mg/kg	<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	<0.005	<0.005	6	NE
o-Xylene	mg/kg	<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	<0.005	<0.005	6	NE
PCB Total of 7	mg/kg	<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	<0.035	<0.035	1	NE
Total 17 PAH's	mg/kg	2.65	<0.64	39.03	2.96	<0.64	123.98	<0.64	3.14	1.34	<0.64	13.12	40.86	<0.64	<0.64	3.37	<0.64	NE	NE
Mineral Oil	mg/kg	<30	<30	211	<30	<30	<30	<30	<30	<30	<30	193	<30	<30	<30	160	<30	500	NE
Asbestos	% mass	NAD	NAD	0.002	NAD	NAD	NAD	NAD	NAD	NAD	NAD	0.18	NAD	NAD	NAD	NAD	NAD	NE	NE

NAD denotes No Asbestos Detected
* denotes sulphate level exceeding inert waste limit may be considered as complying if the TDS value does not exceed 6,000mg/kg at L/S = 10l/kg.
** denotes a higher limit may be accepted provided the DOC values of 500mg/kg is achieved
*** denotes TDS. The values for TDS can be used alternative to sulphate and chloride.

Table 4.3 WAC Results (continued)

Parameter	Unit	WS12	WS13	WS14	WS14	WS15	WS16	WS16	WS17	WS18	WS18	WS19	WS20	WS21	WS21	WS21	Inert Landfill	Non-Hazardous Landfill
Depth	**m**	2.50	0.50	0.50	1.50	1.50	0.50	1.50	0.50	0.50	1.50	0.50	0.50	0.50	1.50	2.50		
Antimony	mg/kg	<0.02	0.03	0.24	<0.02	<0.02	<0.02	0.05	0.03	<0.02	<0.02	0.05	0.1	0.17	<0.02	<0.02	0.06	0.7
Arsenic	mg/kg	0.054	0.053	0.071	0.102	0.042	0.057	<0.025	0.029	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.5	2
Barium	mg/kg	<0.03	0.2	0.09	<0.03	0.09	<0.03	0.05	0.05	<0.03	<0.03	0.12	0.41	0.27	<0.03	<0.03	20	100
Cadmium	mg/kg	<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	<0.005	0.04	1
Chromium	mg/kg	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.5	10
Copper	mg/kg	<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	<0.07	2	50
Lead	mg/kg	<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	<0.05	0.5	10
Molybdenum	mg/kg	<0.02	0.61	0.33	0.02	0.6	0.04	0.64	0.03	0.12	0.04	0.12	1.1	0.47	0.04	0.19	0.5	10
Nickel	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.03	<0.02	<0.02	0.4	10
Selenium	mg/kg	<0.03	<0.03	0.04	<0.03	0.04	<0.03	<0.03	<0.03	<0.03	<0.03	0.04	0.04	<0.03	<0.03	<0.03	0.1	0.5
Zinc	mg/kg	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.04	0.13	<0.03	<0.03	4	50
Mercury	mg/kg	<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	<0.0001	0.01	0.2
Phenol	mg/kg	<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	<0.1	1	NE
Fluoride	mg/kg	<3	<3	4	<3	<3	8	<3	5	6	<3	8	<3	3	<3	<3	10	150
Chloride	mg/kg	7	29	21	24	303	115	38	144	7	<3	103	21	11	9	27	800	15,000
Sulphate	mg/kg	59.2	227.3	499.7	115.7	512.7	133.3	920.7	95.2	76.5	56.9	130.9	1001	1094.8	50.7	467.8	1000*	20000*
DOC **	mg/kg	<20	50	70	20	40	<20	100	<20	<20	<20	50	60	90	<20	<20	500	800
pH	pH units	8.86	8.06	8.18	8.55	8.34	8.27	8.06	8.52	8.3	8.77	8.32	8.03	7.96	8.53	8.16	NE	NE
TDS ***	mg/kg	1260	2860	2489	870	2339	2450	3539	1430	1650	700	1250	4048	2511	740	1670	4,000	60,000
TOC	%	0.21	8.73	NDP	0.36	0.98	16.88	2.84	1.58	6.49	0.34	13.23	12.86	15.31	0.36	0.45	3	NE
Benzene	mg/kg	<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	<0.005	6	NE
Toluene	mg/kg	<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	<0.005	6	NE
Ethylbenzene	mg/kg	<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	<0.005	6	NE
m/p-Xylene	mg/kg	<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	<0.005	6	NE
o-Xylene	mg/kg	<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	<0.005	6	NE
PCB Total of 7	mg/kg	<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	<0.035	1	NE
Total 17 PAH's	mg/kg	<0.64	4.17	23.94	<0.64	<0.64	0.82	<0.64	0.67	<0.64	<0.64	42.47	6.88	7.65	<0.64	<0.64	NE	NE
Mineral Oil	mg/kg	<30	132	62	<30	<30	<30	<30	95	<30	<30	<30	<30	<30	<30	<30	500	NE
Asbestos	% mass	NAD	NAD	<0.001	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NE	NE

NAD denotes No Asbestos Detected
* denotes sulphate level exceeding inert waste limit may be considered as complying if the TDS value does not exceed 6,000mg/kg at L/S = 10l/kg.
** denotes a higher limit may be accepted provided the DOC values of 500mg/kg is achieved
*** denotes TDS. The values for TDS can be used alternative to sulphate and chloride.

Table 4.4 WAC Results (continued)

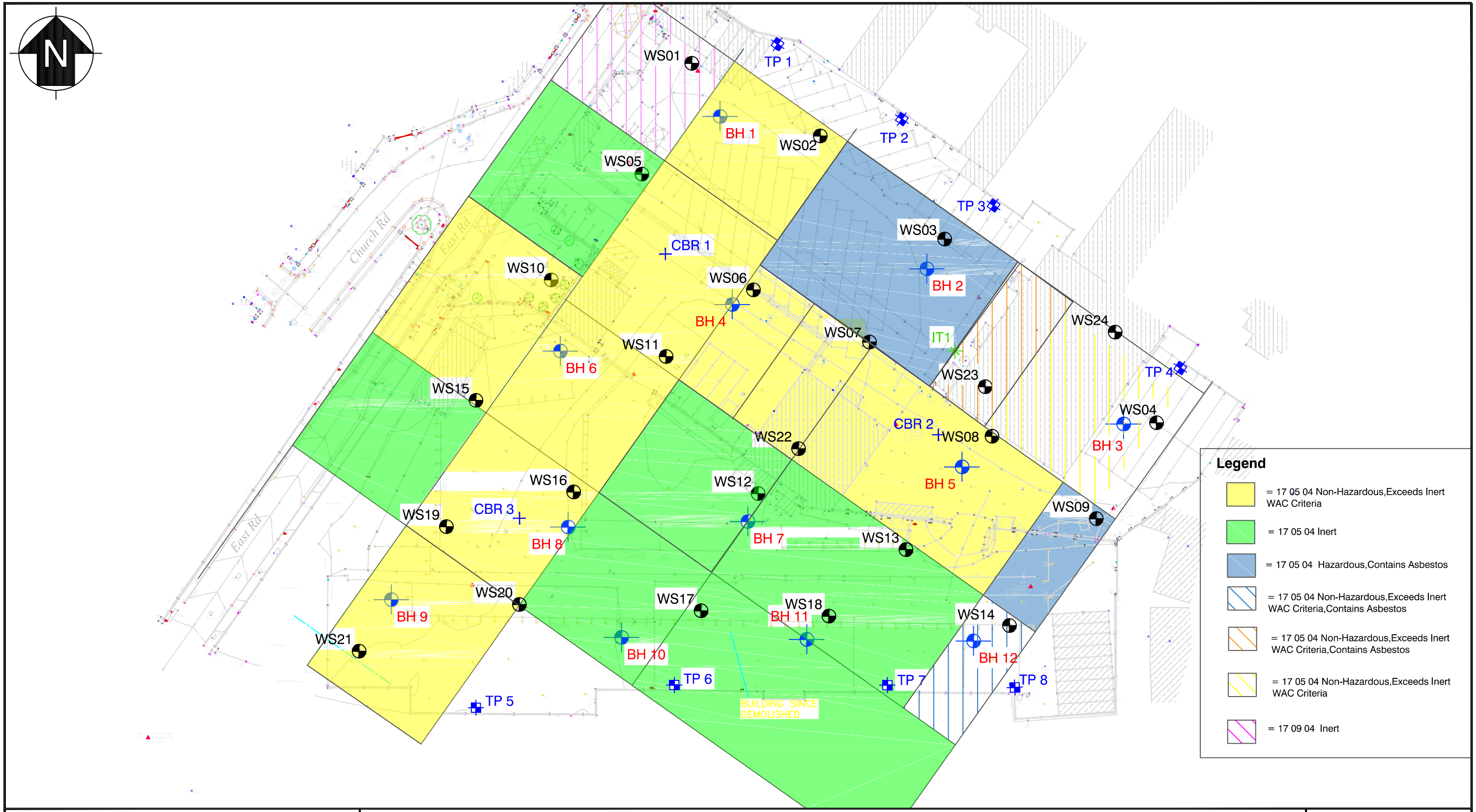
Parameter	Unit	WS22	WS22	WS22	WS23	WS23	WS24	WS24	WS24	BH05	BH05	Inert Landfill	Non-Hazardous Landfill
Depth	**m**	0.50	1.50	2.50	0.50	1.00	0.50	1.50	2.50	1.70 + 2.00	3.00		
Antimony	mg/kg	0.22	0.23	0.02	2.68	0.23	0.12	0.03	<0.02	0.2	0.12	0.06	0.7
Arsenic	mg/kg	0.084	0.068	0.031	0.078	0.096	0.056	0.07	0.042	0.069	0.075	0.5	2
Barium	mg/kg	0.26	0.04	<0.03	1.5	0.22	0.1	<0.03	<0.03	0.16	0.15	20	100
Cadmium	mg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.04	1
Chromium	mg/kg	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.5	10
Copper	mg/kg	<0.07	<0.07	<0.07	<0.07	0.09	<0.07	<0.07	<0.07	<0.07	<0.07	2	50
Lead	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.5	10
Molybdenum	mg/kg	0.58	0.05	0.02	0.21	0.55	0.47	0.03	0.05	0.26	0.15	0.5	10
Nickel	mg/kg	<0.02	<0.02	<0.02	0.06	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.4	10
Selenium	mg/kg	0.06	0.06	<0.03	0.06	0.05	0.04	<0.03	0.04	<0.03	<0.03	0.1	0.5
Zinc	mg/kg	0.06	0.04	<0.03	1.6	0.12	0.06	0.03	<0.03	<0.03	<0.03	4	50
Mercury	mg/kg	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0005	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.2
Phenol	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	NE
Fluoride	mg/kg	4	<3	<3	8	<3	5	<3	<3	<3	<3	10	150
Chloride	mg/kg	13	19	<3	351	185	16	<3	4	21	6	800	15,000
Sulphate	mg/kg	1916.1	121.2	33.3	673	899.5	1229.5	68.3	56.4	748.5	260.2	1000*	20000*
DOC **	mg/kg	160	40	40	150	110	140	20	30	60	50	500	800
pH	pH units	7.15	7.92	8.42	7.88	8.04	8.16	8.59	8.24	7.36	7.85	NE	NE
TDS ***	mg/kg	4509	1270	720	3440	3048	3220	570	550	680	600	4,000	60,000
TOC	%	5.36	11.49	0.55	8.44	7.2	6.58	0.19	0.35	NDP	NDP	3	NE
Benzene	mg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	6	NE
Toluene	mg/kg	NA	NA	<0.005	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	6	NE
Ethylbenzene	mg/kg	NA	NA	<0.005	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	6	NE
m/p-Xylene	mg/kg	NA	NA	<0.005	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	6	NE
o-Xylene	mg/kg	NA	NA	<0.005	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	6	NE
PCB Total of 7	mg/kg	NA	NA	<0.005	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	1	NE
Total 17 PAH's	mg/kg	14.16	2.29	<0.64	194.12	93.47	55.6	<0.64	<0.64	<3.20	1.15	NE	NE
Mineral Oil	mg/kg	87	<30	<30	478	<30	<30	<30	<30	1675	1726	500	NE
Asbestos	% mass	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	<0.001	<0.001	NE	NE

NAD denotes No Asbestos Detected

* denotes sulphate level exceeding inert waste limit may be considered as complying if the TDS value does not exceed 6,000mg/kg at L/S = 10l/kg.

** denotes a higher limit may be accepted provided the DOC values of 500mg/kg is achieved

*** denotes TDS. The values for TDS can be used alternative to sulphate and chloride. 5



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CLIENT

Ground Investigations Ireland

FIGURE No.

4.1

TITLE

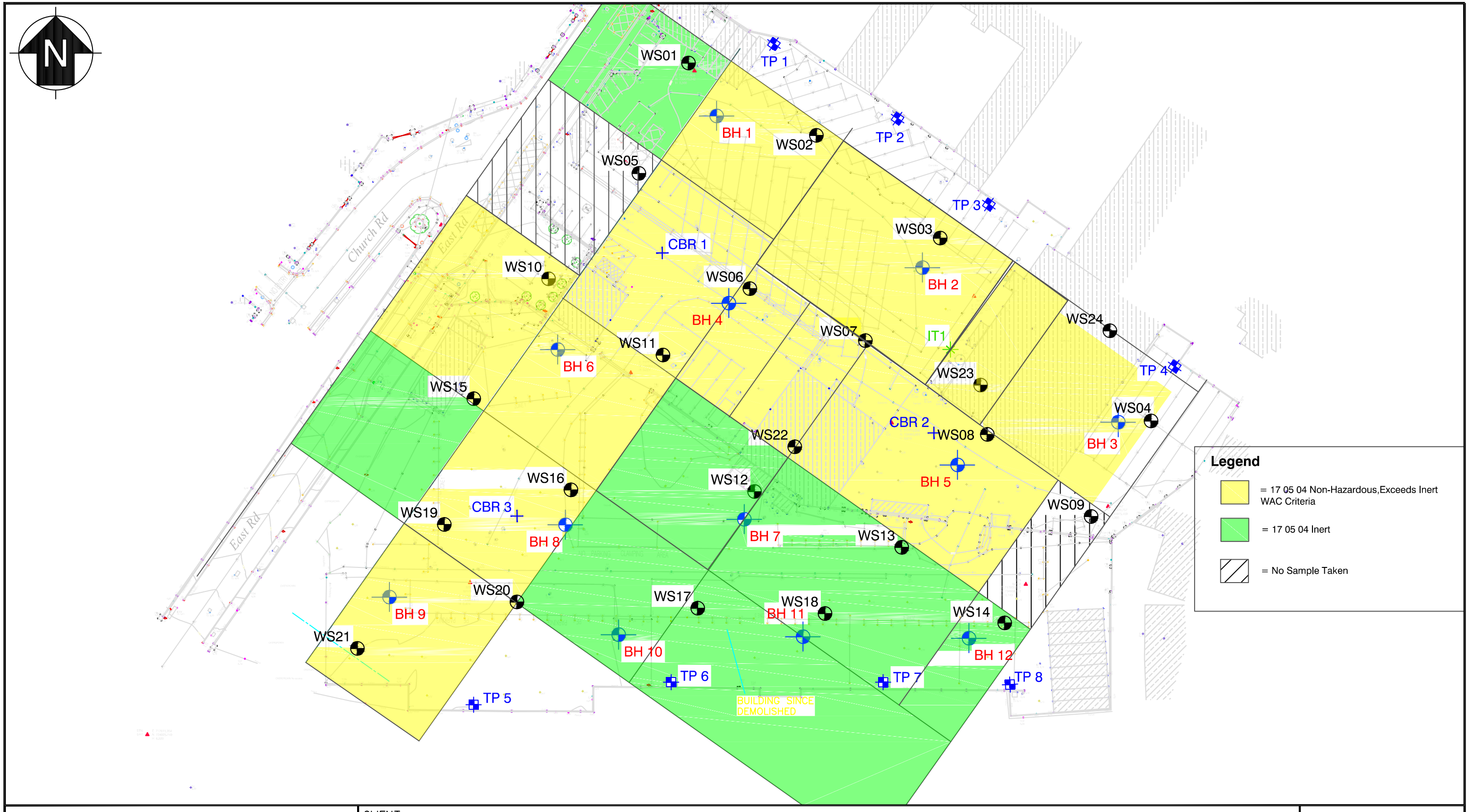
Excavation Plan 0–0.5m

SCALE

NTS

REV.

A



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CLIENT

Ground Investigations Ireland

FIGURE No.

4.2

TITLE

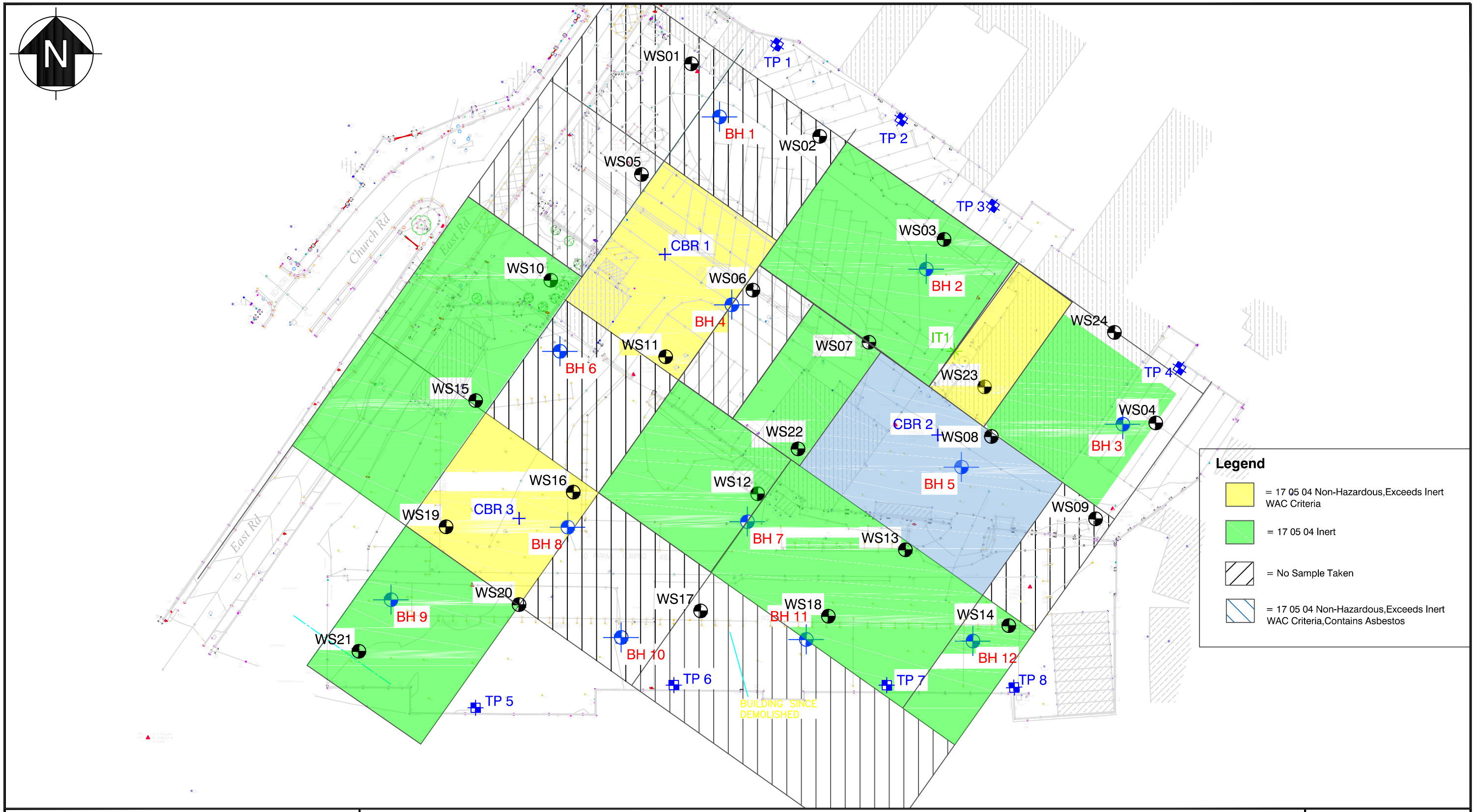
Excavation Plan 0.5–1.5m

SCALE

NTS

REV.

A



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Ground Investigations Ireland

FIGURE No.

4.3

TITLE

Excavation Plan 1.5–2.5m

SCALE

NTS

REV.

A

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

5.1.1 Environmental Risk Assessment

The S4UL limits for residential end use were exceeded in twelve of the forty one samples analysed.

The exceeding values are primarily in the upper 0.5m of the made ground with two deeper samples (WS-3 (1.5m) and WS-23 (1m).

It is likely that this material will be removed from the site as part of the site redevelopment work and as such the remaining ground will not present a risk to construction workers or future site users.

Mitigation measures are required to mitigate environmental exposure risk to construction workers and adjacent properties during the material excavation and removal works. These measures include minimisation of dust generation and the use of dust suppression water spray and the use of long sleeved clothing, protective glasses and gloves by construction workers.

Where material exceeding the S4 ULs will remain on site a barrier layer of granular fill should be placed between the soils and the redeveloped site formation level.

5.1.2 Waste Management

The Made Ground in WS-03 (0.5m, WS-09 (0.5m, WS-23, 0.5m and WS-23 1m) are classified as Hazardous and the appropriate List of Waste (LoW) code is 17 05 03 (Soil and stone containing Hazardous Substances.

The remaining samples are classified as Non-Hazardous and the appropriate List of is (LoW) code is 17 05 04 (Soil and Stone).

Asbestos was detected in three samples WS-3, 9 and 14 (all at 0.5m) and in the samples from both samples in BH-5. The levels are in the Non-Hazardous Range for asbestos detection in WS-3 and 14 but are Hazardous in WS-9. The asbestos in WS-9 is described as asbestos cement debris.

The material in WS-14, BH-5, 1.7+2m, and BH-5, 3m contain asbestos and cannot be disposed to landfill in Ireland. It must be exported for disposal to a landfill licensed to accept asbestos contaminated waste.

The material exceeding the inert WAC (twenty samples) is suitable for disposal to Non-Hazardous Waste Landfill in Ireland subject to approval of the landfill operator.

The remaining material (twenty samples) is suitable for reuse on site or for recovery to a permitted waste recovery facility subject to approval of the facility operator.

5.2 Recommendations

OCM recommend that the remedial measures outlined in this report be implemented in full to mitigate environmental risk to construction workers and future site users.

OCM recommend that a copy of this report be provided in full to the relevant waste management facilities to which the waste may be consigned to confirm suitability.

Appendix 1

Borehole Logs

Ground Investigations Ireland Ltd
www.gii.ie

Site	Number
East Road	WS01

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler				7517-02-18
	Location	**Dates** 21/03/2018	**Engineer** DBFL	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20) 0.20	CONCRETE		
0.50 J 0.50 T 0.50 V					(1.00) 1.20	MADE GROUND consisting of dark brown/black slightly sandy gravelly Clay with fragments of brick and glass		
1.50 J 1.50 T 1.50 V					(0.55) 1.75	Brown fine to coarse SAND with frequent shell fragments		
					(0.75) 2.50	Brown/grey fine to medium SAND with frequent shell fragments		
						Complete at 2.50m		

Remarks
Refusal at 2.50mBGL

Scale (approx)	Logged By
1:25	S. Worth

Figure No. 7517-02-18.WS01

Ground Investigations Ireland Ltd

www.gii.ie

Site	Number
East Road	WS02

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler				7517-02-18
	Location	**Dates** 21/03/2018	**Engineer** DBFL	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.10) 0.10	CONCRETE		
					(0.20) 0.30	MADE GROUND consisting of grey angular Gravel Fill		
						Complete at 0.30m		

Remarks
Refusal at 0.30mBGL

Scale (approx)	Logged By
1:25	S. Worth

Figure No.
7517-02-18.WS02

Ground Investigations Ireland Ltd
www.gii.ie

Site	Number
East Road	WS03

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler				7517-02-18
	Location	**Dates** 21/03/2018	**Engineer** DBFL	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.10) 0.10	CONCRETE		
						MADE GROUND consisting of dark brown/black slightly sandy gravelly Clay with fragments of brick and tile		
0.50	J							
0.50	T							
0.50	V							
					(1.40)			
					1.50	Grey fine to medium SAND with frequent shell fragments		
1.50	J							
1.50	T							
1.50	V							
					(0.60)			
					2.10	Grey fine to coarse SAND with frequent shell fragments		
					(0.40)			
2.50	J				2.50	Complete at 2.50m		
2.50	T							
2.50	V							

Remarks
Refusal at 2.50mBGL

Scale (approx)	Logged By
1:25	S. Worth

Figure No. 7517-02-18.WS03

Ground Investigations Ireland Ltd
www.gii.ie

Site	Number
East Road	**WS04**

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler				7517-02-18
	Location	**Dates** 21/03/2018	**Engineer** DBFL	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.10) 0.10	CONCRETE		
					(0.26)	MADE GROUND consisting of grey angular Gravel Fill		
					0.36	MADE GROUND consisting of black mottled grey/brown slightly sandy gravelly Clay with fragments of brick and tile		
0.50 0.50 0.50	J T V				(1.10)			
					1.46	Brown/grey fine to coarse SAND with frequent shell fragments		
1.50 1.50 1.50	J T V				(0.94)			
					2.40	Complete at 2.40m		

Remarks
Refusal at 2.40mBGL

Scale (approx)	Logged By
1:25	S. Worth

Figure No.
7517-02-18.WS04

Ground Investigations Ireland Ltd
www.gii.ie

Site	Number
East Road	WS05

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler				7517-02-18
	Location	**Dates** 21/03/2018	**Engineer** DBFL	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.10) 0.10	CONCRETE		
					(0.20) 0.30	MADE GROUND consisting of dark brown/brown slightly sandy gravelly Clay with red brick fragments		
					(0.33) 0.63	MADE GROUND consisting of brown/grey fine to medium Sand with red brick fragments		
0.50 0.50 0.50	J T V				(0.66) 1.29	Brown fine to medium SAND with frequent shell fragments		
					(0.27) 1.56	Brown/grey fine to coarse SAND with frequent shell fragments		
					(0.44) 2.00	Grey fine to medium silty SAND with angular cobble fragments		
						Complete at 2.00m		

Remarks
Refusal at 2.00mBGL

Scale (approx)	Logged By
1:25	S. Worth

Figure No.
7517-02-18.WS05

Ground Investigations Ireland Ltd
www.gii.ie

Site	Number
East Road	WS06

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler				7517-02-18
	Location	**Dates** 21/03/2018	**Engineer** DBFL	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20) 0.20	CONCRETE		
					(0.55) 0.75	MADE GROUND consisting of dark brown/red slightly sandy gravelly Clay with fragments of brick and tile		
0.50 J 0.50 T 0.50 V					(0.40) 1.15	MADE GROUND consisting of grey fine to medium Sand with fragments of ceramic		
					(0.35) 1.50	Grey fine o medium SAND with frequent shell fragments		
1.50 J 1.50 T 1.50 V					(0.18) 1.68	Grey fine to coasre SAND with frequent shell fragments		
					(0.32) 2.00	Grey fine to medium SAND with frequent shell fragments		
					(0.35) 2.35	Grey slightly sandy clayey SILT with frequent shell fragments		
					(0.10) 2.45	Grey slightly sandy fine to coarse angular to rounded GRAVEL		
						Complete at 2.45m		

Remarks
Refusal at 2.45mBGL

Scale (approx)	Logged By
1:25	S. Worth

Figure No.
7517-02-18.WS06

Ground Investigations Ireland Ltd
www.gii.ie

Site	Number
East Road	WS07

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler				7517-02-18
	Location	**Dates** 21/03/2018	**Engineer** DBFL	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.60)	CONCRETE MADE GROUND consisting of grey/brown angular Gravel Fill		
					0.60	Complete at 0.60m		

Remarks
Refusal at 0.60mBGL

Scale (approx)	Logged By
1:25	S. Worth

Figure No.
7517-02-18.WS07

Ground Investigations Ireland Ltd

www.gii.ie

Site	Number
East Road	**WS08**

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler				7517-02-18
	Location	**Dates** 21/03/2018	**Engineer** DBFL	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.10) 0.10	CONCRETE		
					(0.30)	MADE GROUND consisting of grey/brown sandy gravelly Clay with fragments of brick		
					0.40	Complete at 0.40m		

Remarks
Refusal at 0.40mBGL

Scale (approx)	Logged By
1:25	S. Worth

Figure No.
7517-02-18.WS08

Ground Investigations Ireland Ltd
www.gii.ie

Site	Number
East Road	WS09

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler				7517-02-18
	Location	**Dates** 21/03/2018	**Engineer** DBFL	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.15) 0.15	CONCRETE		
					(0.52)	MADE GROUND consisting of dark brown mottled white slightly sandy slightly gravelly Clay with red brick fragments		
0.50 0.50 0.50	J T V				0.67	Complete at 0.67m		

Remarks
Refusal at 0.67mBGL

Scale (approx)	Logged By
1:25	S. Worth

Figure No.
7517-02-18.WS09

Ground Investigations Ireland Ltd
www.gii.ie

Site	Number
East Road	**WS10**

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler				7517-02-18
	Location	**Dates** 21/03/2018	**Engineer** DBFL	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.15) 0.15	CONCRETE		
					(0.33) 0.48	MADE GROUND consisting of brown/grey slightly clayey fine to medium Sand with red brick fragments		
0.50 J 0.50 T 0.50 V					(0.57) 1.05	MADE GROUND consisting of black/brown mottled white slightly sandy slightly gravelly Clay with red brick and ceramic fragments		
					(0.56) 1.61	Brown/grey fine to medium SAND with frequent shell fragments		
1.50 J 1.50 T 1.50 V					(0.13) 1.74	Grey fine to coarse SAND with frequent shell fragments		
					(0.26) 2.00	Grey slightly clayey SILT with frequent shell fragments		
					(0.33) 2.33	Brown/grey fine to medium SAND with frequent shell fragments		
					(0.13) 2.46	Brown/grey fine to coarse SAND with frequent shell fragments		
2.50 J 2.50 T 2.50 V					(0.24) 2.70	Grey clayey slightly sandy fine to coarse angular to sub-angular GRAVEL		
						Complete at 2.70m		

Remarks
Refusal at 2.70mBGL

Scale (approx)	Logged By
1:25	S. Worth

Figure No.
7517-02-18.WS10

Ground Investigations Ireland Ltd
www.gii.ie

Site	Number
East Road	WS12

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler				7517-02-18
	Location	**Dates** 21/03/2018	**Engineer** DBFL	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20) 0.20	MADE GROUND consisting of grey angular Gravel Fill		
0.50	J					MADE GROUND consisting of dark brown/black slightly sandy gravelly Clay with red brick fragments		
0.50	T							
0.50	V				(0.90)			
					1.10			
						Brown/grey fine to coarse SAND with frequent shell fragments		
					(0.42)			
1.50	J				1.52			
1.50	T					Grey slightly clayey SILT with frequent shell fragments		
1.50	V				(0.48)			
					2.00			
						Brown fine to coarse SAND with frequent shell fragments		
					(0.33)			
					2.33			
						Grey slighty sandy slightly clayey angular to subangular fine to coarse GRAVEL		
					(0.27)			
2.50	J				2.60			
2.50	T							
2.50	V					Complete at 2.60m		

Remarks
Refusal at 2.60mBGL

Scale (approx)	Logged By
1:25	S. Worth

Figure No.
7517-02-18.WS12

Ground Investigations Ireland Ltd
www.gii.ie

Site	Number
East Road	WS13

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler				7517-02-18
	Location	**Dates** 21/03/2018	**Engineer** DBFL	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.10) 0.10	CONCRETE		
						MADE GROUND consisting of dark grey/black slightly sandy slightly gravelly Clay with red brick fragments		
0.50 0.50 0.50	J T V				(0.90)			
					1.00	Brown/grey fine to coarse SAND with frequent shell fragments		
					(0.62)			
					1.62	Grey fine to medium SAND with frequent shell fragments		
					(0.69)			
					2.31	Grey slightly sandy fine to medium GRAVEL		
					(0.21)			
					2.52	Grey silty CLAY with angular cobble fragments		
					(0.28)			
					2.80	Complete at 2.80m		

Remarks
Refusal at 2.80mBGL

Scale (approx)	Logged By
1:25	S. Worth

Figure No.
7517-02-18.WS13

Ground Investigations Ireland Ltd

www.gii.ie

Site	Number
East Road	WS14

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler				7517-02-18
	Location	**Dates** 21/03/2018	**Engineer** DBFL	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20) 0.20	CONCRETE		
					(0.32) 0.52	MADE GROUND consisting of brown/grey slightly sandy slightly clayey angular to sub-angular fine to coarse Gravel Fill		
					(0.38) 0.90	MADE GROUND consisting of black slightly sandy slightly gravelly Clay with fragments of red brick		
					(0.51) 1.41	Grey fine to medium slightly silty SAND		
1.50 J 1.50 T 1.50 V					(0.28) 1.69	Grey fine to coarse SAND with occasional shell fragments		
					1.75	Grey silty fine SAND with frequent shell fragments		
						Complete at 1.75m		

Remarks
Refusal at 1.90mBGL

Scale (approx)	Logged By
1:25	S. Worth

Figure No. 7517-02-18.WS14

Ground Investigations Ireland Ltd
www.gii.ie

Site	Number
East Road	WS15

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler				7517-02-18
	Location	**Dates** 21/03/2018	**Engineer** DBFL	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20) 0.20	CONCRETE		
					(1.13)	MADE GROUND consisting of dark grey/black slightly sandy slightly clayey angular to sub-angular fine to coarse Gravel Fill		
1.50 1.50 1.50	J T V				1.33 (0.12) 1.45	Grey fine to medium slightly clayey SAND with some shell fragments and some black CLAY lenses		
					(0.12) 1.57	Grey fine to medium SAND with frequent shell fragments		
					(0.14) 1.71	Grey slightly clayey fine to medium SAND with occasional shell fragments		
					(0.19) 1.90	Grey slightly gravelly slightly clayey fine to medium SAND with occasional shell fragments		
						Complete at 1.90m		

Remarks
Refusal at 1.90mBGL

Scale (approx)	Logged By
1:25	S. Worth

Figure No.
7517-02-18.WS15

Ground Investigations Ireland Ltd
www.gii.ie

Site	Number
East Road	**WS16**

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler				7517-02-18
	Location	**Dates** 21/03/2018	**Engineer** DBFL	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20) 0.20	CONCRETE		
0.50 0.50 0.50	J T V				(0.80)	MADE GROUND consisting of black/dark brown slighlty sandy gravelly Clay with brick and tile fragments		
					1.00			
					(0.54)	Grey slightly clayey fine SAND with frequent shell fragments		
1.50 1.50 1.50	J T V				1.54			
					(0.22)	Grey fine to coarse SAND with frequent shell fragments		
					1.76			
					(0.24)	Brown/grey fine to medium SAND with angular cobble fragments		
					2.00	Complete at 2.00m		

Remarks
Refusal at 2.00mBGL

Scale (approx)	Logged By
1:25	S. Worth

Figure No.
7517-02-18.WS16

Ground Investigations Ireland Ltd
www.gii.ie

Site	Number
East Road	WS17

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler				7517-02-18
	Location	**Dates** 21/03/2018	**Engineer** DBFL	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20) 0.20	CONCRETE		
					(0.33) 0.53	MADE GROUND consisting of grey angular Gravel Fill		
0.50 0.50 0.50	J T V				(0.81) 1.34	Grey mottled black slightly clayey SILT with frequent shell fragments		
					(0.27) 1.61	Brown/grey slightly gravelly fine to coarse SAND with frequent shell fragments		
					(0.39) 2.00	Grey slightly clayey slightly sandy angular to sub-rounded fine to coarse GRAVEL		
						Complete at 2.00m		

Remarks
Refusal at 2.00mBGL

Scale (approx)	Logged By
1:25	S. Worth

Figure No.
7517-02-18.WS17

Ground Investigations Ireland Ltd
www.gii.ie

Site	Number
East Road	**WS18**

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler				7517-02-18
	Location	**Dates** 21/03/2018	**Engineer** DBFL	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.16) 0.16	CONCRETE		
					(0.59)	MADE GROUND consisting of dark brown slightly sandy gravelly Clay with red brick and ceramic fragments		
0.50	J				0.75			
0.50	T				(0.25)	Brown/grey slightly clayey fine to medium SAND with frequent shell fragments		
0.50	V				1.00			
					(0.48)	Brown fine to coarse SAND with frequent shell fragments		
1.50	J				1.48			
1.50	T				(0.33)	Brown medium to coarse SAND with frequent shell fragments		
1.50	V				1.81			
					(0.19)	Grey slightly silty CLAY		
					2.00			
					(0.60)	Brown/grey fine to coarse SAND with frequent shell fragments and angular cobble fragments		
					2.60	Complete at 2.60m		

Remarks
Refusal at 2.60mBGL

Scale (approx)	Logged By
1:25	S. Worth

Figure No.
7517-02-18.WS18

Ground Investigations Ireland Ltd
www.gii.ie

Site	Number
East Road	WS19

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler				7517-02-18
	Location	**Dates** 21/03/2018	**Engineer** DBFL	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.15) 0.15	CONCRETE		
					(0.30) 0.45	MADE GROUND consisting of black slightly sand gravelly Clay with red brick fragments		
0.50 0.50 0.50	J T V				(0.95) 1.40	Brown/grey fine to medium SAND with frequent shell fragments		
					(0.20) 1.60	Grey fine to coarse SAND with frequent shell fragments		
					(0.20) 1.80	Grey fine to medium SAND with angular cobble fragments		
						Complete at 1.80m		

Remarks
Refusal at 1.80mBGL

Scale (approx)	Logged By
1:25	S. Worth

Figure No.
7517-02-18.WS19

Ground Investigations Ireland Ltd
www.gii.ie

Site	Number
East Road	**WS20**

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler				7517-02-18
	Location	**Dates** 21/03/2018	**Engineer** DBFL	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.15) 0.15	CONCRETE		
					(0.43) 0.58	MADE GROUND consisting of grey angular GRAVEL fill		
0.50 0.50 0.50	J T V				(0.52) 1.10	MADE GROUND: Black slightly sandy gravelly CLAY with brick fragments		
					(0.52) 1.62	Grey fine to medium SAND with frequent shell fragments		
					(0.76) 2.38	Grey fine to coarse SAND with frequent shell fragments		
					(0.22) 2.60	Grey slightly clayey fine to medium SAND with frequent shell fragments		
						Complete at 3.00m		

Remarks
Refusal at 2.00mBGL

Scale (approx)	Logged By
1:25	S. Worth

Figure No.
7517-02-18.WS20

Ground Investigations Ireland Ltd
www.gii.ie

Site	Number
East Road	WS21

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler				7517-02-18
	Location	**Dates** 21/03/2018	**Engineer** DBFL	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.15) 0.15	CONCRETE		
					(0.35)	MADE GROUND consisting of grey/brown angular Gravel Fill		
0.50 J 0.50 T 0.50 V					0.50 (0.46)	MADE GROUND consisting of black/brown slightly sandy gravelly Clay with red brick fragments		
					0.96 (0.58)	Brown fine to medium SAND with frequent shell fragments		
1.50 J 1.50 T 1.50 V					1.54 (0.24)	Brown/grey coarse SAND with frequent shell fragments		
					1.78 (0.52)	Brown fine to medium SAND with frequent shell fragments		
					2.30 (0.16)	Brown/grey coarse SAND with frequent shell fragments		
2.50 J 2.50 T 2.50 V					2.46 (0.16) 2.62	Grey slightly sandy clayey SILT with angular cobble fragments		
						Complete at 2.62m		

Remarks
Refusal at 2.62mBGL

Scale (approx)	Logged By
1:25	S. Worth

Figure No.
7517-02-18.WS21

Appendix 2

Laboratory Reports

Parameter	Units	WS01	WS01	WS03	WS03	WS03	WS04	WS04	WS05	Residential without homegrown produce LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW]		
		0.50	1.50	0.50	1.50	2.50	0.50	1.50	0.50	1 % SOM	2.5% SOM	6 % SOM
		04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
Aliphatics												
EC 5-6	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	42	78	160
EC >6-8	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	100	230	530
EC >8-10	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	27	65	150
EC >10-12	mg/kg	<0.2	<0.2	4.7	<0.2	<0.2	<0.2	<0.2	<0.2	130	330	770
EC >12-16	mg/kg	<4	<4	55	<4	<4	<4	<4	<4	1,100	2,400	4,400
EC >16-35	mg/kg	<7	<7	151	<7	<7	<7	<7	<7	65,000	92,000	110,000
EC >35-44	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	65,000	92,000	110,000
Total aliphatics C5-40	mg/kg	<26	<26	211	<26	<26	<26	<26	<26	NE	NE	NE
Aromatics												
EC 5-7	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	370	690	1,400
EC >7-8	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	860	1,800	3,900
EC >8-10	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	47	110	270
EC >10-12	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	250	590	1,200
EC >12-16	mg/kg	<4	<4	41	<4	<4	12	<4	<4	1,800	2,300	2,500
EC >16-21	mg/kg	<7	<7	97	16	<7	47	<7	18	1,900	1,900	1,900
EC >21-35	mg/kg	63	<7	160	76	<7	179	<7	66	1,900	1,900	1,900
EC >35-44	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	1,900	1,900	1,900
Total aromatics C5-40	mg/kg	63	<26	316	105	<26	255	<26	84	NE	NE	NE
Aliphatics + Aromatics EC >44-70	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	1,900	1,900	1,900

Parameter	Units	WS01	WS01	WS03	WS03	WS03	WS04	WS04	WS05	Residential without homegrown produce LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW]		
		0.50	1.50	0.50	1.50	2.50	0.50	1.50	0.50	1 % SOM	2.5% SOM	6 % SOM
		04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
VOCs												
MTBE **(*Not Listed*)**	µg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NE	NE	NE
Benzene	µg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	380	700	1,400
Toluene	µg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	880,000	1,900,000	3,900,000
Ethylbenzene	µg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	83,000	190,000	440,000
p-Xylene	µg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	79,000	180,000	430,000
m-Xylene	µg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	82,000	190,000	450,000
o-Xylene	µg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	88,000	210,000	480,000
Soil Organic Matter	%	NA	NA	NA	NA	NA	NA	NA	NA	NE	NE	NE

Parameter	Units	WS01	WS01	WS03	WS03	WS03	WS04	WS04	WS05	Residential without homegrown produce LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW]		
		0.50	1.50	0.50	1.50	2.50	0.50	1.50	0.50	1 % SOM	2.5% SOM	6 % SOM
		04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
Metals												
Antimony	mg/kg	3	<1	18	8	1	11	3	2	NE	NE	NE
Inorganic Arsenic	mg/kg	25.4	7.2	20.2	71	6.2	29.4	31.9	16.7	NE	NE	40
Barium	mg/kg	106	14	227	212	12	95	137	69	NE	NE	NE
Cadmium	mg/kg	0.9	0.4	1	0.1	0.2	0.4	0.3	0.5	NE	NE	85
Chromium III	mg/kg	68.7	42.3	19.1	69.5	94.2	67.7	56.2	68.7	NE	NE	910
Copper	mg/kg	84	8	266	186	7	42	42	54	NE	NE	7,100
Hexavalent Chromium	mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	NE	NE	6*
Lead	mg/kg	284	17	1861	229	11	670	69	109	NE	NE	NE
Elementalmercury	mg/kg	0.5	<0.1	0.9	0.7	<0.1	0.9	<0.1	0.7	NE	NE	1.2
Molybdenum	mg/kg	6.3	3.6	2.4	14.8	6.3	4.2	5.4	5.4	NE	NE	NE
Nickel	mg/kg	30.5	11.8	47.4	126	9	30.8	54	28	NE	NE	180*
Selenium	mg/kg	<1	<1	<1	2	<1	<1	<1	1	NE	NE	430
Zinc	mg/kg	277	35	972	225	45	174	95	91	NE	NE	40,000

Parameter	Units	WS01	WS01	WS03	WS03	WS03	WS04	WS04	WS05	Residential without homegrown produce LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW]		
		0.50	1.50	0.50	1.50	2.50	0.50	1.50	0.50	1 % SOM	2.5% SOM	6 % SOM
		04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
PAH MS												
Naphthalene	mg/kg	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	2.3*	5.6*	13*
Acenaphthylene	mg/kg	<0.03	<0.03	0.54	0.04	<0.03	0.6	<0.03	0.05	2,900	4,600	6,000
Acenaphthene	mg/kg	<0.05	<0.05	0.1	<0.05	<0.05	1.8	<0.05	<0.05	3,000	4,700	6,000
Fluorene	mg/kg	<0.04	<0.04	0.26	<0.04	<0.04	1.15	<0.04	0.06	2,800	3,800	4,500
Phenanthrene	mg/kg	0.33	<0.03	2.76	0.67	0.09	14.57	0.11	0.77	1,300	1,500	1,500
Anthracene	mg/kg	<0.04	<0.04	0.69	<0.04	<0.04	4.29	<0.04	<0.04	31,000	35,000	37,000
Fluoranthene	mg/kg	0.45	<0.03	5.95	0.5	0.08	22.63	0.05	0.43	1,500	1,600	1,600
Pyrene	mg/kg	0.4	<0.03	5.06	0.4	0.07	19.04	0.05	0.32	3,700	3,800	3,800
Benzo(a)anthracene	mg/kg	0.26	<0.06	3.43	0.25	<0.06	12.26	0.08	0.33	11	14	15
Chrysene	mg/kg	0.26	<0.02	3.28	0.25	0.05	9.34	0.06	0.3	30	31	32
Benzo(bk)fluoranthene	mg/kg	0.46	<0.07	6.96	0.4	<0.07	16.97	<0.07	0.43	NE	NE	NE
Benzo(a)pyrene (only)	mg/kg	0.21	<0.04	3.61	0.19	<0.04	9.53	<0.04	0.2	3.2	3.2	3.2
Indeno(123cd)pyrene	mg/kg	0.13	<0.04	2.53	0.11	<0.04	4.83	<0.04	0.11	45	46	46
Dibenzo(ah)anthracene	mg/kg	<0.04	<0.04	0.69	<0.04	<0.04	1.44	<0.04	<0.04	0.31	0.32	0.32
Benzo(ghi)perylene	mg/kg	0.15	<0.04	2.56	0.15	<0.04	4.75	<0.04	0.14	360	360	360
Coronene	mg/kg	<0.04	<0.04	0.61	<0.04	<0.04	0.78	<0.04	<0.04	NE	NE	NE
PAH 6 Total	mg/kg	1.4	<0.22	21.61	1.35	<0.22	58.71	<0.22	1.31	NE	NE	NE
PAH 17 Total	mg/kg	2.65	<0.64	39.03	2.96	<0.64	123.98	<0.64	3.14	NE	NE	NE
Benzo(b)fluoranthene	mg/kg	0.33	<0.05	5.01	0.29	<0.05	12.22	<0.05	0.31	3.9	4.0	4.0
Benzo(k)fluoranthene	mg/kg	0.13	<0.02	1.95	0.11	<0.02	4.75	<0.02	0.12	110	110	110
Benzo(j)fluoranthene	mg/kg	<1	<1	1	<1	<1	5	<1	<1	NE	NE	NE
Mineral Oil (C10-C40)	mg/kg	<30	<30	211	<30	<30	<30	<30	<30	NE	NE	NE

Parameter	Units	WS06	WS06	WS09	WS10	WS10	WS10	Residential without homegrown produce LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW]		
		0.50	1.50	0.50	0.50	1.50	2.50	1 % SOM	2.5% SOM	6 % SOM
		04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
Aliphatics										
EC 5-6	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	42	78	160
EC >6-8	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	100	230	530
EC >8-10	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	27	65	150
EC >10-12	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	130	330	770
EC >12-16	mg/kg	<4	<4	<4	<4	<4	<4	1,100	2,400	4,400
EC >16-35	mg/kg	<7	<7	193	<25	<7	<7	65,000	92,000	110,000
EC >35-44	mg/kg	NA	NA	NA	NA	NA	NA	65,000	92,000	110,000
Total aliphatics C5-40	mg/kg	<26	<26	193	<26	<26	<26	NE	NE	NE
Aromatics										
EC 5-7	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	370	690	1,400
EC >7-8	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	860	1,800	3,900
EC >8-10	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	47	110	270
EC >10-12	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	250	590	1,200
EC >12-16	mg/kg	7	<4	<4	8	<4	<4	1,800	2,300	2,500
EC >16-21	mg/kg	16	<7	17	50	<7	<7	1,900	1,900	1,900
EC >21-35	mg/kg	68	<7	124	255	<7	<7	1,900	1,900	1,900
EC >35-44	mg/kg	NA	NA	NA	NA	NA	NA	1,900	1,900	1,900
Total aromatics C5-40	mg/kg	91	<26	159	343	<26	<26	NE	NE	NE
Aliphatics + Aromatics EC >44-70	mg/kg	NA	NA	NA	NA	NA	NA	1,900	1,900	1,900

Parameter	Units	WS06	WS06	WS09	WS10	WS10	WS10	Residential without homegrown produce LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW]		
		0.50	1.50	0.50	0.50	1.50	2.50	1 % SOM	2.5% SOM	6 % SOM
		04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
VOCs										
MTBE **(*Not Listed*)**	µg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NE	NE	NE
Benzene	µg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	380	700	1,400
Toluene	µg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	880,000	1,900,000	3,900,000
Ethylbenzene	µg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	83,000	190,000	440,000
p-Xylene	µg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	79,000	180,000	430,000
m-Xylene	µg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	82,000	190,000	450,000
o-Xylene	µg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	88,000	210,000	480,000
Soil Organic Matter	%	NA	NA	NA	NA	NA	NA	NE	NE	NE

Parameter	Units	WS06	WS06	WS09	WS10	WS10	WS10	Residential without homegrown produce LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW]		
		0.50	1.50	0.50	0.50	1.50	2.50	1 % SOM	2.5% SOM	6 % SOM
		04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
Metals										
Antimony	mg/kg	10	1	NA	5	1	<1	NE	NE	NE
Inorganic Arsenic	mg/kg	79.1	13	NA	35.4	3.9	4.4	NE	NE	40
Barium	mg/kg	185	25	NA	151	14	15	NE	NE	NE
Cadmium	mg/kg	0.8	0.5	NA	0.8	<0.1	0.1	NE	NE	85
Chromium III	mg/kg	64.3	46.4	NA	90.1	109.1	99	NE	NE	910
Copper	mg/kg	179	20	NA	119	5	6	NE	NE	7,100
Hexavalent Chromium	mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	NE	NE	6*
Lead	mg/kg	288	34	NA	350	9	15	NE	NE	NE
Elementalmercury	mg/kg	0.9	<0.1	NA	1.4	<0.1	<0.1	NE	NE	1.2
Molybdenum	mg/kg	12.7	6.3	NA	9.4	6.7	6.2	NE	NE	NE
Nickel	mg/kg	129.9	26.3	NA	45.3	11	11.1	NE	NE	180*
Selenium	mg/kg	2	<1	NA	2	<1	<1	NE	NE	430
Zinc	mg/kg	232	81	NA	200	27	27	NE	NE	40,000

Parameter	Units	WS06	WS06	WS09	WS10	WS10	WS10	Residential without homegrown produce LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW]		
		0.50	1.50	0.50	0.50	1.50	2.50	1 % SOM	2.5% SOM	6 % SOM
		04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
PAH MS										
Naphthalene	mg/kg	<0.04	<0.04	<0.04	0.26	<0.04	<0.04	2.3*	5.6*	13*
Acenaphthylene	mg/kg	<0.03	<0.03	0.12	0.32	<0.03	<0.03	2,900	4,600	6,000
Acenaphthene	mg/kg	<0.05	<0.05	0.09	0.26	<0.05	<0.05	3,000	4,700	6,000
Fluorene	mg/kg	<0.04	<0.04	0.09	0.24	<0.04	<0.04	2,800	3,800	4,500
Phenanthrene	mg/kg	0.58	<0.03	1.12	3.26	<0.03	<0.03	1,300	1,500	1,500
Anthracene	mg/kg	<0.04	<0.04	0.3	0.66	<0.04	<0.04	31,000	35,000	37,000
Fluoranthene	mg/kg	0.12	<0.03	2.28	7.04	<0.03	<0.03	1,500	1,600	1,600
Pyrene	mg/kg	0.1	<0.03	1.92	6.15	<0.03	<0.03	3,700	3,800	3,800
Benzo(a)anthracene	mg/kg	0.1	<0.06	1.27	2.49	<0.06	<0.06	11	14	15
Chrysene	mg/kg	0.15	<0.02	1.01	3.29	<0.02	<0.02	30	31	32
Benzo(bk)fluoranthene	mg/kg	0.15	<0.07	2.28	7.23	<0.07	<0.07	NE	NE	NE
Benzo(a)pyrene (only)	mg/kg	0.07	<0.04	1.13	3.78	<0.04	<0.04	3.2	3.2	3.2
Indeno(123cd)pyrene	mg/kg	<0.04	<0.04	0.65	2.33	<0.04	<0.04	45	46	46
Dibenzo(ah)anthracene	mg/kg	<0.04	<0.04	0.13	0.71	<0.04	<0.04	0.31	0.32	0.32
Benzo(ghi)perylene	mg/kg	0.07	<0.04	0.61	2.31	<0.04	<0.04	360	360	360
Coronene	mg/kg	<0.04	<0.04	0.12	0.53	<0.04	<0.04	NE	NE	NE
PAH 6 Total	mg/kg	0.41	<0.22	6.95	22.69	<0.22	<0.22	NE	NE	NE
PAH 17 Total	mg/kg	1.34	<0.64	13.12	40.86	<0.64	<0.64	NE	NE	NE
Benzo(b)fluoranthene	mg/kg	0.11	<0.05	1.64	5.21	<0.05	<0.05	3.9	4.0	4.0
Benzo(k)fluoranthene	mg/kg	0.04	<0.02	0.64	2.02	<0.02	<0.02	110	110	110
Benzo(j)fluoranthene	mg/kg	<1	<1	<1	2	<1	<1	NE	NE	NE
Mineral Oil (C10-C40)	mg/kg	<30	<30	193	<30	<30	<30	NE	NE	NE

Parameter	Units	WS12	WS12	WS12	WS13	WS14	WS14	WS15	Residential without homegrown produce LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW]		
		0.50	1.50	2.50	0.50	0.50	1.50	1.50	1 % SOM	2.5% SOM	6 % SOM
		04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
Aliphatics											
EC 5-6	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	42	78	160
EC >6-8	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	100	230	530
EC >8-10	mg/kg	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	27	65	150
EC >10-12	mg/kg	<0.2	<0.2	<0.2	70.4	<0.2	<0.2	<0.2	130	330	770
EC >12-16	mg/kg	<4	<4	<4	53	<4	<4	<4	1,100	2,400	4,400
EC >16-35	mg/kg	160	<7	<7	<16	62	<7	<7	65,000	92,000	110,000
EC >35-44	mg/kg	NA	NA	NA	NA	NA	NA	NA	65,000	92,000	110,000
Total aliphatics C5-40	mg/kg	160	<26	<26	132	62	<26	<26	NE	NE	NE
Aromatics											
EC 5-7	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	370	690	1,400
EC >7-8	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	860	1,800	3,900
EC >8-10	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	47	110	270
EC >10-12	mg/kg	<0.2	<0.2	<0.2	20.9	<0.2	<0.2	<0.2	250	590	1,200
EC >12-16	mg/kg	5	<4	<4	25	13	<4	<4	1,800	2,300	2,500
EC >16-21	mg/kg	18	<7	<7	<7	39	<7	<7	1,900	1,900	1,900
EC >21-35	mg/kg	101	<7	<7	64	158	<7	<7	1,900	1,900	1,900
EC >35-44	mg/kg	NA	NA	NA	NA	NA	NA	NA	1,900	1,900	1,900
Total aromatics C5-40	mg/kg	136	<26	<26	110	226	<26	<26	NE	NE	NE
Aliphatics + Aromatics EC >44-70	mg/kg	NA	NA	NA	NA	NA	NA	NA	1,900	1,900	1,900

Parameter	Units	WS12	WS12	WS12	WS13	WS14	WS14	WS15	Residential <u>without</u> homegrown produce LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW]		
		0.50	1.50	2.50	0.50	0.50	1.50	1.50	1 % SOM	2.5% SOM	6 % SOM
		04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
VOCs											
MTBE **(*Not Listed*)**	µg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NE	NE	NE
Benzene	µg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	380	700	1,400
Toluene	µg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	880,000	1,900,000	3,900,000
Ethylbenzene	µg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	83,000	190,000	440,000
p-Xylene	µg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	79,000	180,000	430,000
m-Xylene	µg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	82,000	190,000	450,000
o-Xylene	µg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	88,000	210,000	480,000
Soil Organic Matter	%	NA	NA	NA	NA	NA	NA	NA	NE	NE	NE

Parameter	Units	WS12	WS12	WS12	WS13	WS14	WS14	WS15	Residential without homegrown produce LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW]		
		0.50	1.50	2.50	0.50	0.50	1.50	1.50	1 % SOM	2.5% SOM	6 % SOM
		04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
Metals											
Antimony	mg/kg	5	2	1	4	5	<1	1	NE	NE	NE
Inorganic Arsenic	mg/kg	43.7	10.5	9.4	29.1	32.7	6	11	NE	NE	40
Barium	mg/kg	165	19	24	116	101	18	26	NE	NE	NE
Cadmium	mg/kg	0.7	<0.1	<0.1	0.8	1	0.1	0.2	NE	NE	85
Chromium III	mg/kg	88.2	87.3	114.6	80.1	17.4	44	59.5	NE	NE	910
Copper	mg/kg	250	9	8	80	100	4	7	NE	NE	7,100
Hexavalent Chromium	mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	NE	NE	6*
Lead	mg/kg	321	9	8	352	397	5	11	NE	NE	NE
Elementalmercury	mg/kg	1.2	<0.1	<0.1	1.1	2.5	<0.1	<0.1	NE	NE	1.2
Molybdenum	mg/kg	9.8	5.8	6.1	9.2	3.6	2.3	5.9	NE	NE	NE
Nickel	mg/kg	67.5	9.2	10.9	45.2	59.1	9.6	18.9	NE	NE	180*
Selenium	mg/kg	1	<1	<1	1	1	<1	<1	NE	NE	430
Zinc	mg/kg	530	27	22	134	323	24	39	NE	NE	40,000

Parameter	Units	WS12	WS12	WS12	WS13	WS14	WS14	WS15	Residential without homegrown produce LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW]		
		0.50	1.50	2.50	0.50	0.50	1.50	1.50	1 % SOM	2.5% SOM	6 % SOM
		04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
PAH MS											
Naphthalene	mg/kg	0.13	<0.04	<0.04	0.24	0.22	<0.04	<0.04	2.3*	5.6*	13*
Acenaphthylene	mg/kg	0.05	<0.03	<0.03	0.09	0.32	<0.03	<0.03	2,900	4,600	6,000
Acenaphthene	mg/kg	<0.05	<0.05	<0.05	<0.05	0.13	<0.05	<0.05	3,000	4,700	6,000
Fluorene	mg/kg	<0.04	<0.04	<0.04	<0.04	0.22	<0.04	<0.04	2,800	3,800	4,500
Phenanthrene	mg/kg	0.61	<0.03	<0.03	0.34	2.59	<0.03	<0.03	1,300	1,500	1,500
Anthracene	mg/kg	0.05	<0.04	<0.04	0.08	0.59	<0.04	<0.04	31,000	35,000	37,000
Fluoranthene	mg/kg	0.46	<0.03	<0.03	0.45	4.36	<0.03	<0.03	1,500	1,600	1,600
Pyrene	mg/kg	0.39	<0.03	<0.03	0.4	3.41	<0.03	<0.03	3,700	3,800	3,800
Benzo(a)anthracene	mg/kg	0.21	<0.06	<0.06	0.29	1.78	<0.06	<0.06	11	14	15
Chrysene	mg/kg	0.29	<0.02	<0.02	0.39	1.61	<0.02	<0.02	30	31	32
Benzo(bk)fluoranthene	mg/kg	0.48	<0.07	<0.07	0.88	3.84	<0.07	<0.07	NE	NE	NE
Benzo(a)pyrene (only)	mg/kg	0.22	<0.04	<0.04	0.42	1.99	<0.04	<0.04	3.2	3.2	3.2
Indeno(123cd)pyrene	mg/kg	0.16	<0.04	<0.04	0.25	1.23	<0.04	<0.04	45	46	46
Dibenzo(ah)anthracene	mg/kg	0.07	<0.04	<0.04	0.09	0.24	<0.04	<0.04	0.31	0.32	0.32
Benzo(ghi)perylene	mg/kg	0.18	<0.04	<0.04	0.25	1.17	<0.04	<0.04	360	360	360
Coronene	mg/kg	0.07	<0.04	<0.04	<0.04	0.24	<0.04	<0.04	NE	NE	NE
PAH 6 Total	mg/kg	1.5	<0.22	<0.22	2.25	12.59	<0.22	<0.22	NE	NE	NE
PAH 17 Total	mg/kg	3.37	<0.64	<0.64	4.17	23.94	<0.64	<0.64	NE	NE	NE
Benzo(b)fluoranthene	mg/kg	0.35	<0.05	<0.05	0.63	2.76	<0.05	<0.05	3.9	4.0	4.0
Benzo(k)fluoranthene	mg/kg	0.13	<0.02	<0.02	0.25	1.08	<0.02	<0.02	110	110	110
Benzo(j)fluoranthene	mg/kg	<1	<1	<1	<1	<1	<1	<1	NE	NE	NE
Mineral Oil (C10-C40)	mg/kg	160	<30	<30	132	62	<30	<30	NE	NE	NE

Parameter	Units	WS16	WS16	WS17	WS18	WS18	WS19	WS20	Residential without homegrown produce LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW]		
		0.50	1.50	0.50	0.50	1.50	0.50	0.50	1 % SOM	2.5% SOM	6 % SOM
		04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
Aliphatics											
EC 5-6	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	42	78	160
EC >6-8	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	100	230	530
EC >8-10	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	27	65	150
EC >10-12	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	130	330	770
EC >12-16	mg/kg	<4	<4	10	<4	<4	<4	<4	1,100	2,400	4,400
EC >16-35	mg/kg	<7	<7	85	<7	<7	<7	<7	65,000	92,000	110,000
EC >35-44	mg/kg	NA	NA	NA	NA	NA	NA	NA	65,000	92,000	110,000
Total aliphatics C5-40	mg/kg	<26	<26	95	<26	<26	<26	<26	NE	NE	NE
Aromatics											
EC 5-7	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	370	690	1,400
EC >7-8	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	860	1,800	3,900
EC >8-10	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	47	110	270
EC >10-12	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	250	590	1,200
EC >12-16	mg/kg	<4	<4	10	<4	<4	8	<4	1,800	2,300	2,500
EC >16-21	mg/kg	<7	<7	33	<7	<7	49	22	1,900	1,900	1,900
EC >21-35	mg/kg	<7	<7	24	<7	<7	196	106	1,900	1,900	1,900
EC >35-44	mg/kg	NA	NA	NA	NA	NA	NA	NA	1,900	1,900	1,900
Total aromatics C5-40	mg/kg	<26	<26	67	<26	<26	267	128	NE	NE	NE
Aliphatics + Aromatics EC >44-70	mg/kg	NA	NA	NA	NA	NA	NA	NA	1,900	1,900	1,900

Parameter	Units	WS16	WS16	WS17	WS18	WS18	WS19	WS20	Residential <u>without</u> homegrown produce LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW]		
		0.50	1.50	0.50	0.50	1.50	0.50	0.50	1 % SOM	2.5% SOM	6 % SOM
		04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
VOCs											
MTBE **(*Not Listed*)**	µg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NE	NE	NE
Benzene	µg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	380	700	1,400
Toluene	µg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	880,000	1,900,000	3,900,000
Ethylbenzene	µg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	83,000	190,000	440,000
p-Xylene	µg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	79,000	180,000	430,000
m-Xylene	µg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	82,000	190,000	450,000
o-Xylene	µg/kg	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	88,000	210,000	480,000
Soil Organic Matter	%	NA	NA	NA	NA	NA	NA	NA	NE	NE	NE

Parameter	Units	WS16	WS16	WS17	WS18	WS18	WS19	WS20	Residential without homegrown produce LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW]		
		0.50	1.50	0.50	0.50	1.50	0.50	0.50	1 % SOM	2.5% SOM	6 % SOM
		04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
Metals											
Antimony	mg/kg	4	2	3	3	1	6	6	NE	NE	NE
Inorganic Arsenic	mg/kg	31.6	14.8	19.3	22.7	6	42	43.6	NE	NE	40
Barium	mg/kg	109	21	61	95	20	162	190	NE	NE	NE
Cadmium	mg/kg	0.7	0.8	0.2	0.7	0.1	0.7	0.7	NE	NE	85
Chromium III	mg/kg	77.9	57.5	37.9	46.5	106.6	73.6	63.3	NE	NE	910
Copper	mg/kg	99	16	14	58	10	210	115	NE	NE	7,100
Hexavalent Chromium	mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	NE	NE	6*
Lead	mg/kg	188	26	30	332	27	703	346	NE	NE	NE
Elementalmercury	mg/kg	0.8	<0.1	<0.1	0.9	<0.1	1.2	1	NE	NE	1.2
Molybdenum	mg/kg	10.7	5.5	2.7	5.6	6.9	7.7	10.4	NE	NE	NE
Nickel	mg/kg	61.2	21.8	19.7	41.7	11.7	64.8	70.8	NE	NE	180*
Selenium	mg/kg	1	<1	<1	<1	<1	2	1	NE	NE	430
Zinc	mg/kg	114	65	41	103	26	220	169	NE	NE	40,000

Parameter	Units	WS16	WS16	WS17	WS18	WS18	WS19	WS20	Residential without homegrown produce LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW]		
		0.50	1.50	0.50	0.50	1.50	0.50	0.50	1 % SOM	2.5% SOM	6 % SOM
		04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
PAH MS											
Naphthalene	mg/kg	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.16	2.3*	5.6*	13*
Acenaphthylene	mg/kg	<0.03	<0.03	<0.03	<0.03	<0.03	0.14	0.06	2,900	4,600	6,000
Acenaphthene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	0.34	<0.05	3,000	4,700	6,000
Fluorene	mg/kg	<0.04	<0.04	0.06	<0.04	<0.04	0.3	0.07	2,800	3,800	4,500
Phenanthrene	mg/kg	0.19	<0.03	0.37	0.26	<0.03	4.7	1.28	1,300	1,500	1,500
Anthracene	mg/kg	<0.04	<0.04	<0.04	<0.04	<0.04	1.06	0.1	31,000	35,000	37,000
Fluoranthene	mg/kg	0.08	<0.03	0.04	0.05	<0.03	7.76	0.99	1,500	1,600	1,600
Pyrene	mg/kg	0.08	<0.03	0.05	0.05	<0.03	6.63	0.89	3,700	3,800	3,800
Benzo(a)anthracene	mg/kg	0.11	<0.06	0.09	<0.06	<0.06	2.8	0.62	11	14	15
Chrysene	mg/kg	0.1	<0.02	0.06	0.08	<0.02	3.73	0.6	30	31	32
Benzo(bk)fluoranthene	mg/kg	0.12	<0.07	<0.07	<0.07	<0.07	6.67	0.93	NE	NE	NE
Benzo(a)pyrene (only)	mg/kg	0.07	<0.04	<0.04	<0.04	<0.04	3.45	0.46	3.2	3.2	3.2
Indeno(123cd)pyrene	mg/kg	<0.04	<0.04	<0.04	<0.04	<0.04	2.06	0.26	45	46	46
Dibenzo(ah)anthracene	mg/kg	<0.04	<0.04	<0.04	<0.04	<0.04	0.43	0.07	0.31	0.32	0.32
Benzo(ghi)perylene	mg/kg	0.07	<0.04	<0.04	<0.04	<0.04	2.01	0.32	360	360	360
Coronene	mg/kg	<0.04	<0.04	<0.04	<0.04	<0.04	0.39	0.07	NE	NE	NE
PAH 6 Total	mg/kg	0.34	<0.22	<0.22	<0.22	<0.22	21.95	2.96	NE	NE	NE
PAH 17 Total	mg/kg	0.82	<0.64	0.67	<0.64	<0.64	42.47	6.88	NE	NE	NE
Benzo(b)fluoranthene	mg/kg	0.09	<0.05	<0.05	<0.05	<0.05	4.8	0.67	3.9	4.0	4.0
Benzo(k)fluoranthene	mg/kg	0.03	<0.02	<0.02	<0.02	<0.02	1.87	0.26	110	110	110
Benzo(j)fluoranthene	mg/kg	<1	<1	<1	<1	<1	1	<1	NE	NE	NE
Mineral Oil (C10-C40)	mg/kg	<30	<30	95	<30	<30	<30	<30	NE	NE	NE

Parameter	Units	WS21	WS21	WS21	WS22	WS22	WS22	WS23	WS23	Residential without homegrown produce LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW]		
		0.50	1.50	2.50	0.50	1.50	2.50	0.50	1.00	1 % SOM	2.5% SOM	6 % SOM
		04/04/2018	04/04/2018	04/04/2018	21/05/2018	21/05/2018	21/05/2018	21/05/2018	21/05/2018			
Aliphatics												
EC 5-6	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	42	78	160
EC >6-8	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	100	230	530
EC >8-10	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	27	65	150
EC >10-12	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	18.4	<0.2	130	330	770
EC >12-16	mg/kg	<4	<4	<4	<4	<4	<4	35	<4	1,100	2,400	4,400
EC >16-35	mg/kg	<7	<7	<7	87	<7	<7	402	<7	65,000	92,000	110,000
EC >35-44	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	65,000	92,000	110,000
Total aliphatics C5-40	mg/kg	<26	<26	<26	87	<26	<26	479	<26	NE	NE	NE
Aromatics												
EC 5-7	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	370	690	1,400
EC >7-8	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	860	1,800	3,900
EC >8-10	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	47	110	270
EC >10-12	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	3.1	<0.2	250	590	1,200
EC >12-16	mg/kg	<4	<4	<4	<4	<4	<4	56	16	1,800	2,300	2,500
EC >16-21	mg/kg	<7	<7	<7	<7	<7	<7	142	83	1,900	1,900	1,900
EC >21-35	mg/kg	61	<7	<7	117	<7	<7	422	181	1,900	1,900	1,900
EC >35-44	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	1,900	1,900	1,900
Total aromatics C5-40	mg/kg	61	<26	<26	117	<26	<26	657	292	NE	NE	NE
Aliphatics + Aromatics EC >44-70	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	1,900	1,900	1,900

Parameter	Units	WS21	WS21	WS21	WS22	WS22	WS22	WS23	WS23	Residential without homegrown produce LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW]		
		0.50	1.50	2.50	0.50	1.50	2.50	0.50	1.00	1 % SOM	2.5% SOM	6 % SOM
		04/04/2018	04/04/2018	04/04/2018	21/05/2018	21/05/2018	21/05/2018	21/05/2018	21/05/2018			
VOCs												
MTBE **(*Not Listed*)**	µg/kg	<0.005	<0.005	<0.005	<5	<5	<5	<5	<5	NE	NE	NE
Benzene	µg/kg	<0.005	<0.005	<0.005	NA	NA	<5	NA	NA	380	700	1,400
Toluene	µg/kg	<0.005	<0.005	<0.005	NA	NA	<5	NA	NA	880,000	1,900,000	3,900,000
Ethylbenzene	µg/kg	<0.005	<0.005	<0.005	NA	NA	<5	NA	NA	83,000	190,000	440,000
p-Xylene	µg/kg	<0.005	<0.005	<0.005	NA	NA	<5	NA	NA	79,000	180,000	430,000
m-Xylene	µg/kg	<0.005	<0.005	<0.005	NA	NA	<5	NA	NA	82,000	190,000	450,000
o-Xylene	µg/kg	<0.005	<0.005	<0.005	NA	NA	<5	NA	NA	88,000	210,000	480,000
Soil Organic Matter	%	NA	NA	NA	NA	NA	NA	NA	NA	NE	NE	NE

Parameter	Units	WS21	WS21	WS21	WS22	WS22	WS22	WS23	WS23	Residential without homegrown produce LQM/CIEH Suitable 4 Use		
		0.50	1.50	2.50	0.50	1.50	2.50	0.50	1.00	1 % SOM	2.5% SOM	6 % SOM
		04/04/2018	04/04/2018	04/04/2018	21/05/2018	21/05/2018	21/05/2018	21/05/2018	21/05/2018			
Metals												
Antimony	mg/kg	5	<1	<1	6	9	1	34	8	NE	NE	NE
Inorganic Arsenic	mg/kg	31.5	3.9	4.5	41.7	34.9	4.5	16	28	NE	NE	40
Barium	mg/kg	124	12	11	103	110	27	118	173	NE	NE	NE
Cadmium	mg/kg	0.7	0.1	0.1	0.5	0.4	0.2	1	1	NE	NE	85
Chromium III	mg/kg	77.7	97.5	47.2	106.8	42.5	148.4	101.2	106.7	NE	NE	910
Copper	mg/kg	102	6	5	79	91	5	60	92	NE	NE	7,100
Hexavalent Chromium	mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	NE	NE	6*
Lead	mg/kg	320	11	7	272	227	6	263	280	NE	NE	NE
Elementalmercury	mg/kg	1.6	<0.1	<0.1	0.8	0.7	<0.1	0.5	0.6	NE	NE	1.2
Molybdenum	mg/kg	9.5	6	3.2	14	9.5	7.5	7.9	8.2	NE	NE	NE
Nickel	mg/kg	48.7	9.7	8.8	35.4	68.9	10.8	55.2	54.5	NE	NE	180*
Selenium	mg/kg	2	<1	<1	1	2	<1	<1	<1	NE	NE	430
Zinc	mg/kg	173	25	20	184	134	24	175	2060	NE	NE	40,000

Parameter	Units	WS21	WS21	WS21	WS22	WS22	WS22	WS23	WS23	Residential without homegrown produce LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW]		
		0.50	1.50	2.50	0.50	1.50	2.50	0.50	1.00	1 % SOM	2.5% SOM	6 % SOM
		04/04/2018	04/04/2018	04/04/2018	21/05/2018	21/05/2018	21/05/2018	21/05/2018	21/05/2018			
PAH MS												
Naphthalene	mg/kg	<0.04	<0.04	<0.04	0.15	0.07	<0.04	1.92	0.69	2.3*	5.6*	13*
Acenaphthylene	mg/kg	0.05	<0.03	<0.03	0.09	0.04	<0.03	0.48	0.12	2,900	4,600	6,000
Acenaphthene	mg/kg	<0.05	<0.05	<0.05	0.12	<0.05	<0.05	12.13	3.67	3,000	4,700	6,000
Fluorene	mg/kg	0.07	<0.04	<0.04	0.09	0.07	<0.04	7.94	3.08	2,800	3,800	4,500
Phenanthrene	mg/kg	1.01	<0.03	<0.03	1.4	0.7	<0.03	26.74	14.88	1,300	1,500	1,500
Anthracene	mg/kg	0.1	<0.04	<0.04	0.2	0.08	<0.04	5.37	2.86	31,000	35,000	37,000
Fluoranthene	mg/kg	1.27	<0.03	<0.03	2.25	0.12	<0.03	33.15	16.33	1,500	1,600	1,600
Pyrene	mg/kg	1.14	<0.03	<0.03	2.06	0.15	<0.03	29.01	13.68	3,700	3,800	3,800
Benzo(a)anthracene	mg/kg	0.47	<0.06	<0.06	1.28	0.24	<0.06	13.26	8.58	11	14	15
Chrysene	mg/kg	0.71	<0.02	<0.02	1.33	0.27	<0.02	14.8	6.1	30	31	32
Benzo(bk)fluoranthene	mg/kg	1.2	<0.07	<0.07	2.22	0.24	<0.07	21.05	10.22	NE	NE	NE
Benzo(a)pyrene (only)	mg/kg	0.64	<0.04	<0.04	1.2	0.11	<0.04	11.64	5.76	3.2	3.2	3.2
Indeno(123cd)pyrene	mg/kg	0.38	<0.04	<0.04	0.71	0.07	<0.04	6.99	3.15	45	46	46
Dibenzo(ah)anthracene	mg/kg	0.09	<0.04	<0.04	0.19	<0.04	<0.04	1.75	0.73	0.31	0.32	0.32
Benzo(ghi)perylene	mg/kg	0.42	<0.04	<0.04	0.71	0.13	<0.04	6.92	3.12	360	360	360
Coronene	mg/kg	0.1	<0.04	<0.04	0.16	<0.04	<0.04	0.97	0.5	NE	NE	NE
PAH 6 Total	mg/kg	3.91	<0.22	<0.22	7.09	0.67	<0.22	79.75	38.58	NE	NE	NE
PAH 17 Total	mg/kg	7.65	<0.64	<0.64	14.16	2.29	<0.64	194.12	93.47	NE	NE	NE
Benzo(b)fluoranthene	mg/kg	0.86	<0.05	<0.05	1.6	0.17	<0.05	15.16	7.36	3.9	4.0	4.0
Benzo(k)fluoranthene	mg/kg	0.34	<0.02	<0.02	0.62	0.07	<0.02	5.89	2.86	110	110	110
Benzo(j)fluoranthene	mg/kg	<1	<1	<1	<1	<1	<1	6	3	NE	NE	NE
Mineral Oil (C10-C40)	mg/kg	<30	<30	<30	NA	NA	NA	NA	NA	NE	NE	NE

Parameter	Units	WS24	WS24	WS24	BH05	BH05	Residential without homegrown produce LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW]		
		0.50	1.50	2.50	1.70 + 2.00	3.00	1 % SOM	2.5% SOM	6 % SOM
		21/05/2018	21/05/2018	21/05/2018	23/04/2018	23/04/2018			
Aliphatics									
EC 5-6	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	42	78	160
EC >6-8	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	100	230	530
EC >8-10	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	27	65	150
EC >10-12	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	130	330	770
EC >12-16	mg/kg	<4	<4	<4	<4	<4	1,100	2,400	4,400
EC >16-35	mg/kg	<7	<7	<7	1358	1429	65,000	92,000	110,000
EC >35-44	mg/kg	NA	NA	NA	NA	NA	65,000	92,000	110,000
Total aliphatics C5-40	mg/kg	<26	<26	<26	1675	1726	NE	NE	NE
Aromatics									
EC 5-7	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	370	690	1,400
EC >7-8	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	860	1,800	3,900
EC >8-10	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	47	110	270
EC >10-12	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	250	590	1,200
EC >12-16	mg/kg	<4	<4	<4	<4	<4	1,800	2,300	2,500
EC >16-21	mg/kg	39	<7	<7	24	25	1,900	1,900	1,900
EC >21-35	mg/kg	123	<7	<7	468	573	1,900	1,900	1,900
EC >35-44	mg/kg	NA	NA	NA	NA	NA	1,900	1,900	1,900
Total aromatics C5-40	mg/kg	162	<26	<26	608	757	NE	NE	NE
Aliphatics + Aromatics EC >44-70	mg/kg	NA	NA	NA	NA	NA	1,900	1,900	1,900

Parameter	Units	WS24	WS24	WS24	BH05	BH05	Residential without homegrown produce LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW]		
		0.50	1.50	2.50	1.70 + 2.00	3.00	1 % SOM	2.5% SOM	6 % SOM
		21/05/2018	21/05/2018	21/05/2018	23/04/2018	23/04/2018			
VOCs									
MTBE **(*Not Listed*)**	µg/kg	<5	<5	<5	<5	<5	NE	NE	NE
Benzene	µg/kg	NA	<5	<5	<5	<5	380	700	1,400
Toluene	µg/kg	NA	<5	<5	<5	<5	880,000	1,900,000	3,900,000
Ethylbenzene	µg/kg	NA	<5	<5	<5	<5	83,000	190,000	440,000
p-Xylene	µg/kg	NA	<5	<5	<5	<5	79,000	180,000	430,000
m-Xylene	µg/kg	NA	<5	<5	<5	<5	82,000	190,000	450,000
o-Xylene	µg/kg	NA	<5	<5	<5	<5	88,000	210,000	480,000
Soil Organic Matter	%	NA	NA	NA	NA	NA	NE	NE	NE

Parameter	Units	WS24	WS24	WS24	BH05	BH05	Residential without homegrown produce LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW]		
		0.50	1.50	2.50	1.70 + 2.00	3.00	1 % SOM	2.5% SOM	6 % SOM
		21/05/2018	21/05/2018	21/05/2018	23/04/2018	23/04/2018			
Metals									
Antimony	mg/kg	3	2	2	2	2	NE	NE	NE
Inorganic Arsenic	mg/kg	27.8	4.1	3.9	14.8	18.8	NE	NE	40
Barium	mg/kg	114	19	18	64	55	NE	NE	NE
Cadmium	mg/kg	0.8	<0.1	<0.1	0.3	1	NE	NE	85
Chromium III	mg/kg	35.8	157.9	165.6	11.2	14.3	NE	NE	910
Copper	mg/kg	85	5	6	37	25	NE	NE	7,100
Hexavalent Chromium	mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3	NE	NE	6*
Lead	mg/kg	301	7	10	219	73	NE	NE	NE
Elementalmercury	mg/kg	1.4	<0.1	<0.1	0.7	0.5	NE	NE	1.2
Molybdenum	mg/kg	3.6	8.7	10.2	1.4	1.5	NE	NE	NE
Nickel	mg/kg	33.9	15.9	12.6	21.2	25.1	NE	NE	180*
Selenium	mg/kg	1	<1	<1	<1	<1	NE	NE	430
Zinc	mg/kg	208	30	28	108	96	NE	NE	40,000

Parameter	Units	WS24	WS24	WS24	BH05	BH05	Residential without homegrown produce LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW]		
		0.50	1.50	2.50	1.70 + 2.00	3.00	1 % SOM	2.5% SOM	6 % SOM
		21/05/2018	21/05/2018	21/05/2018	23/04/2018	23/04/2018			
PAH MS									
Naphthalene	mg/kg	0.45	<0.04	<0.04	<0.20	<0.04	2.3*	5.6*	13*
Acenaphthylene	mg/kg	0.13	<0.03	<0.03	<0.15	<0.03	2,900	4,600	6,000
Acenaphthene	mg/kg	1.05	<0.05	<0.05	<0.25	<0.05	3,000	4,700	6,000
Fluorene	mg/kg	0.66	<0.04	<0.04	<0.20	<0.04	2,800	3,800	4,500
Phenanthrene	mg/kg	6.95	<0.03	<0.03	<0.15	0.46	1,300	1,500	1,500
Anthracene	mg/kg	0.87	<0.04	<0.04	<0.20	<0.04	31,000	35,000	37,000
Fluoranthene	mg/kg	9.61	<0.03	<0.03	<0.15	0.11	1,500	1,600	1,600
Pyrene	mg/kg	8.59	<0.03	<0.03	<0.15	0.11	3,700	3,800	3,800
Benzo(a)anthracene	mg/kg	4.21	<0.06	<0.06	<0.30	0.07	11	14	15
Chrysene	mg/kg	5.3	<0.02	<0.02	<0.10	0.14	30	31	32
Benzo(bk)fluoranthene	mg/kg	7.51	<0.07	<0.07	<0.35	0.14	NE	NE	NE
Benzo(a)pyrene (only)	mg/kg	4.14	<0.04	<0.04	<0.20	0.04	3.2	3.2	3.2
Indeno(123cd)pyrene	mg/kg	2.46	<0.04	<0.04	<0.20	<0.04	45	46	46
Dibenzo(ah)anthracene	mg/kg	0.57	<0.04	<0.04	<0.20	<0.04	0.31	0.32	0.32
Benzo(ghi)perylene	mg/kg	2.64	<0.04	<0.04	<0.20	0.08	360	360	360
Coronene	mg/kg	0.46	<0.04	<0.04	<0.20	<0.04	NE	NE	NE
PAH 6 Total	mg/kg	26.36	<0.22	<0.22	<1.10	0.37	NE	NE	NE
PAH 17 Total	mg/kg	55.6	<0.64	<0.64	<3.20	1.15	NE	NE	NE
Benzo(b)fluoranthene	mg/kg	5.41	<0.05	<0.05	<0.25	0.1	3.9	4.0	4.0
Benzo(k)fluoranthene	mg/kg	2.1	<0.02	<0.02	<0.10	0.04	110	110	110
Benzo(j)fluoranthene	mg/kg	1	<1	<1	<5	<1	NE	NE	NE
Mineral Oil (C10-C40)	mg/kg	NA	NA	NA	NA	NA	NE	NE	NE

Appendix 3

S4UL Summary Tables

Exova Jones Environmental

Registered Address : Exova (UK) Ltd, Lochend Industrial Estate, Newbridge, Midlothian, EH28 8PL

Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

Tel: +44 (0) 1244 833780
Fax: +44 (0) 1244 833781

Ground Investigations Ireland
Catherinestown House
Hazelhatch Road
Newcastle
Co. Dublin
Ireland

Attention :	Conor Finnerty
Date :	19th April, 2018
Your reference :	7517-02-18
Our reference :	Test Report 18/4921
Location :	East Road
Date samples received :	4th April, 2018
Status :	Final report
Issue :	1

Thirty one samples were received for analysis on 4th April, 2018 of which thirty one 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. Where Waste Acceptance Criteria Suite (EC Decision of 19 December 2002 (2003/33/EC)) has been requested, all analyses have been performed using the relevant EN methods where they exist.

Compiled By:

Lucas Halliwell
Project Co-ordinator

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty
JE Job No.: 18/4921

Report : Solid

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

J E Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	LOD/LOR	Units	Method No.
Sample ID	WS01	WS01	WS03	WS03	WS03	WS04	WS04	WS05	WS06	WS06			
Depth	0.50	1.50	0.50	1.50	2.50	0.50	1.50	0.50	0.50	1.50			
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	<>	<>	<>	<>	<>	<>	<>	<>	<>	<>			
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	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
Antimony	3	<1	-	8	1	11	3	2	10	1	<1	mg/kg	TM30/PM15
Arsenic #	25.4	7.2	-	71.0	6.2	29.4	31.9	16.7	79.1	13.0	<0.5	mg/kg	TM30/PM15
Barium #	106	14	-	212	12	95	137	69	185	25	<1	mg/kg	TM30/PM15
Cadmium #	0.9	0.4	-	0.1	0.2	0.4	0.3	0.5	0.8	0.5	<0.1	mg/kg	TM30/PM15
Chromium #	68.7	42.3	-	69.5	94.2	67.7	56.2	68.7	64.3	46.4	<0.5	mg/kg	TM30/PM15
Copper #	84	8	-	186	7	42	42	54	179	20	<1	mg/kg	TM30/PM15
Lead #	284	17	-	229	11	670	69	109	288	34	<5	mg/kg	TM30/PM15
Mercury #	0.5	<0.1	-	0.7	<0.1	0.9	<0.1	0.7	0.9	<0.1	<0.1	mg/kg	TM30/PM15
Molybdenum #	6.3	3.6	-	14.8	6.3	4.2	5.4	5.4	12.7	6.3	<0.1	mg/kg	TM30/PM15
Nickel #	30.5	11.8	-	126.0	9.0	30.8	54.0	28.0	129.9	26.3	<0.7	mg/kg	TM30/PM15
Selenium #	<1	<1	-	2	<1	<1	<1	1	2	<1	<1	mg/kg	TM30/PM15
Zinc #	277	35	-	225	45	174	95	91	232	81	<5	mg/kg	TM30/PM15
Antimony	-	-	18	-	-	-	-	-	-	-	<1	mg/kg	TM30/PM62
Arsenic	-	-	20.2	-	-	-	-	-	-	-	<0.5	mg/kg	TM30/PM62
Barium	-	-	227	-	-	-	-	-	-	-	<1	mg/kg	TM30/PM62
Cadmium	-	-	1.0	-	-	-	-	-	-	-	<0.1	mg/kg	TM30/PM62
Chromium	-	-	19.1	-	-	-	-	-	-	-	<0.5	mg/kg	TM30/PM62
Copper	-	-	266	-	-	-	-	-	-	-	<1	mg/kg	TM30/PM62
Lead	-	-	1861	-	-	-	-	-	-	-	<5	mg/kg	TM30/PM62
Mercury	-	-	0.9	-	-	-	-	-	-	-	<0.1	mg/kg	TM30/PM62
Molybdenum	-	-	2.4	-	-	-	-	-	-	-	<0.1	mg/kg	TM30/PM62
Nickel	-	-	47.4	-	-	-	-	-	-	-	<0.7	mg/kg	TM30/PM62
Selenium	-	-	<1	-	-	-	-	-	-	-	<1	mg/kg	TM30/PM62
Zinc	-	-	972	-	-	-	-	-	-	-	<5	mg/kg	TM30/PM62

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty
JE Job No.: 18/4921

Report : Solid

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

J E Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	LOD/LOR	Units	Method No.
Sample ID	WS01	WS01	WS03	WS03	WS03	WS04	WS04	WS05	WS06	WS06			
Depth	0.50	1.50	0.50	1.50	2.50	0.50	1.50	0.50	0.50	1.50			
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	<>	<>	<>	<>	<>	<>	<>	<>	<>	<>			
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	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
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	0.54	0.04	<0.03	0.60	<0.03	0.05	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	0.10	<0.05	<0.05	1.80	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	0.26	<0.04	<0.04	1.15	<0.04	0.06	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Phenanthrene #	0.33	<0.03	2.76	0.67	0.09	14.57	0.11	0.77	0.58	<0.03	<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	0.69	<0.04	<0.04	4.29	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Fluoranthene #	0.45	<0.03	5.95	0.50	0.08	22.63	0.05	0.43	0.12	<0.03	<0.03	mg/kg	TM4/PM8
Pyrene #	0.40	<0.03	5.06	0.40	0.07	19.04	0.05	0.32	0.10	<0.03	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	0.26	<0.06	3.43	0.25	<0.06	12.26	0.08	0.33	0.10	<0.06	<0.06	mg/kg	TM4/PM8
Chrysene #	0.26	<0.02	3.28	0.25	0.05	9.34	0.06	0.30	0.15	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	0.46	<0.07	6.96	0.40	<0.07	16.97	<0.07	0.43	0.15	<0.07	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	0.21	<0.04	3.61	0.19	<0.04	9.53	<0.04	0.20	0.07	<0.04	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	0.13	<0.04	2.53	0.11	<0.04	4.83	<0.04	0.11	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	0.69	<0.04	<0.04	1.44	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	0.15	<0.04	2.56	0.15	<0.04	4.75	<0.04	0.14	0.07	<0.04	<0.04	mg/kg	TM4/PM8
Coronene	<0.04	<0.04	0.61	<0.04	<0.04	0.78	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
PAH 6 Total #	1.40	<0.22	21.61	1.35	<0.22	58.71	<0.22	1.31	0.41	<0.22	<0.22	mg/kg	TM4/PM8
PAH 17 Total	2.65	<0.64	39.03	2.96	<0.64	123.98	<0.64	3.14	1.34	<0.64	<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	0.33	<0.05	5.01	0.29	<0.05	12.22	<0.05	0.31	0.11	<0.05	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.13	<0.02	1.95	0.11	<0.02	4.75	<0.02	0.12	0.04	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1	1	<1	<1	5	<1	<1	<1	<1	<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	98	100	95	95	99	93	95	102	94	90	<0	%	TM4/PM8
Mineral Oil (C10-C40)	<30	<30	211	<30	<30	<30	<30	<30	<30	<30	<30	mg/kg	TM5/PM8/PM16
TPH CWG													
Aliphatics													
>C5-C6 #	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	mg/kg	TM36/PM12
>C6-C8 #	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	mg/kg	TM36/PM12
>C8-C10	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C12 #	<0.2	<0.2	4.7	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 #	<4	<4	55	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>C16-C21 #	<7	<7	67	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C21-C35 #	<7	<7	84	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C35-C40	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40	<26	<26	211	<26	<26	<26	<26	<26	<26	<26	<26	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C25	<10	<10	165	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
>C25-C35	<10	<10	51	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty
JE Job No.: 18/4921

Report : Solid

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

J E Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	LOD/LOR	Units	Method No.
Sample ID	WS01	WS01	WS03	WS03	WS03	WS04	WS04	WS05	WS06	WS06			
Depth	0.50	1.50	0.50	1.50	2.50	0.50	1.50	0.50	0.50	1.50			
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	<>	<>	<>	<>	<>	<>	<>	<>	<>	<>			
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	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
TPH CWG													
Aromatics													
>C5-EC7 #	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	mg/kg	TM36/PM12
>EC7-EC8 #	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	mg/kg	TM36/PM12
>EC8-EC10 #	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC12 #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 #	<4	<4	41	<4	<4	12	<4	<4	7	<4	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 #	<7	<7	97	16	<7	47	<7	18	16	<7	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 #	63	<7	160	76	<7	179	<7	66	68	<7	<7	mg/kg	TM5/PM8/PM16
>EC35-EC40	<7	<7	18	13	<7	17	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40	63	<26	316	105	<26	255	<26	84	91	<26	<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40)	63	<52	527	105	<52	255	<52	84	91	<52	<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 #	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC25	17	<10	198	39	<10	115	<10	37	36	<10	<10	mg/kg	TM5/PM8/PM16
>EC25-EC35	43	<10	108	60	<10	114	<10	43	45	<10	<10	mg/kg	TM5/PM8/PM16
MTBE #	<5	<5	<5	<5 SV	<5	<5	<5	<5	<5 SV	<5	<5	ug/kg	TM31/PM12
Benzene #	<5	<5	<5	<5 SV	<5	<5	<5	<5	<5 SV	<5	<5	ug/kg	TM31/PM12
Toluene #	<5	<5	<5	<5 SV	<5	<5	<5	<5	<5 SV	<5	<5	ug/kg	TM31/PM12
Ethylbenzene #	<5	<5	<5	<5 SV	<5	<5	<5	<5	<5 SV	<5	<5	ug/kg	TM31/PM12
m/p-Xylene #	<5	<5	<5	<5 SV	<5	<5	<5	<5	<5 SV	<5	<5	ug/kg	TM31/PM12
o-Xylene #	<5	<5	<5	<5 SV	<5	<5	<5	<5	<5 SV	<5	<5	ug/kg	TM31/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
Natural Moisture Content	21.4	10.5	-	43.9	14.0	13.8	28.4	21.5	48.4	40.7	<0.1	%	PM4/PM0
Natural Moisture Content	-	-	28.0	-	-	-	-	-	-	-	<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	17.6	9.5	-	30.5	12.3	12.1	22.1	17.7	32.6	28.9	<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) #	-	0.0223	-	-	-	-	0.0394	-	-	0.3745	<0.0015	g/l	TM38/PM20
Chromium III	68.7	42.3	-	69.5	94.2	67.7	56.2	68.7	64.3	46.4	<0.5	mg/kg	NONE/NONE
Chromium III	-	-	19.1	-	-	-	-	-	-	-	<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	6.63	0.57	NDP	19.81	0.98	1.36	4.71	2.91	16.72	1.41	<0.02	%	TM21/PM24
pH #	8.55	8.92	7.82	7.66	8.17	8.17	8.19	8.33	8.00	8.05	<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Exova Jones Environmental

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty
JE Job No.: 18/4921

Report : Solid

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

J E Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30			
Sample ID	WS01	WS01	WS03	WS03	WS03	WS04	WS04	WS05	WS06	WS06			
Depth	0.50	1.50	0.50	1.50	2.50	0.50	1.50	0.50	0.50	1.50	Please see attached notes for all abbreviations and acronyms		
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	<>	<>	<>	<>	<>	<>	<>	<>	<>	<>			
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	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	LOD/LOR	Units	Method No.
Mass of raw test portion	0.1046	0.0992	0.1332	0.1225	0.1041	0.11	0.1134	0.1069	0.1235	0.1135		kg	NONE/PM17
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

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty
JE Job No.: 18/4921

Report : Solid

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

J E Sample No.	31-33	34-36	37-39	40-42	43-45	46-48	49-51	52-54	55-57	58-60	LOD/LOR	Units	Method No.
Sample ID	WS09	WS10	WS10	WS10	WS12	WS12	WS12	WS13	WS14	WS14			
Depth	0.50	0.50	1.50	2.50	0.50	1.50	2.50	0.50	0.50	1.50			
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	<>	<>	<>	<>	<>	<>	<>	<>	<>	<>			
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	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
Antimony	-	5	1	<1	5	2	1	4	-	<1	<1	mg/kg	TM30/PM15
Arsenic #	-	35.4	3.9	4.4	43.7	10.5	9.4	29.1	-	6.0	<0.5	mg/kg	TM30/PM15
Barium #	-	151	14	15	165	19	24	116	-	18	<1	mg/kg	TM30/PM15
Cadmium #	-	0.8	<0.1	0.1	0.7	<0.1	<0.1	0.8	-	0.1	<0.1	mg/kg	TM30/PM15
Chromium #	-	90.1	109.1	99.0	88.2	87.3	114.6	80.1	-	44.0	<0.5	mg/kg	TM30/PM15
Copper #	-	119	5	6	250	9	8	80	-	4	<1	mg/kg	TM30/PM15
Lead #	-	350	9	15	321	9	8	352	-	5	<5	mg/kg	TM30/PM15
Mercury #	-	1.4	<0.1	<0.1	1.2	<0.1	<0.1	1.1	-	<0.1	<0.1	mg/kg	TM30/PM15
Molybdenum #	-	9.4	6.7	6.2	9.8	5.8	6.1	9.2	-	2.3	<0.1	mg/kg	TM30/PM15
Nickel #	-	45.3	11.0	11.1	67.5	9.2	10.9	45.2	-	9.6	<0.7	mg/kg	TM30/PM15
Selenium #	-	2	<1	<1	1	<1	<1	1	-	<1	<1	mg/kg	TM30/PM15
Zinc #	-	200	27	27	530	27	22	134	-	24	<5	mg/kg	TM30/PM15
Antimony	4	-	-	-	-	-	-	-	5	-	<1	mg/kg	TM30/PM62
Arsenic	18.3	-	-	-	-	-	-	-	32.7	-	<0.5	mg/kg	TM30/PM62
Barium	370	-	-	-	-	-	-	-	101	-	<1	mg/kg	TM30/PM62
Cadmium	0.9	-	-	-	-	-	-	-	1.0	-	<0.1	mg/kg	TM30/PM62
Chromium	13.3	-	-	-	-	-	-	-	17.4	-	<0.5	mg/kg	TM30/PM62
Copper	139	-	-	-	-	-	-	-	100	-	<1	mg/kg	TM30/PM62
Lead	214	-	-	-	-	-	-	-	397	-	<5	mg/kg	TM30/PM62
Mercury	<0.1	-	-	-	-	-	-	-	2.5	-	<0.1	mg/kg	TM30/PM62
Molybdenum	1.9	-	-	-	-	-	-	-	3.6	-	<0.1	mg/kg	TM30/PM62
Nickel	27.2	-	-	-	-	-	-	-	59.1	-	<0.7	mg/kg	TM30/PM62
Selenium	<1	-	-	-	-	-	-	-	1	-	<1	mg/kg	TM30/PM62
Zinc	415	-	-	-	-	-	-	-	323	-	<5	mg/kg	TM30/PM62

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty
JE Job No.: 18/4921

Report : Solid

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

J E Sample No.	31-33	34-36	37-39	40-42	43-45	46-48	49-51	52-54	55-57	58-60	LOD/LOR	Units	Method No.
Sample ID	WS09	WS10	WS10	WS10	WS12	WS12	WS12	WS13	WS14	WS14			
Depth	0.50	0.50	1.50	2.50	0.50	1.50	2.50	0.50	0.50	1.50			
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	<>	<>	<>	<>	<>	<>	<>	<>	<>	<>			
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	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
PAH MS													
Naphthalene #	<0.04	0.26	<0.04	<0.04	0.13	<0.04	<0.04	0.24	0.22	<0.04	<0.04	mg/kg	TM4/PM8
Acenaphthylene	0.12	0.32	<0.03	<0.03	0.05	<0.03	<0.03	0.09	0.32	<0.03	<0.03	mg/kg	TM4/PM8
Acenaphthene #	0.09	0.26	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.13	<0.05	<0.05	mg/kg	TM4/PM8
Fluorene #	0.09	0.24	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.22	<0.04	<0.04	mg/kg	TM4/PM8
Phenanthrene #	1.12	3.26	<0.03	<0.03	0.61	<0.03	<0.03	0.34	2.59	<0.03	<0.03	mg/kg	TM4/PM8
Anthracene #	0.30	0.66	<0.04	<0.04	0.05	<0.04	<0.04	0.08	0.59	<0.04	<0.04	mg/kg	TM4/PM8
Fluoranthene #	2.28	7.04	<0.03	<0.03	0.46	<0.03	<0.03	0.45	4.36	<0.03	<0.03	mg/kg	TM4/PM8
Pyrene #	1.92	6.15	<0.03	<0.03	0.39	<0.03	<0.03	0.40	3.41	<0.03	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	1.27	2.49	<0.06	<0.06	0.21	<0.06	<0.06	0.29	1.78	<0.06	<0.06	mg/kg	TM4/PM8
Chrysene #	1.01	3.29	<0.02	<0.02	0.29	<0.02	<0.02	0.39	1.61	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	2.28	7.23	<0.07	<0.07	0.48	<0.07	<0.07	0.88	3.84	<0.07	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	1.13	3.78	<0.04	<0.04	0.22	<0.04	<0.04	0.42	1.99	<0.04	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	0.65	2.33	<0.04	<0.04	0.16	<0.04	<0.04	0.25	1.23	<0.04	<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	0.13	0.71	<0.04	<0.04	0.07	<0.04	<0.04	0.09	0.24	<0.04	<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	0.61	2.31	<0.04	<0.04	0.18	<0.04	<0.04	0.25	1.17	<0.04	<0.04	mg/kg	TM4/PM8
Coronene	0.12	0.53	<0.04	<0.04	0.07	<0.04	<0.04	<0.04	0.24	<0.04	<0.04	mg/kg	TM4/PM8
PAH 6 Total #	6.95	22.69	<0.22	<0.22	1.50	<0.22	<0.22	2.25	12.59	<0.22	<0.22	mg/kg	TM4/PM8
PAH 17 Total	13.12	40.86	<0.64	<0.64	3.37	<0.64	<0.64	4.17	23.94	<0.64	<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	1.64	5.21	<0.05	<0.05	0.35	<0.05	<0.05	0.63	2.76	<0.05	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.64	2.02	<0.02	<0.02	0.13	<0.02	<0.02	0.25	1.08	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	93	98	98	93	93	89	94	87	98	98	<0	%	TM4/PM8
Mineral Oil (C10-C40)	193	<30	<30	<30	160	<30	<30	132	62	<30	<30	mg/kg	TM5/PM8/PM16
TPH CWG													
Aliphatics													
>C5-C6 #	<0.1	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>C6-C8 #	<0.1	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>C8-C10	<0.1	<0.1	<0.1 SV	<0.1	0.4 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>C10-C12 #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	70.4	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 #	<4	<4	<4	<4	<4	<4	<4	53	<4	<4	<4	mg/kg	TM5/PM8/PM16
>C16-C21 #	<7	<7	<7	<7	31	<7	<7	<7	13	<7	<7	mg/kg	TM5/PM8/PM16
>C21-C35 #	183	18	<7	<7	129	<7	<7	9	49	<7	<7	mg/kg	TM5/PM8/PM16
>C35-C40	10	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40	193	<26	<26	<26	160	<26	<26	132	62	<26	<26	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10	<0.1	<0.1	<0.1 SV	<0.1	0.4 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>C10-C25	32	<10	<10	<10	60	<10	<10	122	19	<10	<10	mg/kg	TM5/PM8/PM16
>C25-C35	144	20	<10	<10	88	<10	<10	<10	33	<10	<10	mg/kg	TM5/PM8/PM16

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty
JE Job No.: 18/4921

Report : Solid

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

J E Sample No.	31-33	34-36	37-39	40-42	43-45	46-48	49-51	52-54	55-57	58-60	LOD/LOR	Units	Method No.
Sample ID	WS09	WS10	WS10	WS10	WS12	WS12	WS12	WS13	WS14	WS14			
Depth	0.50	0.50	1.50	2.50	0.50	1.50	2.50	0.50	0.50	1.50			
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	<>	<>	<>	<>	<>	<>	<>	<>	<>	<>			
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	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
TPH CWG													
Aromatics													
>C5-EC7 #	<0.1	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC7-EC8 #	<0.1	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC8-EC10 #	<0.1	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC10-EC12 #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	20.9	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 #	<4	8	<4	<4	5	<4	<4	25	13	<4	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 #	17	50	<7	<7	18	<7	<7	<7	39	<7	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 #	124	255	<7	<7	101	<7	<7	64	158	<7	<7	mg/kg	TM5/PM8/PM16
>EC35-EC40	18	30	<7	<7	12	<7	<7	<7	16	<7	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40	159	343	<26	<26	136	<26	<26	110	226	<26	<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40)	352	343	<52	<52	296	<52	<52	242	288	<52	<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 #	<0.1	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC10-EC25	44	118	<10	<10	43	<10	<10	63	75	<10	<10	mg/kg	TM5/PM8/PM16
>EC25-EC35	94	186	<10	<10	68	<10	<10	45	103	<10	<10	mg/kg	TM5/PM8/PM16
MTBE #	<5	<5	<5 SV	<5	<5 SV	<5	<5	<5	<5	<5 SV	<5	ug/kg	TM31/PM12
Benzene #	<5	<5	<5 SV	<5	<5 SV	<5	<5	<5	<5	<5 SV	<5	ug/kg	TM31/PM12
Toluene #	<5	<5	<5 SV	<5	<5 SV	<5	<5	<5	<5	<5 SV	<5	ug/kg	TM31/PM12
Ethylbenzene #	<5	<5	<5 SV	<5	<5 SV	<5	<5	<5	<5	<5 SV	<5	ug/kg	TM31/PM12
m/p-Xylene #	<5	<5	<5 SV	<5	<5 SV	<5	<5	16	<5	<5 SV	<5	ug/kg	TM31/PM12
o-Xylene #	<5	<5	<5 SV	<5	<5 SV	<5	<5	<5	<5	<5 SV	<5	ug/kg	TM31/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
Natural Moisture Content	-	57.5	25.5	22.5	33.7	19.4	8.5	35.1	-	27.7	<0.1	%	PM4/PM0
Natural Moisture Content	10.7	-	-	-	-	-	-	-	21.4	-	<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	-	36.5	20.3	18.4	25.2	16.2	7.8	26.0	-	21.7	<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) #	-	-	-	-	-	-	-	-	-	0.2124	<0.0015	g/l	TM38/PM20
Chromium III	-	90.1	109.1	99.0	88.2	87.3	114.6	80.1	-	44.0	<0.5	mg/kg	NONE/NONE
Chromium III	13.3	-	-	-	-	-	-	-	17.4	-	<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	NDP	10.56	0.13	0.39	11.54	0.50	0.21	8.73	NDP	0.36	<0.02	%	TM21/PM24
pH #	8.36	7.53	8.88	8.84	8.22	8.65	8.85	7.86	7.86	8.21	<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty
JE Job No.: 18/4921

Report : Solid

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

J E Sample No.	31-33	34-36	37-39	40-42	43-45	46-48	49-51	52-54	55-57	58-60	LOD/LOR	Units	Method No.
Sample ID	WS09	WS10	WS10	WS10	WS12	WS12	WS12	WS13	WS14	WS14			
Depth	0.50	0.50	1.50	2.50	0.50	1.50	2.50	0.50	0.50	1.50			
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	<>	<>	<>	<>	<>	<>	<>	<>	<>	<>			
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	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
Mass of raw test portion	0.0965	0.1516	0.1093	0.1071	0.1358	0.1058	0.0973	0.1108	0.1284	0.1109		kg	NONE/PM17
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

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty
JE Job No.: 18/4921

Report : Solid

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

J E Sample No.	61-63	64-66	67-69	70-72	73-75	76-78	79-81	82-84	85-87	88-90	LOD/LOR	Units	Method No.
Sample ID	WS15	WS16	WS16	WS17	WS18	WS18	WS19	WS20	WS21	WS21			
Depth	1.50	0.50	1.50	0.50	0.50	1.50	0.50	0.50	0.50	1.50			
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	<>	<>	<>	<>	<>	<>	<>	<>	<>	<>			
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	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
Antimony	1	4	2	3	3	1	6	6	5	<1	<1	mg/kg	TM30/PM15
Arsenic #	11.0	31.6	14.8	19.3	22.7	6.0	42.0	43.6	31.5	3.9	<0.5	mg/kg	TM30/PM15
Barium #	26	109	21	61	95	20	162	190	124	12	<1	mg/kg	TM30/PM15
Cadmium #	0.2	0.7	0.8	0.2	0.7	0.1	0.7	0.7	0.7	0.1	<0.1	mg/kg	TM30/PM15
Chromium #	59.5	77.9	57.5	37.9	46.5	106.6	73.6	63.3	77.7	97.5	<0.5	mg/kg	TM30/PM15
Copper #	7	99	16	14	58	10	210	115	102	6	<1	mg/kg	TM30/PM15
Lead #	11	188	26	30	332	27	703	346	320	11	<5	mg/kg	TM30/PM15
Mercury #	<0.1	0.8	<0.1	<0.1	0.9	<0.1	1.2	1.0	1.6	<0.1	<0.1	mg/kg	TM30/PM15
Molybdenum #	5.9	10.7	5.5	2.7	5.6	6.9	7.7	10.4	9.5	6.0	<0.1	mg/kg	TM30/PM15
Nickel #	18.9	61.2	21.8	19.7	41.7	11.7	64.8	70.8	48.7	9.7	<0.7	mg/kg	TM30/PM15
Selenium #	<1	1	<1	<1	<1	<1	2	1	2	<1	<1	mg/kg	TM30/PM15
Zinc #	39	114	65	41	103	26	220	169	173	25	<5	mg/kg	TM30/PM15
Antimony	-	-	-	-	-	-	-	-	-	-	<1	mg/kg	TM30/PM62
Arsenic	-	-	-	-	-	-	-	-	-	-	<0.5	mg/kg	TM30/PM62
Barium	-	-	-	-	-	-	-	-	-	-	<1	mg/kg	TM30/PM62
Cadmium	-	-	-	-	-	-	-	-	-	-	<0.1	mg/kg	TM30/PM62
Chromium	-	-	-	-	-	-	-	-	-	-	<0.5	mg/kg	TM30/PM62
Copper	-	-	-	-	-	-	-	-	-	-	<1	mg/kg	TM30/PM62
Lead	-	-	-	-	-	-	-	-	-	-	<5	mg/kg	TM30/PM62
Mercury	-	-	-	-	-	-	-	-	-	-	<0.1	mg/kg	TM30/PM62
Molybdenum	-	-	-	-	-	-	-	-	-	-	<0.1	mg/kg	TM30/PM62
Nickel	-	-	-	-	-	-	-	-	-	-	<0.7	mg/kg	TM30/PM62
Selenium	-	-	-	-	-	-	-	-	-	-	<1	mg/kg	TM30/PM62
Zinc	-	-	-	-	-	-	-	-	-	-	<5	mg/kg	TM30/PM62

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty
JE Job No.: 18/4921

Report : Solid

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

J E Sample No.	61-63	64-66	67-69	70-72	73-75	76-78	79-81	82-84	85-87	88-90	LOD/LOR	Units	Method No.
Sample ID	WS15	WS16	WS16	WS17	WS18	WS18	WS19	WS20	WS21	WS21			
Depth	1.50	0.50	1.50	0.50	0.50	1.50	0.50	0.50	0.50	1.50			
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	<>	<>	<>	<>	<>	<>	<>	<>	<>	<>			
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	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
PAH MS													
Naphthalene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.16	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.14	0.06	0.05	<0.03	<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.34	<0.05	<0.05	<0.05	<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	<0.04	0.06	<0.04	<0.04	0.30	0.07	0.07	<0.04	<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03	0.19	<0.03	0.37	0.26	<0.03	4.70	1.28	1.01	<0.03	<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	1.06	0.10	0.10	<0.04	<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	0.08	<0.03	0.04	0.05	<0.03	7.76	0.99	1.27	<0.03	<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	0.08	<0.03	0.05	0.05	<0.03	6.63	0.89	1.14	<0.03	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	0.11	<0.06	0.09	<0.06	<0.06	2.80	0.62	0.47	<0.06	<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	0.10	<0.02	0.06	0.08	<0.02	3.73	0.60	0.71	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	0.12	<0.07	<0.07	<0.07	<0.07	6.67	0.93	1.20	<0.07	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	0.07	<0.04	<0.04	<0.04	<0.04	3.45	0.46	0.64	<0.04	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	2.06	0.26	0.38	<0.04	<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.43	0.07	0.09	<0.04	<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	0.07	<0.04	<0.04	<0.04	<0.04	2.01	0.32	0.42	<0.04	<0.04	mg/kg	TM4/PM8
Coronene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.39	0.07	0.10	<0.04	<0.04	mg/kg	TM4/PM8
PAH 6 Total #	<0.22	0.34	<0.22	<0.22	<0.22	<0.22	21.95	2.96	3.91	<0.22	<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	0.82	<0.64	0.67	<0.64	<0.64	42.47	6.88	7.65	<0.64	<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	0.09	<0.05	<0.05	<0.05	<0.05	4.80	0.67	0.86	<0.05	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	1.87	0.26	0.34	<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	96	98	96	101	99	93	98	98	98	96	<0	%	TM4/PM8
Mineral Oil (C10-C40)	<30	<30	<30	95	<30	<30	<30	<30	<30	<30	<30	mg/kg	TM5/PM8/PM16
TPH CWG													
Aliphatics													
>C5-C6 #	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>C6-C8 #	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>C8-C10	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>C10-C12 #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 #	<4	<4	<4	10	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>C16-C21 #	<7	<7	<7	62	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C21-C35 #	<7	<7	<7	23	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C35-C40	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40	<26	<26	<26	95	<26	<26	<26	<26	<26	<26	<26	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>C10-C25	<10	<10	<10	92	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
>C25-C35	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty
JE Job No.: 18/4921

Report : Solid

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

J E Sample No.	61-63	64-66	67-69	70-72	73-75	76-78	79-81	82-84	85-87	88-90	LOD/LOR	Units	Method No.
Sample ID	WS15	WS16	WS16	WS17	WS18	WS18	WS19	WS20	WS21	WS21			
Depth	1.50	0.50	1.50	0.50	0.50	1.50	0.50	0.50	0.50	1.50			
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	<>	<>	<>	<>	<>	<>	<>	<>	<>	<>			
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	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
TPH CWG													
Aromatics													
>C5-EC7 #	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC7-EC8 #	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC8-EC10 #	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC10-EC12 #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 #	<4	<4	<4	10	<4	<4	8	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 #	<7	<7	<7	33	<7	<7	49	22	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 #	<7	<7	<7	24	<7	<7	196	106	61	<7	<7	mg/kg	TM5/PM8/PM16
>EC35-EC40	<7	<7	<7	<7	<7	<7	14	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40	<26	<26	<26	67	<26	<26	267	128	61	<26	<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40)	<52	<52	<52	162	<52	<52	267	128	61	<52	<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 #	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC10-EC25	<10	<10	<10	68	<10	<10	110	56	18	<10	<10	mg/kg	TM5/PM8/PM16
>EC25-EC35	<10	<10	<10	<10	<10	<10	139	75	44	<10	<10	mg/kg	TM5/PM8/PM16
MTBE #	<5	<5 SV	<5	<5	<5	<5	<5 SV	<5	<5	<5 SV	<5	ug/kg	TM31/PM12
Benzene #	<5	<5 SV	<5	<5	<5	<5	<5 SV	<5	<5	<5 SV	<5	ug/kg	TM31/PM12
Toluene #	<5	<5 SV	<5	<5	<5	<5	<5 SV	<5	<5	<5 SV	<5	ug/kg	TM31/PM12
Ethylbenzene #	<5	<5 SV	<5	<5	<5	<5	<5 SV	<5	<5	<5 SV	<5	ug/kg	TM31/PM12
m/p-Xylene #	<5	<5 SV	<5	<5	<5	<5	<5 SV	<5	<5	<5 SV	<5	ug/kg	TM31/PM12
o-Xylene #	<5	<5 SV	<5	<5	<5	<5	<5 SV	<5	<5	<5 SV	<5	ug/kg	TM31/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
Natural Moisture Content	29.7	38.2	52.1	15.3	21.6	16.6	54.4	32.8	36.2	20.2	<0.1	%	PM4/PM0
Natural Moisture Content	-	-	-	-	-	-	-	-	-	-	<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	22.9	27.6	34.2	13.3	17.8	14.2	35.2	24.7	26.6	16.8	<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) #	-	-	0.3022	-	-	-	-	-	-	-	<0.0015	g/l	TM38/PM20
Chromium III	59.5	77.9	57.5	37.9	46.5	106.6	73.6	63.3	77.7	97.5	<0.5	mg/kg	NONE/NONE
Chromium III	-	-	-	-	-	-	-	-	-	-	<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.98	16.88	2.84	1.58	6.49	0.34	13.23	12.86	15.31	0.36	<0.02	%	TM21/PM24
pH #	8.21	8.16	7.89	8.53	8.34	8.92	8.02	7.47	7.67	8.89	<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty
JE Job No.: 18/4921

Report : Solid

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

J E Sample No.	61-63	64-66	67-69	70-72	73-75	76-78	79-81	82-84	85-87	88-90	LOD/LOR	Units	Method No.
Sample ID	WS15	WS16	WS16	WS17	WS18	WS18	WS19	WS20	WS21	WS21			
Depth	1.50	0.50	1.50	0.50	0.50	1.50	0.50	0.50	0.50	1.50			
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	<>	<>	<>	<>	<>	<>	<>	<>	<>	<>			
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	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
Mass of raw test portion	0.1194	0.1347	0.1398	0.1127	0.1215	0.1042	0.1409	0.1286	0.1254	0.111		kg	NONE/PM17
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

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty
JE Job No.: 18/4921

Report : Solid

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

J E Sample No.	91-93												
Sample ID	WS21												
Depth	2.50												
COC No / misc													
Containers	V J T												
Sample Date	<>												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	04/04/2018												

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
Antimony	<1										<1	mg/kg	TM30/PM15
Arsenic #	4.5										<0.5	mg/kg	TM30/PM15
Barium #	11										<1	mg/kg	TM30/PM15
Cadmium #	0.1										<0.1	mg/kg	TM30/PM15
Chromium #	47.2										<0.5	mg/kg	TM30/PM15
Copper #	5										<1	mg/kg	TM30/PM15
Lead #	7										<5	mg/kg	TM30/PM15
Mercury #	<0.1										<0.1	mg/kg	TM30/PM15
Molybdenum #	3.2										<0.1	mg/kg	TM30/PM15
Nickel #	8.8										<0.7	mg/kg	TM30/PM15
Selenium #	<1										<1	mg/kg	TM30/PM15
Zinc #	20										<5	mg/kg	TM30/PM15
Antimony	-										<1	mg/kg	TM30/PM62
Arsenic	-										<0.5	mg/kg	TM30/PM62
Barium	-										<1	mg/kg	TM30/PM62
Cadmium	-										<0.1	mg/kg	TM30/PM62
Chromium	-										<0.5	mg/kg	TM30/PM62
Copper	-										<1	mg/kg	TM30/PM62
Lead	-										<5	mg/kg	TM30/PM62
Mercury	-										<0.1	mg/kg	TM30/PM62
Molybdenum	-										<0.1	mg/kg	TM30/PM62
Nickel	-										<0.7	mg/kg	TM30/PM62
Selenium	-										<1	mg/kg	TM30/PM62
Zinc	-										<5	mg/kg	TM30/PM62

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty
JE Job No.: 18/4921

Report : Solid

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

Please see attached notes for all abbreviations and acronyms

J E Sample No.	91-93												
Sample ID	WS21												
Depth	2.50												
COC No / misc													
Containers	V J T												
Sample Date	<>												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	04/04/2018												
												LOD/LOR	Units	Method No.
PAH MS														
Naphthalene #	<0.04											<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03											<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05											<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04											<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03											<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04											<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03											<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03											<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06											<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02											<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07											<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04											<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04											<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04											<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04											<0.04	mg/kg	TM4/PM8
Coronene	<0.04											<0.04	mg/kg	TM4/PM8
PAH 6 Total #	<0.22											<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64											<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05											<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02											<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1											<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	99											<0	%	TM4/PM8
Mineral Oil (C10-C40)	<30											<30	mg/kg	TM5/PM8/PM16
TPH CWG														
Aliphatics														
>C5-C6 #	<0.1											<0.1	mg/kg	TM36/PM12
>C6-C8 #	<0.1											<0.1	mg/kg	TM36/PM12
>C8-C10	<0.1											<0.1	mg/kg	TM36/PM12
>C10-C12 #	<0.2											<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 #	<4											<4	mg/kg	TM5/PM8/PM16
>C16-C21 #	<7											<7	mg/kg	TM5/PM8/PM16
>C21-C35 #	<7											<7	mg/kg	TM5/PM8/PM16
>C35-C40	<7											<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40	<26											<26	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10	<0.1											<0.1	mg/kg	TM36/PM12
>C10-C25	<10											<10	mg/kg	TM5/PM8/PM16
>C25-C35	<10											<10	mg/kg	TM5/PM8/PM16

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty
JE Job No.: 18/4921

Report : Solid

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

J E Sample No.	91-93										LOD/LOR	Units	Method No.
Sample ID	WS21												
Depth	2.50												
COC No / misc													
Containers	V J T												
Sample Date	<>												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	04/04/2018												
TPH CWG													
Aromatics													
>C5-EC7 #	<0.1										<0.1	mg/kg	TM36/PM12
>EC7-EC8 #	<0.1										<0.1	mg/kg	TM36/PM12
>EC8-EC10 #	<0.1										<0.1	mg/kg	TM36/PM12
>EC10-EC12 #	<0.2										<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 #	<4										<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 #	<7										<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 #	<7										<7	mg/kg	TM5/PM8/PM16
>EC35-EC40	<7										<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40	<26										<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40)	<52										<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 #	<0.1										<0.1	mg/kg	TM36/PM12
>EC10-EC25	<10										<10	mg/kg	TM5/PM8/PM16
>EC25-EC35	<10										<10	mg/kg	TM5/PM8/PM16
MTBE #	<5										<5	ug/kg	TM31/PM12
Benzene #	<5										<5	ug/kg	TM31/PM12
Toluene #	<5										<5	ug/kg	TM31/PM12
Ethylbenzene #	<5										<5	ug/kg	TM31/PM12
m/p-Xylene #	<5										<5	ug/kg	TM31/PM12
o-Xylene #	<5										<5	ug/kg	TM31/PM12
PCB 28 #	<5										<5	ug/kg	TM17/PM8
PCB 52 #	<5										<5	ug/kg	TM17/PM8
PCB 101 #	<5										<5	ug/kg	TM17/PM8
PCB 118 #	<5										<5	ug/kg	TM17/PM8
PCB 138 #	<5										<5	ug/kg	TM17/PM8
PCB 153 #	<5										<5	ug/kg	TM17/PM8
PCB 180 #	<5										<5	ug/kg	TM17/PM8
Total 7 PCBs #	<35										<35	ug/kg	TM17/PM8
Natural Moisture Content	20.7										<0.1	%	PM4/PM0
Natural Moisture Content	-										<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	17.1										<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3										<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.0743										<0.0015	g/l	TM38/PM20
Chromium III	47.2										<0.5	mg/kg	NONE/NONE
Chromium III	-										<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.45										<0.02	%	TM21/PM24
pH #	8.57										<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty
JE Job No.: 18/4921

Report : Solid

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

J E Sample No.	91-93										Please see attached notes for all abbreviations and acronyms		
Sample ID	WS21												
Depth	2.50												
COC No / misc													
Containers	V J T												
Sample Date	<>												
Sample Type	Soil												
Batch Number	1										LOD/LOR	Units	Method No.
Date of Receipt	04/04/2018												
Mass of raw test portion	0.1117											kg	NONE/PM17
Mass of dried test portion	0.09											kg	NONE/PM17

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty
JE Job No.: 18/4921

Report : CEN 10:1 1 Batch

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

J E Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	LOD/LOR	Units	Method No.
Sample ID	WS01	WS01	WS03	WS03	WS03	WS04	WS04	WS05	WS06	WS06			
Depth	0.50	1.50	0.50	1.50	2.50	0.50	1.50	0.50	0.50	1.50			
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	<>	<>	<>	<>	<>	<>	<>	<>	<>	<>			
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	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
Dissolved Antimony #	<0.002	<0.002	0.027	0.007	0.002	0.002	0.005	<0.002	0.008	0.003	<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) #	<0.02	<0.02	0.27	0.07	<0.02	0.02	0.05	<0.02	0.08	0.03	<0.02	mg/kg	TM30/PM17
Dissolved Arsenic #	0.0113	0.0050	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.0126	0.0053	<0.0025	<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) #	0.113	0.050	<0.025	<0.025	<0.025	<0.025	<0.025	0.126	0.053	<0.025	<0.025	mg/kg	TM30/PM17
Dissolved Barium #	<0.003	<0.003	0.092	0.007	0.004	0.022	0.004	<0.003	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	<0.03	<0.03	0.92	0.07	0.04	0.22	0.04	<0.03	<0.03	<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	<0.0015	<0.0015	<0.0015	0.0051	<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	0.051	<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 #	0.013	0.005	0.015	0.034	0.015	0.009	0.016	0.003	0.005	0.098	<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.13	0.05	0.15	0.34	0.15	0.09	0.16	0.03	0.05	0.98	<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	<0.002	<0.002	0.005	0.005	<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	0.05	0.05	<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	0.004	<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	<0.03	0.04	<0.03	<0.03	<0.03	<0.03	mg/kg	TM30/PM17
Dissolved Zinc #	<0.003	<0.003	0.090	<0.003	0.004	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) #	<0.03	<0.03	0.90	<0.03	0.04	<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/PM38
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/PM38
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	0.4	<0.3	0.4	0.4	<0.3	<0.3	0.5	<0.3	0.4	<0.3	<0.3	mg/l	TM173/PM0
Fluoride	4	<3	4	4	<3	<3	5	<3	4	<3	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	7.58	1.72	198.19	30.29	49.32	766.41	19.20	9.91	6.95	62.35	<0.05	mg/l	TM38/PM0
Sulphate as SO4 #	75.8	17.2	1982.1	303.0	493.0	7665.5	192.1	99.1	69.5	623.4	<0.5	mg/kg	TM38/PM0
Chloride #	5.7	0.4	11.2	1.8	0.9	0.9	1.0	2.8	1.9	0.9	<0.3	mg/l	TM38/PM0
Chloride #	57	4	112	18	9	9	10	28	19	9	<3	mg/kg	TM38/PM0
Dissolved Organic Carbon	3	3	8	7	2	<2	5	3	3	6	<2	mg/l	TM60/PM0
Dissolved Organic Carbon	30	30	80	70	<20	<20	50	30	30	60	<20	mg/kg	TM60/PM0
pH	9.07	8.85	7.86	8.10	8.15	8.29	8.07	8.91	8.35	8.10	<0.01	pH units	TM73/PM0
Total Dissolved Solids #	88	50	469	166	125	1338	135	66	156	199	<35	mg/l	TM20/PM0
Total Dissolved Solids #	880	500	4691	1661	1249	13382	1351	660	1560	1990	<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty
JE Job No.: 18/4921

Report : CEN 10:1 1 Batch

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

J E Sample No.	31-33	34-36	37-39	40-42	43-45	46-48	49-51	52-54	55-57	58-60	LOD/LOR	Units	Method No.
Sample ID	WS09	WS10	WS10	WS10	WS12	WS12	WS12	WS13	WS14	WS14			
Depth	0.50	0.50	1.50	2.50	0.50	1.50	2.50	0.50	0.50	1.50			
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	<>	<>	<>	<>	<>	<>	<>	<>	<>	<>			
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	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
Dissolved Antimony #	0.034	0.014	<0.002	<0.002	0.005	0.004	<0.002	0.003	0.024	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) #	0.34	0.14	<0.02	<0.02	0.05	0.04	<0.02	0.03	0.24	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Arsenic #	0.0036	0.0104	0.0037	<0.0025	0.0038	0.0045	0.0054	0.0053	0.0071	0.0102	<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) #	0.036	0.104	0.037	<0.025	0.038	0.045	0.054	0.053	0.071	0.102	<0.025	mg/kg	TM30/PM17
Dissolved Barium #	0.069	0.017	<0.003	<0.003	0.012	<0.003	<0.003	0.020	0.009	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	0.69	0.17	<0.03	<0.03	0.12	<0.03	<0.03	0.20	0.09	<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 #	0.0022	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) #	0.022	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	mg/kg	TM30/PM17
Dissolved Copper #	<0.007	0.013	<0.007	<0.007	0.010	<0.007	<0.007	<0.007	0.007	<0.007	<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) #	<0.07	0.13	<0.07	<0.07	0.10	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	TM30/PM17
Dissolved Lead #	<0.005	0.007	<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	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum #	0.013	0.073	0.004	0.006	0.004	0.005	<0.002	0.061	0.033	0.002	<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.13	0.73	0.04	0.06	0.04	0.05	<0.02	0.61	0.33	0.02	<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	0.003	0.004	<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) #	0.03	0.04	<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	0.005	<0.003	<0.003	0.004	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) #	<0.03	<0.03	<0.03	<0.03	<0.03	0.05	<0.03	<0.03	0.04	<0.03	<0.03	mg/kg	TM30/PM17
Dissolved Zinc #	0.006	0.008	<0.003	<0.003	0.004	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) #	0.06	0.08	<0.03	<0.03	0.04	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF #	<0.00001	0.00003	<0.00001	<0.00001	0.00010	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	mg/l	TM61/PM38
Mercury Dissolved by CVAF #	<0.0001	0.0003	<0.0001	<0.0001	0.0010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	mg/kg	TM61/PM38
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	0.7	<0.3	<0.3	0.7	<0.3	<0.3	0.3	0.4	<0.3	<0.3	mg/l	TM173/PM0
Fluoride	<3	7	<3	<3	7	<3	<3	<3	4	<3	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	34.34	58.64	1.96	7.07	9.38	6.42	5.92	22.73	49.99	11.57	<0.05	mg/l	TM38/PM0
Sulphate as SO4 #	343.2	586.4	19.6	70.7	93.8	64.2	59.2	227.3	499.7	115.7	<0.5	mg/kg	TM38/PM0
Chloride #	0.6	0.8	<0.3	0.9	9.7	2.8	0.7	2.9	2.1	2.4	<0.3	mg/l	TM38/PM0
Chloride #	6	8	<3	9	97	28	7	29	21	24	<3	mg/kg	TM38/PM0
Dissolved Organic Carbon	3	16	3	2	3	<2	<2	5	7	2	<2	mg/l	TM60/PM0
Dissolved Organic Carbon	30	160	30	20	30	<20	<20	50	70	20	<20	mg/kg	TM60/PM0
pH	8.50	8.27	8.71	8.78	8.34	8.57	8.86	8.06	8.18	8.55	<0.01	pH units	TM73/PM0
Total Dissolved Solids #	150	364	75	<35	170	97	126	286	249	87	<35	mg/l	TM20/PM0
Total Dissolved Solids #	1499	3640	750	<350	1701	971	1260	2860	2489	870	<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty
JE Job No.: 18/4921

Report : CEN 10:1 1 Batch

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

J E Sample No.	61-63	64-66	67-69	70-72	73-75	76-78	79-81	82-84	85-87	88-90	LOD/LOR	Units	Method No.
Sample ID	WS15	WS16	WS16	WS17	WS18	WS18	WS19	WS20	WS21	WS21			
Depth	1.50	0.50	1.50	0.50	0.50	1.50	0.50	0.50	0.50	1.50			
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	<>	<>	<>	<>	<>	<>	<>	<>	<>	<>			
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	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018			
Dissolved Antimony #	<0.002	<0.002	0.005	0.003	<0.002	<0.002	0.005	0.010	0.017	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) #	<0.02	<0.02	0.05	0.03	<0.02	<0.02	0.05	0.10	0.17	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Arsenic #	0.0042	0.0057	<0.0025	0.0029	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) #	0.042	0.057	<0.025	0.029	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	mg/kg	TM30/PM17
Dissolved Barium #	0.009	0.003	0.005	0.005	0.003	<0.003	0.012	0.041	0.027	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	0.09	<0.03	0.05	0.05	<0.03	<0.03	0.12	0.41	0.27	<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	<0.0015	<0.0015	<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	<0.015	<0.015	<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 #	0.060	0.004	0.064	0.003	0.012	0.004	0.012	0.110	0.047	0.004	<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.60	0.04	0.64	0.03	0.12	0.04	0.12	1.10	0.47	0.04	<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.003	0.003	<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	0.03	0.03	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Selenium #	0.004	<0.003	<0.003	<0.003	<0.003	<0.003	0.004	0.004	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) #	0.04	<0.03	<0.03	<0.03	<0.03	<0.03	0.04	0.04	<0.03	<0.03	<0.03	mg/kg	TM30/PM17
Dissolved Zinc #	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.003	0.004	0.013	<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	0.04	0.13	<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/PM38
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/PM38
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	0.8	<0.3	0.5	0.6	<0.3	0.8	<0.3	0.3	<0.3	<0.3	mg/l	TM173/PM0
Fluoride	<3	8	<3	5	6	<3	8	<3	3	<3	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	51.29	13.33	92.08	9.52	7.65	5.69	13.09	100.15	109.44	5.07	<0.05	mg/l	TM38/PM0
Sulphate as SO4 #	512.7	133.3	920.7	95.2	76.5	56.9	130.9	1001.0	1094.8	50.7	<0.5	mg/kg	TM38/PM0
Chloride #	30.3	11.5	3.8	14.4	0.7	<0.3	10.3	2.1	1.1	0.9	<0.3	mg/l	TM38/PM0
Chloride #	303	115	38	144	7	<3	103	21	11	9	<3	mg/kg	TM38/PM0
Dissolved Organic Carbon	4	<2	10	<2	<2	<2	5	6	9	2	<2	mg/l	TM60/PM0
Dissolved Organic Carbon	40	<20	100	<20	<20	<20	50	60	90	<20	<20	mg/kg	TM60/PM0
pH	8.34	8.27	8.06	8.52	8.30	8.77	8.32	8.03	7.96	8.53	<0.01	pH units	TM73/PM0
Total Dissolved Solids #	234	245	354	143	165	70	125	405	251	74	<35	mg/l	TM20/PM0
Total Dissolved Solids #	2339	2450	3539	1430	1650	700	1250	4048	2511	740	<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty
JE Job No.: 18/4921

Report : CEN 10:1 1 Batch

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

J E Sample No.	91-93										LOD/LOR	Units	Method No.
Sample ID	WS21												
Depth	2.50												
COC No / misc													
Containers	V J T												
Sample Date	<>												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	04/04/2018												
Dissolved Antimony #	<0.002										<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) #	<0.02										<0.02	mg/kg	TM30/PM17
Dissolved Arsenic #	<0.0025										<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) #	<0.025										<0.025	mg/kg	TM30/PM17
Dissolved Barium #	<0.003										<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	<0.03										<0.03	mg/kg	TM30/PM17
Dissolved Cadmium #	<0.0005										<0.0005	mg/l	TM30/PM17
Dissolved Cadmium (A10) #	<0.005										<0.005	mg/kg	TM30/PM17
Dissolved Chromium #	<0.0015										<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) #	<0.015										<0.015	mg/kg	TM30/PM17
Dissolved Copper #	<0.007										<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) #	<0.07										<0.07	mg/kg	TM30/PM17
Dissolved Lead #	<0.005										<0.005	mg/l	TM30/PM17
Dissolved Lead (A10) #	<0.05										<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum #	0.019										<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.19										<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	<0.002										<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) #	<0.02										<0.02	mg/kg	TM30/PM17
Dissolved Selenium #	<0.003										<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) #	<0.03										<0.03	mg/kg	TM30/PM17
Dissolved Zinc #	<0.003										<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) #	<0.03										<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF #	<0.00001										<0.00001	mg/l	TM61/PM38
Mercury Dissolved by CVAF #	<0.0001										<0.0001	mg/kg	TM61/PM38
Phenol	<0.01										<0.01	mg/l	TM26/PM0
Phenol	<0.1										<0.1	mg/kg	TM26/PM0
Fluoride	<0.3										<0.3	mg/l	TM173/PM0
Fluoride	<3										<3	mg/kg	TM173/PM0
Sulphate as SO4 #	46.77										<0.05	mg/l	TM38/PM0
Sulphate as SO4 #	467.8										<0.5	mg/kg	TM38/PM0
Chloride #	2.7										<0.3	mg/l	TM38/PM0
Chloride #	27										<3	mg/kg	TM38/PM0
Dissolved Organic Carbon	<2										<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20										<20	mg/kg	TM60/PM0
pH	8.16										<0.01	pH units	TM73/PM0
Total Dissolved Solids #	167										<35	mg/l	TM20/PM0
Total Dissolved Solids #	1670										<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty
JE Job No.: 18/4921

Report : EN12457_2

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

Please see attached notes for all abbreviations and acronyms

J E Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Sample ID	WS01	WS01	WS03	WS03	WS03	WS04	WS04	WS05	WS06	WS06						
Depth	0.50	1.50	0.50	1.50	2.50	0.50	1.50	0.50	0.50	1.50						
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	<>	<>	<>	<>	<>	<>	<>	<>	<>	<>						
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	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018						
Solid Waste Analysis																
Total Organic Carbon #	6.63	0.57	NDP	19.81	0.98	1.36	4.71	2.91	16.72	1.41	3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025	<0.025	<0.025 SV	<0.025	<0.025	<0.025	<0.025	<0.025 SV	<0.025	6	-	-	<0.025	mg/kg	TM31/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
PAH Sum of 6 #	1.40	<0.22	21.61	1.35	<0.22	58.71	<0.22	1.31	0.41	<0.22	-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	2.65	<0.64	39.03	2.96	<0.64	123.98	<0.64	3.14	1.34	<0.64	100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	0.113	0.050	<0.025	<0.025	<0.025	<0.025	<0.025	0.126	0.053	<0.025	0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	<0.03	<0.03	0.92	0.07	0.04	0.22	0.04	<0.03	<0.03	<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	<0.015	<0.015	<0.015	0.051	<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/PM38
Molybdenum #	0.13	0.05	0.15	0.34	0.15	0.09	0.16	0.03	0.05	0.98	0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02	<0.02	0.05	0.05	<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	0.27	0.07	<0.02	0.02	0.05	<0.02	0.08	0.03	0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.04	<0.03	<0.03	<0.03	0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	<0.03	0.90	<0.03	0.04	<0.03	<0.03	<0.03	<0.03	<0.03	4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	880	500	4691	1661	1249	13382	1351	660	1560	1990	4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	30	30	80	70	<20	<20	50	30	30	60	500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1046	0.0992	0.1332	0.1225	0.1041	0.11	0.1134	0.1069	0.1235	0.1135	-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	85.9	90.4	67.6	73.6	86.1	81.7	79.3	83.9	72.6	79.1	-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.885	0.89	0.857	0.868	0.885	0.88	0.877	0.883	0.866	0.876	-	-	-		l	NONE/PM17
Eluate Volume	0.82	0.8	0.77	0.75	0.8	0.79	0.74	0.8	0.79	0.78	-	-	-		l	NONE/PM17
Mineral Oil (C10-C40)	<30	<30	211	<30	<30	<30	<30	<30	<30	<30	-	-	-	<30	mg/kg	TM5/PM8/PM16
pH #	8.55	8.92	7.82	7.66	8.17	8.17	8.19	8.33	8.00	8.05	-	-	-	<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	4	<3	4	4	<3	<3	5	<3	4	<3	-	-	-	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	75.8	17.2	1982.1	303.0	493.0	7665.5	192.1	99.1	69.5	623.4	1000	20000	50000	<0.5	mg/kg	TM38/PM0
Chloride #	57	4	112	18	9	9	10	28	19	9	800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty
JE Job No.: 18/4921

Report : EN12457_2

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

Please see attached notes for all abbreviations and acronyms

J E Sample No.	31-33	34-36	37-39	40-42	43-45	46-48	49-51	52-54	55-57	58-60	Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Sample ID	WS09	WS10	WS10	WS10	WS12	WS12	WS12	WS13	WS14	WS14						
Depth	0.50	0.50	1.50	2.50	0.50	1.50	2.50	0.50	0.50	1.50						
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	<>	<>	<>	<>	<>	<>	<>	<>	<>	<>						
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	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018						
Solid Waste Analysis																
Total Organic Carbon #	NDP	10.56	0.13	0.39	11.54	0.50	0.21	8.73	NDP	0.36	3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025	<0.025 SV	<0.025	<0.025 SV	<0.025	<0.025	<0.025	<0.025	<0.025 SV	6	-	-	<0.025	mg/kg	TM31/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
PAH Sum of 6 #	6.95	22.69	<0.22	<0.22	1.50	<0.22	<0.22	2.25	12.59	<0.22	-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	13.12	40.86	<0.64	<0.64	3.37	<0.64	<0.64	4.17	23.94	<0.64	100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	0.036	0.104	0.037	<0.025	0.038	0.045	0.054	0.053	0.071	0.102	0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	0.69	0.17	<0.03	<0.03	0.12	<0.03	<0.03	0.20	0.09	<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 #	0.022	<0.015	<0.015	<0.015	<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	0.13	<0.07	<0.07	0.10	<0.07	<0.07	<0.07	<0.07	<0.07	2	50	100	<0.07	mg/kg	TM30/PM17
Mercury #	<0.0001	0.0003	<0.0001	<0.0001	0.0010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.2	2	<0.0001	mg/kg	TM61/PM38
Molybdenum #	0.13	0.73	0.04	0.06	0.04	0.05	<0.02	0.61	0.33	0.02	0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	0.03	0.04	<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	0.07	<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 #	0.34	0.14	<0.02	<0.02	0.05	0.04	<0.02	0.03	0.24	<0.02	0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium #	<0.03	<0.03	<0.03	<0.03	<0.03	0.05	<0.03	<0.03	0.04	<0.03	0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	0.06	0.08	<0.03	<0.03	0.04	<0.03	<0.03	<0.03	<0.03	<0.03	4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	1499	3640	750	<350	1701	971	1260	2860	2489	870	4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	30	160	30	20	30	<20	<20	50	70	20	500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.0965	0.1516	0.1093	0.1071	0.1358	0.1058	0.0973	0.1108	0.1284	0.1109	-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	93.2	59.2	82.6	83.8	66.4	85.3	92.6	81.2	69.9	80.9	-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.893	0.838	0.881	0.883	0.855	0.885	0.893	0.879	0.861	0.879	-	-	-		l	NONE/PM17
Eluate Volume	0.81	0.85	0.84	0.81	0.86	0.86	0.85	0.76	0.8	0.82	-	-	-		l	NONE/PM17
Mineral Oil (C10-C40)	193	<30	<30	<30	160	<30	<30	132	62	<30	-	-	-	<30	mg/kg	TM5/PM8/PM16
pH #	8.36	7.53	8.88	8.84	8.22	8.65	8.85	7.86	7.86	8.21	-	-	-	<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	7	<3	<3	7	<3	<3	<3	4	<3	-	-	-	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	343.2	586.4	19.6	70.7	93.8	64.2	59.2	227.3	499.7	115.7	1000	20000	50000	<0.5	mg/kg	TM38/PM0
Chloride #	6	8	<3	9	97	28	7	29	21	24	800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty
JE Job No.: 18/4921

Report : EN12457_2

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

Please see attached notes for all abbreviations and acronyms

J E Sample No.	61-63	64-66	67-69	70-72	73-75	76-78	79-81	82-84	85-87	88-90	Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Sample ID	WS15	WS16	WS16	WS17	WS18	WS18	WS19	WS20	WS21	WS21						
Depth	1.50	0.50	1.50	0.50	0.50	1.50	0.50	0.50	0.50	1.50						
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	<>	<>	<>	<>	<>	<>	<>	<>	<>	<>						
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	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018	04/04/2018						
Solid Waste Analysis																
Total Organic Carbon #	0.98	16.88	2.84	1.58	6.49	0.34	13.23	12.86	15.31	0.36	3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025 SV	<0.025	<0.025	<0.025	<0.025	<0.025 SV	<0.025	<0.025	<0.025 SV	6	-	-	<0.025	mg/kg	TM31/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
PAH Sum of 6 #	<0.22	0.34	<0.22	<0.22	<0.22	<0.22	21.95	2.96	3.91	<0.22	-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	0.82	<0.64	0.67	<0.64	<0.64	42.47	6.88	7.65	<0.64	100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	0.042	0.057	<0.025	0.029	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	0.09	<0.03	0.05	0.05	<0.03	<0.03	0.12	0.41	0.27	<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	<0.015	<0.015	<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/PM38
Molybdenum #	0.60	0.04	0.64	0.03	0.12	0.04	0.12	1.10	0.47	0.04	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	0.03	0.03	<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	0.05	0.03	<0.02	<0.02	0.05	0.10	0.17	<0.02	0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium #	0.04	<0.03	<0.03	<0.03	<0.03	<0.03	0.04	0.04	<0.03	<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	0.04	0.13	<0.03	4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	2339	2450	3539	1430	1650	700	1250	4048	2511	740	4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	40	<20	100	<20	<20	<20	50	60	90	<20	500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1194	0.1347	0.1398	0.1127	0.1215	0.1042	0.1409	0.1286	0.1254	0.111	-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	75.2	66.8	64.4	79.5	73.9	86.3	63.9	70.0	71.8	80.7	-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.87	0.855	0.85	0.877	0.868	0.886	0.849	0.861	0.865	0.878	-	-	-		l	NONE/PM17
Eluate Volume	0.78	0.82	0.65	0.8	0.8	0.7	0.8	0.75	0.85	0.85	-	-	-		l	NONE/PM17
Mineral Oil (C10-C40)	<30	<30	<30	95	<30	<30	<30	<30	<30	<30	-	-	-	<30	mg/kg	TM5/PM8/PM16
pH #	8.21	8.16	7.89	8.53	8.34	8.92	8.02	7.47	7.67	8.89	-	-	-	<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	8	<3	5	6	<3	8	<3	3	<3	-	-	-	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	512.7	133.3	920.7	95.2	76.5	56.9	130.9	1001.0	1094.8	50.7	1000	20000	50000	<0.5	mg/kg	TM38/PM0
Chloride #	303	115	38	144	7	<3	103	21	11	9	800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty
JE Job No.: 18/4921

Report : EN12457_2

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

Please see attached notes for all abbreviations and acronyms

J E Sample No.	91-93															
Sample ID	WS21															
Depth	2.50															
COC No / misc																
Containers	V J T															
Sample Date	<>															
Sample Type	Soil															
Batch Number	1															
Date of Receipt	04/04/2018											Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Solid Waste Analysis																	
Total Organic Carbon #	0.45											3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025											6	-	-	<0.025	mg/kg	TM31/PM12
Sum of 7 PCBs #	<0.035											1	-	-	<0.035	mg/kg	TM17/PM8
PAH Sum of 6 #	<0.22											-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64											100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																	
Arsenic #	<0.025											0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	<0.03											20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<0.005											0.04	1	5	<0.005	mg/kg	TM30/PM17
Chromium #	<0.015											0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper #	<0.07											2	50	100	<0.07	mg/kg	TM30/PM17
Mercury #	<0.0001											0.01	0.2	2	<0.0001	mg/kg	TM61/PM38
Molybdenum #	0.19											0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02											0.4	10	40	<0.02	mg/kg	TM30/PM17
Lead #	<0.05											0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	<0.02											0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium #	<0.03											0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03											4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	1670											4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20											500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1117											-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	80.2											-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.878											-	-	-		l	NONE/PM17
Eluate Volume	0.8											-	-	-		l	NONE/PM17
Mineral Oil (C10-C40)	<30											-	-	-	<30	mg/kg	TM5/PM8/PM16
pH #	8.57											-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1											1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	<3											-	-	-	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	467.8											1000	20000	50000	<0.5	mg/kg	TM38/PM0
Chloride #	27											800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland **Matrix : Solid**
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	EPH Interpretation
18/4921	1	WS01	0.50	1-3	Possible PAH's
18/4921	1	WS01	1.50	4-6	No Interpretation Possible
18/4921	1	WS03	0.50	7-9	Possible Degraded Diesel & Possible PAH's
18/4921	1	WS03	1.50	10-12	Possible PAH's
18/4921	1	WS03	2.50	13-15	No Interpretation Possible
18/4921	1	WS04	0.50	16-18	Possible PAH's
18/4921	1	WS04	1.50	19-21	No Interpretation Possible
18/4921	1	WS05	0.50	22-24	Possible PAH's
18/4921	1	WS06	0.50	25-27	No Interpretation Possible
18/4921	1	WS06	1.50	28-30	No Interpretation Possible
18/4921	1	WS09	0.50	31-33	Possible Lubricating Oil & Possible PAH's
18/4921	1	WS10	0.50	34-36	Possible PAH's
18/4921	1	WS10	1.50	37-39	No Interpretation Possible
18/4921	1	WS10	2.50	40-42	No Interpretation Possible
18/4921	1	WS12	0.50	43-45	Possible Trace Lubricating Oil
18/4921	1	WS12	1.50	46-48	No Interpretation Possible
18/4921	1	WS12	2.50	49-51	No Interpretation Possible
18/4921	1	WS13	0.50	52-54	Possible Gasoline Residues & Possible PAH's
18/4921	1	WS14	0.50	55-57	Possible PAH's
18/4921	1	WS14	1.50	58-60	No Interpretation Possible
18/4921	1	WS15	1.50	61-63	No Interpretation Possible
18/4921	1	WS16	0.50	64-66	No Interpretation Possible
18/4921	1	WS16	1.50	67-69	No Interpretation Possible
18/4921	1	WS17	0.50	70-72	Possible Mineral Insulating Oil
18/4921	1	WS18	0.50	73-75	No Interpretation Possible
18/4921	1	WS18	1.50	76-78	No Interpretation Possible
18/4921	1	WS19	0.50	79-81	Possible PAH's
18/4921	1	WS20	0.50	82-84	Possible PAH's
18/4921	1	WS21	0.50	85-87	Possible PAH's
18/4921	1	WS21	1.50	88-90	No Interpretation Possible
18/4921	1	WS21	2.50	91-93	No Interpretation Possible

Client Name: Ground Investigations Ireland
Reference: 18/02/7517
Location: East Road
Contact: Conor Finnerty

Note:

Asbestos Screen analysis is carried out in accordance with our documented in-house methods PM042 and TM065 and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Detailed Gravimetric Quantification and PCOM Fibre Analysis is carried out in accordance with our documented in-house methods PM042 and TM131 and HSG 248 using Stereo and Polarised Light Microscopy and Phase Contrast Optical Microscopy (PCOM). Samples are retained for not less than 6 months from the date of analysis unless specifically requested.

Opinions, including ACM type and Asbestos level, lie outside the scope of our UKAS accreditation.

Where the sample is not taken by a Jones Environmental Laboratory consultant, Jones Environmental Laboratory cannot be responsible for inaccurate or unrepresentative sampling.

Signed on behalf of Jones Environmental Laboratory:

Ryan Butterworth
Asbestos Team Leader

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Date Of Analysis	Analysis	Result
18/4921	1	WS01	0.50	2	06/04/2018	**General Description (Bulk Analysis)**	soil.stones
					06/04/2018	**Asbestos Fibres**	NAD
					06/04/2018	**Asbestos Fibres (2)**	NAD
					06/04/2018	**Asbestos ACM**	NAD
					06/04/2018	**Asbestos ACM (2)**	NAD
					06/04/2018	**Asbestos Type**	NAD
					06/04/2018	**Asbestos Type (2)**	NAD
					06/04/2018	**Asbestos Level Screen**	NAD
18/4921	1	WS01	1.50	5	06/04/2018	**General Description (Bulk Analysis)**	Soil/Stones
					06/04/2018	**Asbestos Fibres**	NAD
					06/04/2018	**Asbestos Fibres (2)**	NAD
					06/04/2018	**Asbestos ACM**	NAD
					06/04/2018	**Asbestos ACM (2)**	NAD
					06/04/2018	**Asbestos Type**	NAD
					06/04/2018	**Asbestos Type (2)**	NAD
					06/04/2018	**Asbestos Level Screen**	NAD
18/4921	1	WS03	0.50	8	06/04/2018	**General Description (Bulk Analysis)**	Soil/Stones
					06/04/2018	**Asbestos Fibres**	Fibre Bundles
					06/04/2018	**Asbestos ACM**	Insulation Debris
					06/04/2018	**Asbestos Type**	Chrysotile
					06/04/2018	**Asbestos Level Screen**	less than 0.1%
					19/04/2018	**Total ACM Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					19/04/2018	**Total Detailed Gravimetric Quantification (% Asb)**	0.002 (mass %)
					19/04/2018	**Total Gravimetric Quantification (ACM + Detailed) (% Asb)**	0.002 (mass %)
18/4921	1	WS03	1.50	11	07/04/2018	**General Description (Bulk Analysis)**	soil.stones
					07/04/2018	**Asbestos Fibres**	NAD
					07/04/2018	**Asbestos Fibres (2)**	NAD
					07/04/2018	**Asbestos ACM**	NAD
					07/04/2018	**Asbestos ACM (2)**	NAD
					07/04/2018	**Asbestos Type**	NAD
					07/04/2018	**Asbestos Type (2)**	NAD
					07/04/2018	**Asbestos Level Screen**	NAD
18/4921	1	WS03	2.50	14	06/04/2018	**General Description (Bulk Analysis)**	soil-sand-stones
					06/04/2018	**Asbestos Fibres**	NAD
					06/04/2018	**Asbestos Fibres (2)**	NAD

Client Name: Ground Investigations Ireland
Reference: 18/02/7517
Location: East Road
Contact: Conor Finnerty

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Date Of Analysis	Analysis	Result
18/4921	1	WS03	2.50	14	06/04/2018	**Asbestos ACM**	NAD
					06/04/2018	**Asbestos ACM (2)**	NAD
					06/04/2018	**Asbestos Type**	NAD
					06/04/2018	**Asbestos Type (2)**	NAD
					06/04/2018	**Asbestos Level Screen**	NAD
18/4921	1	WS04	0.50	17	06/04/2018	**General Description (Bulk Analysis)**	soil-stones
					06/04/2018	**Asbestos Fibres**	NAD
					06/04/2018	**Asbestos Fibres (2)**	NAD
					06/04/2018	**Asbestos ACM**	NAD
					06/04/2018	**Asbestos ACM (2)**	NAD
					06/04/2018	**Asbestos Type**	NAD
					06/04/2018	**Asbestos Type (2)**	NAD
					06/04/2018	**Asbestos Level Screen**	NAD
18/4921	1	WS04	1.50	20	07/04/2018	**General Description (Bulk Analysis)**	soil.stones
					07/04/2018	**Asbestos Fibres**	NAD
					07/04/2018	**Asbestos Fibres (2)**	NAD
					07/04/2018	**Asbestos ACM**	NAD
					07/04/2018	**Asbestos ACM (2)**	NAD
					07/04/2018	**Asbestos Type**	NAD
					07/04/2018	**Asbestos Type (2)**	NAD
					07/04/2018	**Asbestos Level Screen**	NAD
18/4921	1	WS05	0.50	23	06/04/2018	**General Description (Bulk Analysis)**	soil.stones
					06/04/2018	**Asbestos Fibres**	NAD
					06/04/2018	**Asbestos Fibres (2)**	NAD
					06/04/2018	**Asbestos ACM**	NAD
					06/04/2018	**Asbestos ACM (2)**	NAD
					06/04/2018	**Asbestos Type**	NAD
					06/04/2018	**Asbestos Type (2)**	NAD
					06/04/2018	**Asbestos Level Screen**	NAD
18/4921	1	WS06	0.50	26	06/04/2018	**General Description (Bulk Analysis)**	Soil/Stone
					06/04/2018	**Asbestos Fibres**	NAD
					06/04/2018	**Asbestos Fibres (2)**	NAD
					06/04/2018	**Asbestos ACM**	NAD
					06/04/2018	**Asbestos ACM (2)**	NAD
					06/04/2018	**Asbestos Type**	NAD
					06/04/2018	**Asbestos Type (2)**	NAD
					06/04/2018	**Asbestos Level Screen**	NAD
18/4921	1	WS06	1.50	29	07/04/2018	**General Description (Bulk Analysis)**	soil.stones
					07/04/2018	**Asbestos Fibres**	NAD
					07/04/2018	**Asbestos Fibres (2)**	NAD
					07/04/2018	**Asbestos ACM**	NAD
					07/04/2018	**Asbestos ACM (2)**	NAD
					07/04/2018	**Asbestos Type**	NAD
					07/04/2018	**Asbestos Type (2)**	NAD
					07/04/2018	**Asbestos Level Screen**	NAD
18/4921	1	WS09	0.50	32	07/04/2018	**General Description (Bulk Analysis)**	soil.stones
					07/04/2018	**Asbestos Fibres**	NAD

Client Name: Ground Investigations Ireland
Reference: 18/02/7517
Location: East Road
Contact: Conor Finnerty

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Date Of Analysis	Analysis	Result
18/4921	1	WS09	0.50	32	07/04/2018	**Asbestos ACM**	Asbestos Cement Debris
					07/04/2018	**Asbestos Type**	Chrysotile
					19/04/2018	**Total ACM Gravimetric Quantification (% Asb)**	0.177 (mass %)
					19/04/2018	**Total Detailed Gravimetric Quantification (% Asb)**	0.003 (mass %)
					19/04/2018	**Total Gravimetric Quantification (ACM + Detailed) (% Asb)**	0.180 (mass %)
18/4921	1	WS10	0.50	35	07/04/2018	**General Description (Bulk Analysis)**	soil.stones
					07/04/2018	**Asbestos Fibres**	NAD
					07/04/2018	**Asbestos Fibres (2)**	NAD
					07/04/2018	**Asbestos ACM**	NAD
					07/04/2018	**Asbestos ACM (2)**	NAD
					07/04/2018	**Asbestos Type**	NAD
					07/04/2018	**Asbestos Type (2)**	NAD
					07/04/2018	**Asbestos Level Screen**	NAD
18/4921	1	WS10	1.50	38	06/04/2018	**General Description (Bulk Analysis)**	Sand
					06/04/2018	**Asbestos Fibres**	NAD
					06/04/2018	**Asbestos Fibres (2)**	NAD
					06/04/2018	**Asbestos ACM**	NAD
					06/04/2018	**Asbestos ACM (2)**	NAD
					06/04/2018	**Asbestos Type**	NAD
					06/04/2018	**Asbestos Type (2)**	NAD
					06/04/2018	**Asbestos Level Screen**	NAD
18/4921	1	WS10	2.50	41	06/04/2018	**General Description (Bulk Analysis)**	soil.stones
					06/04/2018	**Asbestos Fibres**	NAD
					06/04/2018	**Asbestos Fibres (2)**	NAD
					06/04/2018	**Asbestos ACM**	NAD
					06/04/2018	**Asbestos ACM (2)**	NAD
					06/04/2018	**Asbestos Type**	NAD
					06/04/2018	**Asbestos Type (2)**	NAD
					06/04/2018	**Asbestos Level Screen**	NAD
18/4921	1	WS12	0.50	44	07/04/2018	**General Description (Bulk Analysis)**	soil.stones
					07/04/2018	**Asbestos Fibres**	NAD
					07/04/2018	**Asbestos Fibres (2)**	NAD
					07/04/2018	**Asbestos ACM**	NAD
					07/04/2018	**Asbestos ACM (2)**	NAD
					07/04/2018	**Asbestos Type**	NAD
					07/04/2018	**Asbestos Type (2)**	NAD
					07/04/2018	**Asbestos Level Screen**	NAD
18/4921	1	WS12	1.50	47	06/04/2018	**General Description (Bulk Analysis)**	soil-sand-stones
					06/04/2018	**Asbestos Fibres**	NAD
					06/04/2018	**Asbestos Fibres (2)**	NAD
					06/04/2018	**Asbestos ACM**	NAD
					06/04/2018	**Asbestos ACM (2)**	NAD
					06/04/2018	**Asbestos Type**	NAD
					06/04/2018	**Asbestos Type (2)**	NAD
					06/04/2018	**Asbestos Level Screen**	NAD

Client Name: Ground Investigations Ireland
Reference: 18/02/7517
Location: East Road
Contact: Conor Finnerty

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Date Of Analysis	Analysis	Result
18/4921	1	WS12	2.50	50	06/04/2018	**General Description (Bulk Analysis)**	soil-sand-stones
					06/04/2018	**Asbestos Fibres**	NAD
					06/04/2018	**Asbestos Fibres (2)**	NAD
					06/04/2018	**Asbestos ACM**	NAD
					06/04/2018	**Asbestos ACM (2)**	NAD
					06/04/2018	**Asbestos Type**	NAD
					06/04/2018	**Asbestos Type (2)**	NAD
					06/04/2018	**Asbestos Level Screen**	NAD
18/4921	1	WS13	0.50	53	07/04/2018	**General Description (Bulk Analysis)**	soil.stones
					07/04/2018	**Asbestos Fibres**	NAD
					07/04/2018	**Asbestos Fibres (2)**	NAD
					07/04/2018	**Asbestos ACM**	NAD
					07/04/2018	**Asbestos ACM (2)**	NAD
					07/04/2018	**Asbestos Type**	NAD
					07/04/2018	**Asbestos Type (2)**	NAD
					07/04/2018	**Asbestos Level Screen**	NAD
18/4921	1	WS14	0.50	56	07/04/2018	**General Description (Bulk Analysis)**	soil.stones
					07/04/2018	**Asbestos Fibres**	Fibre Bundles
					07/04/2018	**Asbestos ACM**	NAD
					07/04/2018	**Asbestos Type**	Chrysotile
					07/04/2018	**Asbestos Level Screen**	less than 0.1%
					19/04/2018	**Total ACM Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					19/04/2018	**Total Detailed Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					19/04/2018	**Total Gravimetric Quantification (ACM + Detailed) (% Asb)**	<0.001 (mass %)
18/4921	1	WS14	1.50	59	06/04/2018	**General Description (Bulk Analysis)**	Soil/Stone
					06/04/2018	**Asbestos Fibres**	NAD
					06/04/2018	**Asbestos Fibres (2)**	NAD
					06/04/2018	**Asbestos ACM**	NAD
					06/04/2018	**Asbestos ACM (2)**	NAD
					06/04/2018	**Asbestos Type**	NAD
					06/04/2018	**Asbestos Type (2)**	NAD
					06/04/2018	**Asbestos Level Screen**	NAD
18/4921	1	WS15	1.50	62	06/04/2018	**General Description (Bulk Analysis)**	soil-stones
					06/04/2018	**Asbestos Fibres**	NAD
					06/04/2018	**Asbestos Fibres (2)**	NAD
					06/04/2018	**Asbestos ACM**	NAD
					06/04/2018	**Asbestos ACM (2)**	NAD
					06/04/2018	**Asbestos Type**	NAD
					06/04/2018	**Asbestos Type (2)**	NAD
					06/04/2018	**Asbestos Level Screen**	NAD
18/4921	1	WS16	0.50	65	09/04/2018	**General Description (Bulk Analysis)**	soil.stones
					09/04/2018	**Asbestos Fibres**	NAD
					09/04/2018	**Asbestos Fibres (2)**	NAD
					09/04/2018	**Asbestos ACM**	NAD
					09/04/2018	**Asbestos ACM (2)**	NAD
					09/04/2018	**Asbestos Type**	NAD
					09/04/2018	**Asbestos Type (2)**	NAD
					09/04/2018	**Asbestos Level Screen**	NAD

Client Name: Ground Investigations Ireland
Reference: 18/02/7517
Location: East Road
Contact: Conor Finnerty

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Date Of Analysis	Analysis	Result
18/4921	1	WS16	1.50	68	06/04/2018	**General Description (Bulk Analysis)**	soil.stones
					06/04/2018	**Asbestos Fibres**	NAD
					06/04/2018	**Asbestos Fibres (2)**	NAD
					06/04/2018	**Asbestos ACM**	NAD
					06/04/2018	**Asbestos ACM (2)**	NAD
					06/04/2018	**Asbestos Type**	NAD
					06/04/2018	**Asbestos Type (2)**	NAD
					06/04/2018	**Asbestos Level Screen**	NAD
18/4921	1	WS17	0.50	71	06/04/2018	**General Description (Bulk Analysis)**	Soil/Stones
					06/04/2018	**Asbestos Fibres**	NAD
					06/04/2018	**Asbestos Fibres (2)**	NAD
					06/04/2018	**Asbestos ACM**	NAD
					06/04/2018	**Asbestos ACM (2)**	NAD
					06/04/2018	**Asbestos Type**	NAD
					06/04/2018	**Asbestos Type (2)**	NAD
					06/04/2018	**Asbestos Level Screen**	NAD
18/4921	1	WS18	0.50	74	07/04/2018	**General Description (Bulk Analysis)**	soil.stones
					07/04/2018	**Asbestos Fibres**	NAD
					07/04/2018	**Asbestos Fibres (2)**	NAD
					07/04/2018	**Asbestos ACM**	NAD
					07/04/2018	**Asbestos ACM (2)**	NAD
					07/04/2018	**Asbestos Type**	NAD
					07/04/2018	**Asbestos Type (2)**	NAD
					07/04/2018	**Asbestos Level Screen**	NAD
18/4921	1	WS18	1.50	77	06/04/2018	**General Description (Bulk Analysis)**	soil-sand-stones
					06/04/2018	**Asbestos Fibres**	NAD
					06/04/2018	**Asbestos Fibres (2)**	NAD
					06/04/2018	**Asbestos ACM**	NAD
					06/04/2018	**Asbestos ACM (2)**	NAD
					06/04/2018	**Asbestos Type**	NAD
					06/04/2018	**Asbestos Type (2)**	NAD
					06/04/2018	**Asbestos Level Screen**	NAD
18/4921	1	WS19	0.50	80	09/04/2018	**General Description (Bulk Analysis)**	soil.stones
					09/04/2018	**Asbestos Fibres**	NAD
					09/04/2018	**Asbestos Fibres (2)**	NAD
					09/04/2018	**Asbestos ACM**	NAD
					09/04/2018	**Asbestos ACM (2)**	NAD
					09/04/2018	**Asbestos Type**	NAD
					09/04/2018	**Asbestos Type (2)**	NAD
					09/04/2018	**Asbestos Level Screen**	NAD
18/4921	1	WS20	0.50	83	09/04/2018	**General Description (Bulk Analysis)**	soil.stones
					09/04/2018	**Asbestos Fibres**	NAD
					09/04/2018	**Asbestos Fibres (2)**	NAD
					09/04/2018	**Asbestos ACM**	NAD
					09/04/2018	**Asbestos ACM (2)**	NAD
					09/04/2018	**Asbestos Type**	NAD
					09/04/2018	**Asbestos Type (2)**	NAD
					09/04/2018	**Asbestos Level Screen**	NAD

Client Name: Ground Investigations Ireland
Reference: 18/02/7517
Location: East Road
Contact: Conor Finnerty

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Date Of Analysis	Analysis	Result
18/4921	1	WS21	0.50	86	09/04/2018	**General Description (Bulk Analysis)**	soil.stones
					09/04/2018	**Asbestos Fibres**	NAD
					09/04/2018	**Asbestos Fibres (2)**	NAD
					09/04/2018	**Asbestos ACM**	NAD
					09/04/2018	**Asbestos ACM (2)**	NAD
					09/04/2018	**Asbestos Type**	NAD
					09/04/2018	**Asbestos Type (2)**	NAD
					09/04/2018	**Asbestos Level Screen**	NAD
18/4921	1	WS21	1.50	89	06/04/2018	**General Description (Bulk Analysis)**	soil.stones
					06/04/2018	**Asbestos Fibres**	NAD
					06/04/2018	**Asbestos Fibres (2)**	NAD
					06/04/2018	**Asbestos ACM**	NAD
					06/04/2018	**Asbestos ACM (2)**	NAD
					06/04/2018	**Asbestos Type**	NAD
					06/04/2018	**Asbestos Type (2)**	NAD
					06/04/2018	**Asbestos Level Screen**	NAD
18/4921	1	WS21	2.50	92	06/04/2018	**General Description (Bulk Analysis)**	soil-sand-stones
					06/04/2018	**Asbestos Fibres**	NAD
					06/04/2018	**Asbestos Fibres (2)**	NAD
					06/04/2018	**Asbestos ACM**	NAD
					06/04/2018	**Asbestos ACM (2)**	NAD
					06/04/2018	**Asbestos Type**	NAD
					06/04/2018	**Asbestos Type (2)**	NAD
					06/04/2018	**Asbestos Level Screen**	NAD

Client Name: Ground Investigations Ireland **Matrix : Solid**
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	NDP Reason
18/4921	1	WS03	0.50	7-9	Asbestos detected in sample
18/4921	1	WS09	0.50	31-33	Asbestos detected in sample
18/4921	1	WS14	0.50	55-57	Asbestos detected in sample

Client Name: Ground Investigations Ireland

Reference: 7517-02-18

Location: East Road

Contact: Conor Finnerty

Matrix : Solid

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Analysis	Reason
18/4921	1	WS01	0.50	1-3	All analyses	No sampling date given
18/4921	1	WS01	1.50	4-6	All analyses	No sampling date given
18/4921	1	WS03	0.50	7-9	All analyses	No sampling date given
18/4921	1	WS03	1.50	10-12	All analyses	No sampling date given
18/4921	1	WS03	2.50	13-15	All analyses	No sampling date given
18/4921	1	WS04	0.50	16-18	All analyses	No sampling date given
18/4921	1	WS04	1.50	19-21	All analyses	No sampling date given
18/4921	1	WS05	0.50	22-24	All analyses	No sampling date given
18/4921	1	WS06	0.50	25-27	All analyses	No sampling date given
18/4921	1	WS06	1.50	28-30	All analyses	No sampling date given
18/4921	1	WS09	0.50	31-33	All analyses	No sampling date given
18/4921	1	WS10	0.50	34-36	All analyses	No sampling date given
18/4921	1	WS10	1.50	37-39	All analyses	No sampling date given
18/4921	1	WS10	2.50	40-42	All analyses	No sampling date given
18/4921	1	WS12	0.50	43-45	All analyses	No sampling date given
18/4921	1	WS12	1.50	46-48	All analyses	No sampling date given
18/4921	1	WS12	2.50	49-51	All analyses	No sampling date given
18/4921	1	WS13	0.50	52-54	All analyses	No sampling date given
18/4921	1	WS14	0.50	55-57	All analyses	No sampling date given
18/4921	1	WS14	1.50	58-60	All analyses	No sampling date given
18/4921	1	WS15	1.50	61-63	All analyses	No sampling date given
18/4921	1	WS16	0.50	64-66	All analyses	No sampling date given
18/4921	1	WS16	1.50	67-69	All analyses	No sampling date given

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.

Client Name: Ground Investigations Ireland

Reference: 7517-02-18

Location: East Road

Contact: Conor Finnerty

Matrix : Solid

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Analysis	Reason
18/4921	1	WS17	0.50	70-72	All analyses	No sampling date given
18/4921	1	WS18	0.50	73-75	All analyses	No sampling date given
18/4921	1	WS18	1.50	76-78	All analyses	No sampling date given
18/4921	1	WS19	0.50	79-81	All analyses	No sampling date given
18/4921	1	WS20	0.50	82-84	All analyses	No sampling date given
18/4921	1	WS21	0.50	85-87	All analyses	No sampling date given
18/4921	1	WS21	1.50	88-90	All analyses	No sampling date given
18/4921	1	WS21	2.50	91-93	All analyses	No sampling date given

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.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

JE Job No.: 18/4921

SOILS

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.

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. 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.

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.

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.

DEVIATING SAMPLES

Samples must be received in a condition appropriate to the requested analyses. All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. If this is not the case you will be informed and any test results that may be compromised highlighted on your deviating samples report.

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 UKAS requirement 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.

REPORTS FROM THE SOUTH AFRICA LABORATORY

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

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.
++	Result outside calibration range, results should be considered as indicative only and are not accredited.
*	Analysis subcontracted to a Jones Environmental 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

JE Job No: 18/4921

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 and BS1377.	PM0	No preparation is required.				
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465 and BS1377.	PM0	No preparation is required.			AR	
TM4	Modified USEPA 8270 method for the solvent extraction and determination of 16 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 8270 method for the solvent extraction and determination of 16 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 USEPA 8015B method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) with carbon banding within the range C8-C40 GC-FID.	PM16	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	
TM5	Modified USEPA 8015B method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) with carbon banding within the range C8-C40 GC-FID.	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 USEPA 8015B method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) with carbon banding within the range C8-C40 GC-FID.	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 8270. 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 160.3 Gravimetric determination of Total Dissolved Solids/Total Solids	PM0	No preparation is required.	Yes		AR	Yes

JE Job No: 18/4921

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 USEPA 415.1. 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	Dried and ground solid samples are washed with hydrochloric acid, then rinsed with deionised water to remove the mineral carbon before TOC analysis.	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 Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7, 6010B and BS EN ISO 11885 2009	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 Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7, 6010B and BS EN ISO 11885 2009	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 Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7, 6010B and BS EN ISO 11885 2009	PM17	Modified method EN12457-2 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
TM30	Determination of Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7, 6010B and BS EN ISO 11885 2009	PM62	Acid digestion of as received solid samples using Aqua Regia refluxed at 112.5 °C.			AR	Yes
TM31	Modified USEPA 8015B. Determination of Methyltertbutylether, Benzene, Toluene, Ethylbenzene and Xylene by headspace GC-FID.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM31	Modified USEPA 8015B. Determination of Methyltertbutylether, Benzene, Toluene, Ethylbenzene and Xylene by headspace GC-FID.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM36	Modified US EPA method 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes

JE Job No: 18/4921

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
TM38	Soluble Ion analysis using the Thermo Aquakem Photometric Automatic Analyser. Modified US EPA methods 325.2, 375.4, 365.2, 353.1, 354.1	PM0	No preparation is required.	Yes		AR	Yes
TM38	Soluble Ion analysis using the Thermo Aquakem Photometric Automatic Analyser. Modified US EPA methods 325.2, 375.4, 365.2, 353.1, 354.1	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 the Thermo Aquakem Photometric Automatic Analyser. Modified US EPA methods 325.2, 375.4, 365.2, 353.1, 354.1	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
TM60	Modified USEPA 9060. Determination of TOC by calculation from Total Carbon and Inorganic Carbon using a TOC analyser, the carbon in the sample is converted to CO2 and then passed through a non-dispersive infrared gas analyser (NDIR).	PM0	No preparation is required.			AR	Yes
TM61	Modified US EPA methods 245.7 and 200.7. Determination of Mercury by Cold Vapour Atomic Fluorescence.	PM38	Samples are brominated to reduce all mercury compounds to Mercury (II) which is analysed using method TM061.	Yes		AR	Yes
TM65	Asbestos Bulk Identification method based on HSG 248.	PM42	Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	
TM73	Modified US EPA methods 150.1 and 9045D and BS1377:1990. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.			AR	Yes
TM73	Modified US EPA methods 150.1 and 9045D and BS1377:1990. 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
TM131	Quantification of Asbestos Fibres and ACM, based on HSG248 and SCA method.	PM42	Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	Yes
TM173	Analysis of fluoride by ISE (Ion Selective Electrode) using modified ISE method 340.2	PM0	No preparation is required.			AR	Yes

JE Job No: 18/4921

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
NONE	No Method Code	NONE	No Method Code			AR	Yes
NONE	No Method Code	PM17	Modified method EN12457-2 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	PM17	Modified method EN12457-2 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.			AR	
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 and BS1377.			AR	

Appendix - Methods used for WAC (2003/33/EC)

Leachate tests	
10l/kg; 4mm	I.S. EN 12457-2:2002 Specified particle size; water added to L/S ratio; capped; agitated for 24 ± 0.5 hours; eluate settled and filtered over 0.45 µm membrane filter.
Eluate analysis	
As	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Ba	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Cd	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Cr total	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Cu	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Hg	I.S. EN 13370 rec. EN 1483 (CVAAS)
Mo	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Ni	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Pb	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Sb	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Se	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Zn	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Chloride	I.S. EN 12506 rec. EN ISO 10304-part 1 (liquid chromatography of ions)
Fluoride	I.S. EN 12506 rec. EN ISO 10304-part 1 (liquid chromatography of ions)
Sulphate	I.S. EN 12506 rec. EN ISO 10304-part 1 (liquid chromatography of ions)
Phenol index	I.S. EN 13370 rec. ISO 6439 (4-Aminoantipyrine spectrometic methods after distillation)* (BY HPLC - Jones Env)
DOC	I.S. EN 1484
TDS	I.S. EN 15216
Compositional analysis	
TOC	I.S. EN 13137 Method B: carbonates removed with acid; TOC by combustion.
BTEX	GC-FID
PCB7**	I.S. EN 15308 analysis by GC-ECD.
Mineral oil	I.S. EN 14039 C10 to C40 analysis by GC-FID.
PAH17***	I.S. EN 15527 PAH17 analysis by GC-MS
Metals	I.S. EN 13657 - Aqua regia digestion: EN ISO 11885 (ICP-OES)
Other	
Dry matter	I.S. EN 14346 sample is dried to a constant mass in an oven at 105 ± 3 °C; Method B Water content by direct Karl-Fischer-titration and either volumetric or coulometric detection.
LOI	I.S. EN 15169 Difference in mass after heating in a furnace up to 550 ± 25 °C.
ANC	CEN/TS 15364 Determined by amouns of acid or base needed to cover the pH range

Notes:

*If not suitable due to LOD, precision, etc., any other suitable method can be used, e.g. AFS, ICP-MS

**PCB-28, PCB-52, PCB-101, PCB-118, PCB-138, PCB-153 and PCB-180

***Naphthalene, Acenaphthylene, Acenaphthene, Anthracene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(g,h,i)perylene, Benzo(a)pyrene, Chrysene, Coronene, Dibenzo(a,h)anthracene, Fluorene, Fluoranthene, Indeno(1,2,3-c,d)pyrene, Phenanthrene and Pyrene.

Exova Jones Environmental

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Ground Investigations Ireland
Catherinestown House
Hazelhatch Road
Newcastle
Co. Dublin
Ireland

Attention :	Conor Finnerty
Date :	23rd May, 2018
Your reference :	
Our reference :	Test Report 18/6020 Batch 1
Location :	East Wall
Date samples received :	23rd April, 2018
Status :	Final report
Issue :	3

Two samples were received for analysis on 23rd April, 2018 of which two 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.

Where Waste Acceptance Criteria Suite (EC Decision of 19 December 2002 (2003/33/EC)) has been requested, all analyses have been performed using the relevant EN methods where they exist.

Compiled By:

Phil Sommerton BSc
Project Manager

Client Name: Ground Investigations Ireland
Reference:
Location: East Wall
Contact: Conor Finnerty
JE Job No.: 18/6020

Report : Solid

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

J E Sample No.	1-3	4-6									LOD/LOR	Units	Method No.
Sample ID	BH05	BH05											
Depth	1.70 + 2.00	3.00											
COC No / misc													
Containers	V J T	V J T											
Sample Date	20/04/2018	20/04/2018											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	23/04/2018	23/04/2018											
Antimony	2	2									<1	mg/kg	TM30/PM62
Arsenic	14.8	18.8									<0.5	mg/kg	TM30/PM62
Barium	64	55									<1	mg/kg	TM30/PM62
Cadmium	0.3	1.0									<0.1	mg/kg	TM30/PM62
Chromium	11.2	14.3									<0.5	mg/kg	TM30/PM62
Copper	37	25									<1	mg/kg	TM30/PM62
Lead	219	73									<5	mg/kg	TM30/PM62
Mercury	0.7	0.5									<0.1	mg/kg	TM30/PM62
Molybdenum	1.4	1.5									<0.1	mg/kg	TM30/PM62
Nickel	21.2	25.1									<0.7	mg/kg	TM30/PM62
Selenium	<1	<1									<1	mg/kg	TM30/PM62
Zinc	108	96									<5	mg/kg	TM30/PM62
PAH MS													
Naphthalene #	<0.20 AA	<0.04									<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.15 AA	<0.03									<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.25 AA	<0.05									<0.05	mg/kg	TM4/PM8
Fluorene #	<0.20 AA	<0.04									<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.15 AA	0.46									<0.03	mg/kg	TM4/PM8
Anthracene #	<0.20 AA	<0.04									<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.15 AA	0.11									<0.03	mg/kg	TM4/PM8
Pyrene #	<0.15 AA	0.11									<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.30 AA	0.07									<0.06	mg/kg	TM4/PM8
Chrysene #	<0.10 AA	0.14									<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.35 AA	0.14									<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.20 AA	0.04									<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.20 AA	<0.04									<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.20 AA	<0.04									<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.20 AA	0.08									<0.04	mg/kg	TM4/PM8
Coronene	<0.20 AA	<0.04									<0.04	mg/kg	TM4/PM8
PAH 6 Total #	<1.10 AA	0.37									<0.22	mg/kg	TM4/PM8
PAH 17 Total	<3.20 AA	1.15									<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.25 AA	0.10									<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.10 AA	0.04									<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<5 AA	<1									<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	108 AA	105									<0	%	TM4/PM8
Mineral Oil (C10-C40)	1675	1726									<30	mg/kg	TM5/PM8/PM16

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference:
Location: East Wall
Contact: Conor Finnerty
JE Job No.: 18/6020

Report : Solid

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

J E Sample No.	1-3	4-6									LOD/LOR	Units	Method No.
Sample ID	BH05	BH05											
Depth	1.70 + 2.00	3.00											
COC No / misc													
Containers	V J T	V J T											
Sample Date	20/04/2018	20/04/2018											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	23/04/2018	23/04/2018											
TPH CWG													
Aliphatics													
>C5-C6 #	<0.1 SV	<0.1									<0.1	mg/kg	TM36/PM12
>C6-C8 #	<0.1 SV	<0.1									<0.1	mg/kg	TM36/PM12
>C8-C10	<0.1 SV	<0.1									<0.1	mg/kg	TM36/PM12
>C10-C12 #	<0.2	<0.2									<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 #	<4	<4									<4	mg/kg	TM5/PM8/PM16
>C16-C21 #	52	56									<7	mg/kg	TM5/PM8/PM16
>C21-C35 #	1306	1373									<7	mg/kg	TM5/PM8/PM16
>C35-C40	317	297									<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40	1675	1726									<26	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10	<0.1 SV	<0.1									<0.1	mg/kg	TM36/PM12
>C10-C25	303	300									<10	mg/kg	TM5/PM8/PM16
>C25-C35	1077	1115									<10	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7 #	<0.1 SV	<0.1									<0.1	mg/kg	TM36/PM12
>EC7-EC8 #	<0.1 SV	<0.1									<0.1	mg/kg	TM36/PM12
>EC8-EC10 #	<0.1 SV	<0.1									<0.1	mg/kg	TM36/PM12
>EC10-EC12 #	<0.2	<0.2									<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 #	<4	<4									<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 #	24	25									<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 #	468	573									<7	mg/kg	TM5/PM8/PM16
>EC35-EC40	116	159									<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40	608	757									<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40)	2283	2483									<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 #	<0.1 SV	<0.1									<0.1	mg/kg	TM36/PM12
>EC10-EC25	102	120									<10	mg/kg	TM5/PM8/PM16
>EC25-EC35	375	475									<10	mg/kg	TM5/PM8/PM16
MTBE #	<5 SV	<5									<5	ug/kg	TM31/PM12
Benzene #	<5 SV	<5									<5	ug/kg	TM31/PM12
Toluene #	<5 SV	<5									<5	ug/kg	TM31/PM12
Ethylbenzene #	<5 SV	<5									<5	ug/kg	TM31/PM12
m/p-Xylene #	<5 SV	<5									<5	ug/kg	TM31/PM12
o-Xylene #	<5 SV	<5									<5	ug/kg	TM31/PM12
PCB 28 #	<5	<5									<5	ug/kg	TM17/PM8
PCB 52 #	<5	<5									<5	ug/kg	TM17/PM8
PCB 101 #	<5	<5									<5	ug/kg	TM17/PM8
PCB 118 #	<5	<5									<5	ug/kg	TM17/PM8
PCB 138 #	<5	<5									<5	ug/kg	TM17/PM8
PCB 153 #	<5	<5									<5	ug/kg	TM17/PM8
PCB 180 #	<5	<5									<5	ug/kg	TM17/PM8
Total 7 PCBs #	<35	<35									<35	ug/kg	TM17/PM8

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference:
Location: East Wall
Contact: Conor Finnerty
JE Job No.: 18/6020

Report : Solid

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

J E Sample No.	1-3	4-6									LOD/LOR	Units	Method No.
Sample ID	BH05	BH05											
Depth	1.70 + 2.00	3.00											
COC No / misc													
Containers	V J T	V J T											
Sample Date	20/04/2018	20/04/2018											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	23/04/2018	23/04/2018											
Natural Moisture Content	14.6	9.5									<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	12.8	8.7									<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3									<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext)	0.1117	0.1040									<0.0015	g/l	TM38/PM60
Chromium III	11.2	14.3									<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	NDP	NDP									<0.02	%	TM21/PM24
pH #	8.32	8.37									<0.01	pH units	TM73/PM11
Mass of raw test portion	0.122	0.0997										kg	NONE/PM17
Mass of dried test portion	0.09	0.09										kg	NONE/PM17

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference:
Location: East Wall
Contact: Conor Finnerty
JE Job No.: 18/6020

Report : CEN 10:1 1 Batch

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

J E Sample No.	1-3	4-6									LOD/LOR	Units	Method No.
Sample ID	BH05	BH05											
Depth	1.70 + 2.00	3.00											
COC No / misc													
Containers	V J T	V J T											
Sample Date	20/04/2018	20/04/2018											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	23/04/2018	23/04/2018											
Dissolved Antimony #	0.020	0.012									<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) #	0.20	0.12									<0.02	mg/kg	TM30/PM17
Dissolved Arsenic #	0.0069	0.0075									<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) #	0.069	0.075									<0.025	mg/kg	TM30/PM17
Dissolved Barium #	0.016	0.015									<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	0.16	0.15									<0.03	mg/kg	TM30/PM17
Dissolved Cadmium #	<0.0005	<0.0005									<0.0005	mg/l	TM30/PM17
Dissolved Cadmium (A10) #	<0.005	<0.005									<0.005	mg/kg	TM30/PM17
Dissolved Chromium #	<0.0015	<0.0015									<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) #	<0.015	<0.015									<0.015	mg/kg	TM30/PM17
Dissolved Copper #	<0.007	<0.007									<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) #	<0.07	<0.07									<0.07	mg/kg	TM30/PM17
Dissolved Lead #	<0.005	<0.005									<0.005	mg/l	TM30/PM17
Dissolved Lead (A10) #	<0.05	<0.05									<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum #	0.026	0.015									<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.26	0.15									<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	<0.002	<0.002									<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) #	<0.02	<0.02									<0.02	mg/kg	TM30/PM17
Dissolved Selenium #	<0.003	<0.003									<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) #	<0.03	<0.03									<0.03	mg/kg	TM30/PM17
Dissolved Zinc #	<0.003	<0.003									<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) #	<0.03	<0.03									<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF #	<0.00001	<0.00001									<0.00001	mg/l	TM61/PM38
Mercury Dissolved by CVAF #	<0.0001	<0.0001									<0.0001	mg/kg	TM61/PM38
Phenol	<0.01	<0.01									<0.01	mg/l	TM26/PM0
Phenol	<0.1	<0.1									<0.1	mg/kg	TM26/PM0
Fluoride	<0.3	<0.3									<0.3	mg/l	TM173/PM0
Fluoride	<3	<3									<3	mg/kg	TM173/PM0
Sulphate as SO4 #	74.82	26.02									<0.05	mg/l	TM38/PM0
Sulphate as SO4 #	748.5	260.2									<0.5	mg/kg	TM38/PM0
Chloride #	2.1	0.6									<0.3	mg/l	TM38/PM0
Chloride #	21	6									<3	mg/kg	TM38/PM0
Dissolved Organic Carbon	6	5									<2	mg/l	TM60/PM0
Dissolved Organic Carbon	60	50									<20	mg/kg	TM60/PM0
pH	7.36	7.85									<0.01	pH units	TM73/PM0
Total Dissolved Solids #	68	60									<35	mg/l	TM20/PM0
Total Dissolved Solids #	680	600									<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference:
Location: East Wall
Contact: Conor Finnerty
JE Job No.: 18/6020

Report : EN12457_2

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

Please see attached notes for all abbreviations and acronyms

J E Sample No.	1-3	4-6														
Sample ID	BH05	BH05														
Depth	1.70 + 2.00	3.00														
COC No / misc																
Containers	V J T	V J T														
Sample Date	20/04/2018	20/04/2018														
Sample Type	Soil	Soil														
Batch Number	1	1														
Date of Receipt	23/04/2018	23/04/2018														
											Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Solid Waste Analysis																
Total Organic Carbon #	NDP	NDP									3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025 SV	<0.025									6	-	-	<0.025	mg/kg	TM31/PM12
Sum of 7 PCBs #	<0.035	<0.035									1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	1675	1726									500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<1.10 BA	0.37									-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<3.20 BA	1.15									100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	0.069	0.075									0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	0.16	0.15									20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<0.005	<0.005									0.04	1	5	<0.005	mg/kg	TM30/PM17
Chromium #	<0.015	<0.015									0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper #	<0.07	<0.07									2	50	100	<0.07	mg/kg	TM30/PM17
Mercury #	<0.0001	<0.0001									0.01	0.2	2	<0.0001	mg/kg	TM61/PM38
Molybdenum #	0.26	0.15									0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02	<0.02									0.4	10	40	<0.02	mg/kg	TM30/PM17
Lead #	<0.05	<0.05									0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	0.20	0.12									0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium #	<0.03	<0.03									0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	<0.03									4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	680	600									4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	60	50									500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.122	0.0997									-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	73.6	90.0									-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.868	0.89									-	-	-		l	NONE/PM17
Eluate Volume	0.85	0.86									-	-	-		l	NONE/PM17
pH #	8.32	8.37									-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1									1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	<3	<3									-	-	-	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	748.5	260.2									1000	20000	50000	<0.5	mg/kg	TM38/PM0
Chloride #	21	6									800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland **Matrix : Solid**
Reference:
Location: East Wall
Contact: Conor Finnerty

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	EPH Interpretation
18/6020	1	BH05	1.70 + 2.00	1-3	Lubricating oil & Tarmac/bitumen
18/6020	1	BH05	3.00	4-6	Lubricating oil & Tarmac/bitumen

Client Name: Ground Investigations Ireland
Reference:
Location: East Wall
Contact: Conor Finnerty

Note:

Asbestos Screen analysis is carried out in accordance with our documented in-house methods PM042 and TM065 and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Detailed Gravimetric Quantification and PCOM Fibre Analysis is carried out in accordance with our documented in-house methods PM042 and TM131 and HSG 248 using Stereo and Polarised Light Microscopy and Phase Contrast Optical Microscopy (PCOM). Samples are retained for not less than 6 months from the date of analysis unless specifically requested.

Opinions, including ACM type and Asbestos level, lie outside the scope of our UKAS accreditation.

Where the sample is not taken by a Jones Environmental Laboratory consultant, Jones Environmental Laboratory cannot be responsible for inaccurate or unrepresentative sampling.

Signed on behalf of Jones Environmental Laboratory:

Ryan Butterworth
Asbestos Team Leader

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Date Of Analysis	Analysis	Result
18/6020	1	BH05	1.70 + 2.00	2	04/05/2018	**General Description (Bulk Analysis)**	Soil/Stone
					04/05/2018	**Asbestos Fibres**	Fibre Bundles
					04/05/2018	**Asbestos Fibres (2)**	Fibre Bundles
					04/05/2018	**Asbestos ACM**	NAD
					04/05/2018	**Asbestos ACM (2)**	NAD
					04/05/2018	**Asbestos Type**	Chrysotile
					04/05/2018	**Asbestos Type (2)**	Amosite
					23/05/2018	**Total ACM Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					23/05/2018	**Total Detailed Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					23/05/2018	**Total Gravimetric Quantification (ACM + Detailed) (% Asb)**	<0.001 (mass %)
					23/05/2018	**Asbestos PCOM Quantification (Fibres)**	<0.001 (mass %)
					23/05/2018	**Asbestos Gravimetric & PCOM Total**	<0.001 (mass %)
18/6020	1	BH05	3.00	5	04/05/2018	**General Description (Bulk Analysis)**	Soil/Stone
					04/05/2018	**Asbestos Fibres**	Fibre Bundles
					04/05/2018	**Asbestos ACM**	NAD
					04/05/2018	**Asbestos Type**	Chrysotile
					04/05/2018	**Asbestos Level Screen**	less than 0.1%
					23/05/2018	**Total ACM Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					23/05/2018	**Total Detailed Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					23/05/2018	**Total Gravimetric Quantification (ACM + Detailed) (% Asb)**	<0.001 (mass %)
					23/05/2018	**Asbestos PCOM Quantification (Fibres)**	<0.001 (mass %)
					23/05/2018	**Asbestos Gravimetric & PCOM Total**	<0.001 (mass %)

Client Name: Ground Investigations Ireland **Matrix : Solid**
Reference:
Location: East Wall
Contact: Conor Finnerty

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	NDP Reason
18/6020	1	BH05	1.70 + 2.00	1-3	Asbestos detected in sample
18/6020	1	BH05	3.00	4-6	Asbestos detected in sample

Client Name: Ground Investigations Ireland

Matrix : Solid

Reference:

Location: East Wall

Contact: Conor Finnerty

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Analysis	Reason
18/6020	1	BH05	1.70 + 2.00	1-3	GRO	Solid Samples were received at a temperature above 9°C.
18/6020	1	BH05	3.00	4-6	GRO	Solid Samples were received at a temperature above 9°C.

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.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

JE Job No.: 18/6020

SOILS

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.

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. 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.

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.

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.

DEVIATING SAMPLES

Samples must be received in a condition appropriate to the requested analyses. All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. If this is not the case you will be informed and any test results that may be compromised highlighted on your deviating samples report.

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 UKAS requirement 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.

REPORTS FROM THE SOUTH AFRICA LABORATORY

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

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.
++	Result outside calibration range, results should be considered as indicative only and are not accredited.
*	Analysis subcontracted to an Exova Jones Environmental 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
AA	x5 Dilution
BA	x5 Dilution

JE Job No: 18/6020

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 and BS1377.	PM0	No preparation is required.			AR	
TM4	Modified USEPA 8270 method for the solvent extraction and determination of 16 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 8270 method for the solvent extraction and determination of 16 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 USEPA 8015B method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) with carbon banding within the range C8-C40 GC-FID.	PM16	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	
TM5	Modified USEPA 8015B method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) with carbon banding within the range C8-C40 GC-FID.	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 USEPA 8015B method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) with carbon banding within the range C8-C40 GC-FID.	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 8270. 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 160.3 Gravimetric determination of Total Dissolved Solids/Total Solids	PM0	No preparation is required.	Yes		AR	Yes
TM21	Modified USEPA 415.1. 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	Dried and ground solid samples are washed with hydrochloric acid, then rinsed with deionised water to remove the mineral carbon before TOC analysis.	Yes		AD	Yes

JE Job No: 18/6020

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
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 Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7, 6010B and BS EN ISO 11885 2009	PM17	Modified method EN12457-2 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
TM30	Determination of Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7, 6010B and BS EN ISO 11885 2009	PM62	Acid digestion of as received solid samples using Aqua Regia refluxed at 112.5 °C.			AR	Yes
TM31	Modified USEPA 8015B. Determination of Methyltertbutylether, Benzene, Toluene, Ethylbenzene and Xylene by headspace GC-FID.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM31	Modified USEPA 8015B. Determination of Methyltertbutylether, Benzene, Toluene, Ethylbenzene and Xylene by headspace GC-FID.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM36	Modified US EPA method 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM38	Soluble Ion analysis using the Thermo Aquakem Photometric Automatic Analyser. Modified US EPA methods 325.2, 375.4, 365.2, 353.1, 354.1	PM0	No preparation is required.	Yes		AR	Yes
TM38	Soluble Ion analysis using the Thermo Aquakem Photometric Automatic Analyser. Modified US EPA methods 325.2, 375.4, 365.2, 353.1, 354.1	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
TM38	Soluble Ion analysis using the Thermo Aquakem Photometric Automatic Analyser. Modified US EPA methods 325.2, 375.4, 365.2, 353.1, 354.1	PM60	As received solid samples are extracted with deionised water in a 2:1 ratio of water to solid.			AR	Yes

JE Job No: 18/6020

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	Modified USEPA 9060. Determination of TOC by calculation from Total Carbon and Inorganic Carbon using a TOC analyser, the carbon in the sample is converted to CO2 and then passed through a non-dispersive infrared gas analyser (NDIR).	PM0	No preparation is required.			AR	Yes
TM61	Modified US EPA methods 245.7 and 200.7. Determination of Mercury by Cold Vapour Atomic Fluorescence.	PM38	Samples are brominated to reduce all mercury compounds to Mercury (II) which is analysed using method TM061.	Yes		AR	Yes
TM65	Asbestos Bulk Identification method based on HSG 248.	PM42	Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	
TM73	Modified US EPA methods 150.1 and 9045D and BS1377:1990. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.			AR	Yes
TM73	Modified US EPA methods 150.1 and 9045D and BS1377:1990. 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
TM131	Quantification of Asbestos Fibres and ACM, based on HSG248 and SCA method.	PM42	Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	Yes
TM173	Analysis of fluoride by ISE (Ion Selective Electrode) using modified ISE method 340.2	PM0	No preparation is required.			AR	Yes
NONE	No Method Code	NONE	No Method Code			AR	Yes
NONE	No Method Code	PM17	Modified method EN12457-2 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	PM17	Modified method EN12457-2 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.			AR	

JE Job No: 18/6020

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
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 and BS1377.			AR	

Appendix - Methods used for WAC (2003/33/EC)

Leachate tests	
10l/kg; 4mm	I.S. EN 12457-2:2002 Specified particle size; water added to L/S ratio; capped; agitated for 24 ± 0.5 hours; eluate settled and filtered over 0.45 µm membrane filter.
Eluate analysis	
As	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Ba	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Cd	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Cr total	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Cu	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Hg	I.S. EN 13370 rec. EN 1483 (CVAAS)
Mo	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Ni	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Pb	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Sb	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Se	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Zn	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Chloride	I.S. EN 12506 rec. EN ISO 10304-part 1 (liquid chromatography of ions)
Fluoride	I.S. EN 12506 rec. EN ISO 10304-part 1 (liquid chromatography of ions)
Sulphate	I.S. EN 12506 rec. EN ISO 10304-part 1 (liquid chromatography of ions)
Phenol index	I.S. EN 13370 rec. ISO 6439 (4-Aminoantipyrine spectrometic methods after distillation)* (BY HPLC - Jones Env)
DOC	I.S. EN 1484
TDS	I.S. EN 15216
Compositional analysis	
TOC	I.S. EN 13137 Method B: carbonates removed with acid; TOC by combustion.
BTEX	GC-FID
PCB7**	I.S. EN 15308 analysis by GC-ECD.
Mineral oil	I.S. EN 14039 C10 to C40 analysis by GC-FID.
PAH17***	I.S. EN 15527 PAH17 analysis by GC-MS
Metals	I.S. EN 13657 - Aqua regia digestion: EN ISO 11885 (ICP-OES)
Other	
Dry matter	I.S. EN 14346 sample is dried to a constant mass in an oven at 105 ± 3 °C; Method B Water content by direct Karl-Fischer-titration and either volumetric or coulometric detection.
LOI	I.S. EN 15169 Difference in mass after heating in a furnace up to 550 ± 25 °C.
ANC	CEN/TS 15364 Determined by amouns of acid or base needed to cover the pH range

Notes:

*If not suitable due to LOD, precision, etc., any other suitable method can be used, e.g. AFS, ICP-MS

**PCB-28, PCB-52, PCB-101, PCB-118, PCB-138, PCB-153 and PCB-180

***Naphthalene, Acenaphthylene, Acenaphthene, Anthracene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(g,h,i)perylene, Benzo(a)pyrene, Chrysene, Coronene, Dibenzo(a,h)anthracene, Fluorene, Fluoranthene, Indeno(1,2,3-c,d)pyrene, Phenanthrene and Pyrene.

Exova Jones Environmental

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Ground Investigations Ireland
Catherinestown House
Hazelhatch Road
Newcastle
Co. Dublin
Ireland

Attention :	Conor Finnerty
Date :	5th June, 2018
Your reference :	7517-02-18
Our reference :	Test Report 18/7735 Batch 1
Location :	East Road
Date samples received :	21st May, 2018
Status :	Final report
Issue :	1

Eight samples were received for analysis on 21st May, 2018 of which eight 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.

Where Waste Acceptance Criteria Suite (EC Decision of 19 December 2002 (2003/33/EC)) has been requested, all analyses have been performed using the relevant EN methods where they exist.

Compiled By:

Phil Sommerton BSc
Project Manager

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty
JE Job No.: 18/7735

Report : Solid

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

J E Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24			LOD/LOR	Units	Method No.
Sample ID	WS22	WS22	WS22	WS23	WS23	WS24	WS24	WS24					
Depth	0.50	1.50	2.50	0.50	1.00	0.50	1.50	2.50					
COC No / misc													
Containers	V J	V J	V J	V J T	V J	V J	V J	V J					
Sample Date	<>	<>	<>	<>	<>	<>	<>	<>					
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil					
Batch Number	1	1	1	1	1	1	1	1					
Date of Receipt	21/05/2018	21/05/2018	21/05/2018	21/05/2018	21/05/2018	21/05/2018	21/05/2018	21/05/2018					
Antimony	6	9	1	34 AA	8	3	2	2			<1	mg/kg	TM30/PM15
Arsenic #	41.7	34.9	4.5	16.0	28.0	27.8	4.1	3.9			<0.5	mg/kg	TM30/PM15
Barium #	103	110	27	118	173	114	19	18			<1	mg/kg	TM30/PM15
Cadmium #	0.5	0.4	0.2	1.0	1.0	0.8	<0.1	<0.1			<0.1	mg/kg	TM30/PM15
Chromium #	106.8	42.5	148.4	101.2	106.7	35.8	157.9	165.6			<0.5	mg/kg	TM30/PM15
Copper #	79	91	5	60	92	85	5	6			<1	mg/kg	TM30/PM15
Lead #	272	227	6	263	280	301	7	10			<5	mg/kg	TM30/PM15
Mercury #	0.8	0.7	<0.1	0.5	0.6	1.4	<0.1	<0.1			<0.1	mg/kg	TM30/PM15
Molybdenum #	14.0	9.5	7.5	7.9	8.2	3.6	8.7	10.2			<0.1	mg/kg	TM30/PM15
Nickel #	35.4	68.9	10.8	55.2	54.5	33.9	15.9	12.6			<0.7	mg/kg	TM30/PM15
Selenium #	1	2	<1	<1	<1	1	<1	<1			<1	mg/kg	TM30/PM15
Zinc #	184	134	24	175	2060	208	30	28			<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	0.15	0.07	<0.04	1.92	0.69	0.45	<0.04	<0.04			<0.04	mg/kg	TM4/PM8
Acenaphthylene	0.09	0.04	<0.03	0.48	0.12	0.13	<0.03	<0.03			<0.03	mg/kg	TM4/PM8
Acenaphthene #	0.12	<0.05	<0.05	12.13	3.67	1.05	<0.05	<0.05			<0.05	mg/kg	TM4/PM8
Fluorene #	0.09	0.07	<0.04	7.94	3.08	0.66	<0.04	<0.04			<0.04	mg/kg	TM4/PM8
Phenanthrene #	1.40	0.70	<0.03	26.74	14.88	6.95	<0.03	<0.03			<0.03	mg/kg	TM4/PM8
Anthracene #	0.20	0.08	<0.04	5.37	2.86	0.87	<0.04	<0.04			<0.04	mg/kg	TM4/PM8
Fluoranthene #	2.25	0.12	<0.03	33.15	16.33	9.61	<0.03	<0.03			<0.03	mg/kg	TM4/PM8
Pyrene #	2.06	0.15	<0.03	29.01	13.68	8.59	<0.03	<0.03			<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	1.28	0.24	<0.06	13.26	8.58	4.21	<0.06	<0.06			<0.06	mg/kg	TM4/PM8
Chrysene #	1.33	0.27	<0.02	14.80	6.10	5.30	<0.02	<0.02			<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	2.22	0.24	<0.07	21.05	10.22	7.51	<0.07	<0.07			<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	1.20	0.11	<0.04	11.64	5.76	4.14	<0.04	<0.04			<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	0.71	0.07	<0.04	6.99	3.15	2.46	<0.04	<0.04			<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	0.19	<0.04	<0.04	1.75	0.73	0.57	<0.04	<0.04			<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	0.71	0.13	<0.04	6.92	3.12	2.64	<0.04	<0.04			<0.04	mg/kg	TM4/PM8
Coronene	0.16	<0.04	<0.04	0.97	0.50	0.46	<0.04	<0.04			<0.04	mg/kg	TM4/PM8
PAH 6 Total #	7.09	0.67	<0.22	79.75	38.58	26.36	<0.22	<0.22			<0.22	mg/kg	TM4/PM8
PAH 17 Total	14.16	2.29	<0.64	194.12	93.47	55.60	<0.64	<0.64			<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	1.60	0.17	<0.05	15.16	7.36	5.41	<0.05	<0.05			<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.62	0.07	<0.02	5.89	2.86	2.10	<0.02	<0.02			<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1	<1	6	3	1	<1	<1			<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	84	99	93	98	100	104	98	92			<0	%	TM4/PM8
Mineral Oil (C10-C40)	87	<30	<30	478	<30	<30	<30	<30			<30	mg/kg	TM5/PM8/PM16

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty
JE Job No.: 18/7735

Report : Solid

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

Please see attached notes for all abbreviations and acronyms

J E Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24			LOD/LOR	Units	Method No.
Sample ID	WS22	WS22	WS22	WS23	WS23	WS24	WS24	WS24					
Depth	0.50	1.50	2.50	0.50	1.00	0.50	1.50	2.50					
COC No / misc													
Containers	V J	V J	V J	V J T	V J	V J	V J	V J					
Sample Date	<>	<>	<>	<>	<>	<>	<>	<>					
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil					
Batch Number	1	1	1	1	1	1	1	1					
Date of Receipt	21/05/2018	21/05/2018	21/05/2018	21/05/2018	21/05/2018	21/05/2018	21/05/2018	21/05/2018					
TPH CWG													
Aliphatics													
>C5-C6 #	<0.1 SV	<0.1 SV	<0.1	<0.1 SV	<0.1 SV	<0.1 SV	<0.1	<0.1			<0.1	mg/kg	TM36/PM12
>C6-C8 #	<0.1 SV	<0.1 SV	<0.1	<0.1 SV	<0.1 SV	<0.1 SV	<0.1	<0.1			<0.1	mg/kg	TM36/PM12
>C8-C10	<0.1 SV	<0.1 SV	<0.1	0.4 SV	<0.1 SV	<0.1 SV	<0.1	<0.1			<0.1	mg/kg	TM36/PM12
>C10-C12 #	<0.2	<0.2	<0.2	18.4	<0.2	<0.2	<0.2	<0.2			<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 #	<4	<4	<4	35	<4	<4	<4	<4			<4	mg/kg	TM5/PM8/PM16
>C16-C21 #	9	<7	<7	81	<7	<7	<7	<7			<7	mg/kg	TM5/PM8/PM16
>C21-C35 #	78	<7	<7	321	<7	<7	<7	<7			<7	mg/kg	TM5/PM8/PM16
>C35-C40	<7	<7	<7	23	<7	<7	<7	<7			<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40	87	<26	<26	479	<26	<26	<26	<26			<26	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10	<0.1 SV	<0.1 SV	<0.1	0.4 SV	<0.1 SV	<0.1 SV	<0.1	<0.1			<0.1	mg/kg	TM36/PM12
>C10-C25	22	<10	<10	230	<10	<10	<10	<10			<10	mg/kg	TM5/PM8/PM16
>C25-C35	51	<10	<10	226	<10	<10	<10	<10			<10	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7 #	<0.1 SV	<0.1 SV	<0.1	<0.1 SV	<0.1 SV	<0.1 SV	<0.1	<0.1			<0.1	mg/kg	TM36/PM12
>EC7-EC8 #	<0.1 SV	<0.1 SV	<0.1	<0.1 SV	<0.1 SV	<0.1 SV	<0.1	<0.1			<0.1	mg/kg	TM36/PM12
>EC8-EC10 #	<0.1 SV	<0.1 SV	<0.1	<0.1 SV	<0.1 SV	<0.1 SV	<0.1	<0.1			<0.1	mg/kg	TM36/PM12
>EC10-EC12 #	<0.2	<0.2	<0.2	3.1	<0.2	<0.2	<0.2	<0.2			<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 #	<4	<4	<4	56	16	<4	<4	<4			<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 #	<7	<7	<7	142	83	39	<7	<7			<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 #	117	<7	<7	422	181	123	<7	<7			<7	mg/kg	TM5/PM8/PM16
>EC35-EC40	<7	<7	<7	34	12	<7	<7	<7			<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40	117	<26	<26	657	292	162	<26	<26			<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40)	204	<52	<52	1136	292	162	<52	<52			<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 #	<0.1 SV	<0.1 SV	<0.1	<0.1 SV	<0.1 SV	<0.1 SV	<0.1	<0.1			<0.1	mg/kg	TM36/PM12
>EC10-EC25	30	<10	<10	340	150	70	<10	<10			<10	mg/kg	TM5/PM8/PM16
>EC25-EC35	92	<10	<10	284	129	95	<10	<10			<10	mg/kg	TM5/PM8/PM16
MTBE #	<5 SV	<5 SV	<5	<5 SV	<5 SV	<5 SV	<5	<5			<5	ug/kg	TM31/PM12
Benzene #	-	-	<5	-	-	-	<5	<5			<5	ug/kg	TM31/PM12
Toluene #	-	-	<5	-	-	-	<5	<5			<5	ug/kg	TM31/PM12
Ethylbenzene #	-	-	<5	-	-	-	<5	<5			<5	ug/kg	TM31/PM12
m/p-Xylene #	-	-	<5	-	-	-	<5	<5			<5	ug/kg	TM31/PM12
o-Xylene #	-	-	<5	-	-	-	<5	<5			<5	ug/kg	TM31/PM12
PCB 28 #	<5	<5	<5	<5	<5	<5	<5	<5			<5	ug/kg	TM17/PM8
PCB 52 #	<5	<5	<5	<5	<5	<5	<5	<5			<5	ug/kg	TM17/PM8
PCB 101 #	<5	<5	<5	<5	<5	<5	<5	<5			<5	ug/kg	TM17/PM8
PCB 118 #	<5	<5	<5	<5	<5	<5	<5	<5			<5	ug/kg	TM17/PM8
PCB 138 #	<5	<5	<5	<5	<5	<5	<5	<5			<5	ug/kg	TM17/PM8
PCB 153 #	<5	<5	<5	<5	<5	<5	<5	<5			<5	ug/kg	TM17/PM8
PCB 180 #	<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	ug/kg	TM17/PM8

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty
JE Job No.: 18/7735

Report : Solid

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

J E Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24			LOD/LOR	Units	Method No.
Sample ID	WS22	WS22	WS22	WS23	WS23	WS24	WS24	WS24					
Depth	0.50	1.50	2.50	0.50	1.00	0.50	1.50	2.50					
COC No / misc													
Containers	V J	V J	V J	V J T	V J	V J	V J	V J					
Sample Date	<>	<>	<>	<>	<>	<>	<>	<>					
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil					
Batch Number	1	1	1	1	1	1	1	1					
Date of Receipt	21/05/2018	21/05/2018	21/05/2018	21/05/2018	21/05/2018	21/05/2018	21/05/2018	21/05/2018					
Natural Moisture Content	34.6	33.8	12.7	22.4	32.0	39.9	27.6	12.6			<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	25.7	25.2	11.3	18.3	24.2	28.5	21.7	11.2			<0.1	%	PM4/PM0
Hexavalent Chromium #	<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) #	-	0.0616	-	-	-	0.3222	-	-			<0.0015	g/l	TM38/PM20
Chromium III	106.8	42.5	148.4	101.2	106.7	35.8	157.9	165.6			<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	5.36	11.49	0.55	8.44	7.20	6.58	0.19	0.35			<0.02	%	TM21/PM24
pH #	7.48	8.12	8.47	7.58	7.48	7.81	8.70	8.70			<0.01	pH units	TM73/PM11
Mass of raw test portion	0.1636	0.1246	0.1013	0.1137	0.1193	0.1309	0.111	0.1051				kg	NONE/PM17
Mass of dried test portion	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09				kg	NONE/PM17

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty
JE Job No.: 18/7735

Report : CEN 10:1 1 Batch

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

J E Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24			LOD/LOR	Units	Method No.
Sample ID	WS22	WS22	WS22	WS23	WS23	WS24	WS24	WS24					
Depth	0.50	1.50	2.50	0.50	1.00	0.50	1.50	2.50					
COC No / misc													
Containers	V J	V J	V J	V J T	V J	V J	V J	V J					
Sample Date	<>	<>	<>	<>	<>	<>	<>	<>					
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil					
Batch Number	1	1	1	1	1	1	1	1					
Date of Receipt	21/05/2018	21/05/2018	21/05/2018	21/05/2018	21/05/2018	21/05/2018	21/05/2018	21/05/2018					
Dissolved Antimony #	0.022	0.023	0.002	0.268	0.023	0.012	0.003	<0.002			<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) #	0.22	0.23	0.02	2.68	0.23	0.12	0.03	<0.02			<0.02	mg/kg	TM30/PM17
Dissolved Arsenic #	0.0084	0.0068	0.0031	0.0078	0.0096	0.0056	0.0070	0.0042			<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) #	0.084	0.068	0.031	0.078	0.096	0.056	0.070	0.042			<0.025	mg/kg	TM30/PM17
Dissolved Barium #	0.026	0.004	<0.003	0.150	0.022	0.010	<0.003	<0.003			<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	0.26	0.04	<0.03	1.50	0.22	0.10	<0.03	<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	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	mg/kg	TM30/PM17
Dissolved Chromium #	<0.0015	<0.0015	<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	<0.015	<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	0.009	<0.007	<0.007	<0.007			<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) #	<0.07	<0.07	<0.07	<0.07	0.09	<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	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	mg/kg	TM30/PM17
Dissolved Molybdenum #	0.058	0.005	0.002	0.021	0.055	0.047	0.003	0.005			<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.58	0.05	0.02	0.21	0.55	0.47	0.03	0.05			<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	<0.002	<0.002	<0.002	0.006	0.004	<0.002	<0.002	<0.002			<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) #	<0.02	<0.02	<0.02	0.06	0.04	<0.02	<0.02	<0.02			<0.02	mg/kg	TM30/PM17
Dissolved Selenium #	0.006	0.006	<0.003	0.006	0.005	0.004	<0.003	0.004			<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) #	0.06	0.06	<0.03	0.06	0.05	0.04	<0.03	0.04			<0.03	mg/kg	TM30/PM17
Dissolved Zinc #	0.006	0.004	<0.003	0.160	0.012	0.006	0.003	0.003			<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) #	0.06	0.04	<0.03	1.60	0.12	0.06	0.03	<0.03			<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF #	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00005	<0.00001	<0.00001			<0.00001	mg/l	TM61/PM38
Mercury Dissolved by CVAF #	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0005	<0.0001	<0.0001			<0.0001	mg/kg	TM61/PM38
Phenol	<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	mg/kg	TM26/PM0
Fluoride	0.4	<0.3	<0.3	0.8	<0.3	0.5	<0.3	<0.3			<0.3	mg/l	TM173/PM0
Fluoride	4	<3	<3	8	<3	5	<3	<3			<3	mg/kg	TM173/PM0
Sulphate as SO4 #	191.65	12.12	3.33	67.30	90.00	122.93	6.83	5.64			<0.05	mg/l	TM38/PM0
Sulphate as SO4 #	1916.1	121.2	33.3	673.0	899.5	1229.5	68.3	56.4			<0.5	mg/kg	TM38/PM0
Chloride #	1.3	1.9	<0.3	35.1	18.5	1.6	<0.3	0.4			<0.3	mg/l	TM38/PM0
Chloride #	13	19	<3	351	185	16	<3	4			<3	mg/kg	TM38/PM0
Dissolved Organic Carbon	16	4	4	15	11	14	2	3			<2	mg/l	TM60/PM0
Dissolved Organic Carbon	160	40	40	150	110	140	20	30			<20	mg/kg	TM60/PM0
pH	7.15	7.92	8.42	7.88	8.04	8.16	8.59	8.24			<0.01	pH units	TM73/PM0
Total Dissolved Solids #	451	127	72	344	305	322	57	55			<35	mg/l	TM20/PM0
Total Dissolved Solids #	4509	1270	720	3440	3048	3220	570	550			<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty
JE Job No.: 18/7735

Report : EN12457_2

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

Please see attached notes for all abbreviations and acronyms

J E Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24			Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Sample ID	WS22	WS22	WS22	WS23	WS23	WS24	WS24	WS24								
Depth	0.50	1.50	2.50	0.50	1.00	0.50	1.50	2.50								
COC No / misc																
Containers	V J	V J	V J	V J T	V J	V J	V J	V J								
Sample Date	<>	<>	<>	<>	<>	<>	<>	<>								
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1	1	1	1								
Date of Receipt	21/05/2018	21/05/2018	21/05/2018	21/05/2018	21/05/2018	21/05/2018	21/05/2018	21/05/2018								
Solid Waste Analysis																
Total Organic Carbon #	5.36	11.49	0.55	8.44	7.20	6.58	0.19	0.35			3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025 SV	<0.025 SV	<0.025	<0.025 SV	<0.025 SV	<0.025 SV	<0.025	<0.025			6	-	-	<0.025	mg/kg	TM31/PM12
Sum of 7 PCBs #	<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	87	<30	<30	478	<30	<30	<30	<30			500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	7.09	0.67	<0.22	79.75	38.58	26.36	<0.22	<0.22			-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	14.16	2.29	<0.64	194.12	93.47	55.60	<0.64	<0.64			100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	0.084	0.068	0.031	0.078	0.096	0.056	0.070	0.042			0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	0.26	0.04	<0.03	1.50	0.22	0.10	<0.03	<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			0.04	1	5	<0.005	mg/kg	TM30/PM17
Chromium #	<0.015	<0.015	<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	0.09	<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	0.0005	<0.0001	<0.0001			0.01	0.2	2	<0.0001	mg/kg	TM61/PM38
Molybdenum #	0.58	0.05	0.02	0.21	0.55	0.47	0.03	0.05			0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02	<0.02	<0.02	0.06	0.04	<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			0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	0.22	0.23	0.02	2.68	0.23	0.12	0.03	<0.02			0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium #	0.06	0.06	<0.03	0.06	0.05	0.04	<0.03	0.04			0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	0.06	0.04	<0.03	1.60	0.12	0.06	0.03	<0.03			4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	4509	1270	720	3440	3048	3220	570	550			4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	160	40	40	150	110	140	20	30			500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1636	0.1246	0.1013	0.1137	0.1193	0.1309	0.111	0.1051			-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	55.0	72.2	88.9	78.9	75.3	68.6	80.8	85.8			-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.826	0.865	0.889	0.876	0.87	0.859	0.879	0.885			-	-	-		l	NONE/PM17
Eluate Volume	0.85	0.75	0.85	0.8	0.75	0.75	0.85	0.85			-	-	-		l	NONE/PM17
pH #	7.48	8.12	8.47	7.58	7.48	7.81	8.70	8.70			-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	4	<3	<3	8	<3	5	<3	<3			-	-	-	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	1916.1	121.2	33.3	673.0	899.5	1229.5	68.3	56.4			1000	20000	50000	<0.5	mg/kg	TM38/PM0
Chloride #	13	19	<3	351	185	16	<3	4			800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland
Reference: 7517-02-18
Location: East Road
Contact: Conor Finnerty

Matrix : Solid

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	EPH Interpretation
18/7735	1	WS22	0.50	1-3	PAH's & Lubricating oil
18/7735	1	WS22	1.50	4-6	No interpretation possible
18/7735	1	WS22	2.50	7-9	No interpretation possible
18/7735	1	WS23	0.50	10-12	PAH's, Lubricating oil & Possible degraded diesel
18/7735	1	WS23	1.00	13-15	PAH's
18/7735	1	WS24	0.50	16-18	PAH's
18/7735	1	WS24	1.50	19-21	No interpretation possible
18/7735	1	WS24	2.50	22-24	No interpretation possible

Client Name: Ground Investigations Ireland
Reference: 18/02/7517
Location: East Road
Contact: Conor Finnerty

Note:

Asbestos Screen analysis is carried out in accordance with our documented in-house methods PM042 and TM065 and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Detailed Gravimetric Quantification and PCOM Fibre Analysis is carried out in accordance with our documented in-house methods PM042 and TM131 and HSG 248 using Stereo and Polarised Light Microscopy and Phase Contrast Optical Microscopy (PCOM). Samples are retained for not less than 6 months from the date of analysis unless specifically requested.

Opinions, including ACM type and Asbestos level, lie outside the scope of our UKAS accreditation.

Where the sample is not taken by a Jones Environmental Laboratory consultant, Jones Environmental Laboratory cannot be responsible for inaccurate or unrepresentative sampling.

Signed on behalf of Jones Environmental Laboratory:

Ryan Butterworth
Asbestos Team Leader

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Date Of Analysis	Analysis	Result
18/7735	1	WS22	0.50	2	31/05/2018	**General Description (Bulk Analysis)**	soil-stones
					31/05/2018	**Asbestos Fibres**	NAD
					31/05/2018	**Asbestos Fibres (2)**	NAD
					31/05/2018	**Asbestos ACM**	NAD
					31/05/2018	**Asbestos ACM (2)**	NAD
					31/05/2018	**Asbestos Type**	NAD
					31/05/2018	**Asbestos Type (2)**	NAD
					31/05/2018	**Asbestos Level Screen**	NAD
18/7735	1	WS22	1.50	5	31/05/2018	**General Description (Bulk Analysis)**	soil-stones
					31/05/2018	**Asbestos Fibres**	NAD
					31/05/2018	**Asbestos Fibres (2)**	NAD
					31/05/2018	**Asbestos ACM**	NAD
					31/05/2018	**Asbestos ACM (2)**	NAD
					31/05/2018	**Asbestos Type**	NAD
					31/05/2018	**Asbestos Type (2)**	NAD
					31/05/2018	**Asbestos Level Screen**	NAD
18/7735	1	WS22	2.50	8	31/05/2018	**General Description (Bulk Analysis)**	soil-sand-stones
					31/05/2018	**Asbestos Fibres**	NAD
					31/05/2018	**Asbestos Fibres (2)**	NAD
					31/05/2018	**Asbestos ACM**	NAD
					31/05/2018	**Asbestos ACM (2)**	NAD
					31/05/2018	**Asbestos Type**	NAD
					31/05/2018	**Asbestos Type (2)**	NAD
					31/05/2018	**Asbestos Level Screen**	NAD
18/7735	1	WS23	0.50	11	31/05/2018	**General Description (Bulk Analysis)**	soil-stones
					31/05/2018	**Asbestos Fibres**	NAD
					31/05/2018	**Asbestos Fibres (2)**	NAD
					31/05/2018	**Asbestos ACM**	NAD
					31/05/2018	**Asbestos ACM (2)**	NAD
					31/05/2018	**Asbestos Type**	NAD
					31/05/2018	**Asbestos Type (2)**	NAD
					31/05/2018	**Asbestos Level Screen**	NAD
18/7735	1	WS23	1.00	14	31/05/2018	**General Description (Bulk Analysis)**	soil-stones
					31/05/2018	**Asbestos Fibres**	NAD
					31/05/2018	**Asbestos Fibres (2)**	NAD

Client Name: Ground Investigations Ireland
Reference: 18/02/7517
Location: East Road
Contact: Conor Finnerty

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Date Of Analysis	Analysis	Result
18/7735	1	WS23	1.00	14	31/05/2018	**Asbestos ACM**	NAD
					31/05/2018	**Asbestos ACM (2)**	NAD
					31/05/2018	**Asbestos Type**	NAD
					31/05/2018	**Asbestos Type (2)**	NAD
					31/05/2018	**Asbestos Level Screen**	NAD
18/7735	1	WS24	0.50	17	31/05/2018	**General Description (Bulk Analysis)**	soil-stones
					31/05/2018	**Asbestos Fibres**	NAD
					31/05/2018	**Asbestos Fibres (2)**	NAD
					31/05/2018	**Asbestos ACM**	NAD
					31/05/2018	**Asbestos ACM (2)**	NAD
					31/05/2018	**Asbestos Type**	NAD
					31/05/2018	**Asbestos Type (2)**	NAD
					31/05/2018	**Asbestos Level Screen**	NAD
18/7735	1	WS24	1.50	20	31/05/2018	**General Description (Bulk Analysis)**	soil-sand
					31/05/2018	**Asbestos Fibres**	NAD
					31/05/2018	**Asbestos Fibres (2)**	NAD
					31/05/2018	**Asbestos ACM**	NAD
					31/05/2018	**Asbestos ACM (2)**	NAD
					31/05/2018	**Asbestos Type**	NAD
					31/05/2018	**Asbestos Type (2)**	NAD
					31/05/2018	**Asbestos Level Screen**	NAD
18/7735	1	WS24	2.50	23	31/05/2018	**General Description (Bulk Analysis)**	soil-sand-stones
					31/05/2018	**Asbestos Fibres**	NAD
					31/05/2018	**Asbestos Fibres (2)**	NAD
					31/05/2018	**Asbestos ACM**	NAD
					31/05/2018	**Asbestos ACM (2)**	NAD
					31/05/2018	**Asbestos Type**	NAD
					31/05/2018	**Asbestos Type (2)**	NAD
					31/05/2018	**Asbestos Level Screen**	NAD

Client Name: Ground Investigations Ireland

Reference: 7517-02-18

Location: East Road

Contact: Conor Finnerty

Matrix : Solid

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Analysis	Reason
18/7735	1	WS22	0.50	1-3	All analyses	No sampling date given
18/7735	1	WS22	0.50	1-3	GRO	Solid Samples were received at a temperature above 9°C.
18/7735	1	WS22	1.50	4-6	All analyses	No sampling date given
18/7735	1	WS22	1.50	4-6	GRO	Solid Samples were received at a temperature above 9°C.
18/7735	1	WS22	2.50	7-9	All analyses	No sampling date given
18/7735	1	WS22	2.50	7-9	GRO	Solid Samples were received at a temperature above 9°C.
18/7735	1	WS23	0.50	10-12	All analyses	No sampling date given
18/7735	1	WS23	0.50	10-12	GRO	Solid Samples were received at a temperature above 9°C.
18/7735	1	WS23	1.00	13-15	All analyses	No sampling date given
18/7735	1	WS23	1.00	13-15	GRO	Solid Samples were received at a temperature above 9°C.
18/7735	1	WS24	0.50	16-18	All analyses	No sampling date given
18/7735	1	WS24	0.50	16-18	GRO	Solid Samples were received at a temperature above 9°C.
18/7735	1	WS24	1.50	19-21	All analyses	No sampling date given
18/7735	1	WS24	1.50	19-21	GRO	Solid Samples were received at a temperature above 9°C.
18/7735	1	WS24	2.50	22-24	All analyses	No sampling date given
18/7735	1	WS24	2.50	22-24	GRO	Solid Samples were received at a temperature above 9°C.

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.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

JE Job No.: 18/7735

SOILS

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.

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. 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.

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.

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.

DEVIATING SAMPLES

Samples must be received in a condition appropriate to the requested analyses. All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. If this is not the case you will be informed and any test results that may be compromised highlighted on your deviating samples report.

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 UKAS requirement 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.

REPORTS FROM THE SOUTH AFRICA LABORATORY

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

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.
++	Result outside calibration range, results should be considered as indicative only and are not accredited.
*	Analysis subcontracted to an Exova Jones Environmental 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
AA	x5 Dilution

JE Job No: 18/7735

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 and BS1377.	PM0	No preparation is required.			AR	
TM4	Modified USEPA 8270 method for the solvent extraction and determination of 16 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 8270 method for the solvent extraction and determination of 16 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 USEPA 8015B method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) with carbon banding within the range C8-C40 GC-FID.	PM16	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	
TM5	Modified USEPA 8015B method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) with carbon banding within the range C8-C40 GC-FID.	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 USEPA 8015B method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) with carbon banding within the range C8-C40 GC-FID.	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 8270. 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 160.3 Gravimetric determination of Total Dissolved Solids/Total Solids	PM0	No preparation is required.	Yes		AR	Yes
TM21	Modified USEPA 415.1. 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	Dried and ground solid samples are washed with hydrochloric acid, then rinsed with deionised water to remove the mineral carbon before TOC analysis.	Yes		AD	Yes

JE Job No: 18/7735

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
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 Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7, 6010B and BS EN ISO 11885 2009	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 Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7, 6010B and BS EN ISO 11885 2009	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 Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7, 6010B and BS EN ISO 11885 2009	PM17	Modified method EN12457-2 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
TM31	Modified USEPA 8015B. Determination of Methyltertbutylether, Benzene, Toluene, Ethylbenzene and Xylene by headspace GC-FID.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM31	Modified USEPA 8015B. Determination of Methyltertbutylether, Benzene, Toluene, Ethylbenzene and Xylene by headspace GC-FID.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM36	Modified US EPA method 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM38	Soluble Ion analysis using the Thermo Aquakem Photometric Automatic Analyser. Modified US EPA methods 325.2, 375.4, 365.2, 353.1, 354.1	PM0	No preparation is required.	Yes		AR	Yes
TM38	Soluble Ion analysis using the Thermo Aquakem Photometric Automatic Analyser. Modified US EPA methods 325.2, 375.4, 365.2, 353.1, 354.1	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

JE Job No: 18/7735

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
TM38	Soluble Ion analysis using the Thermo Aquakem Photometric Automatic Analyser. Modified US EPA methods 325.2, 375.4, 365.2, 353.1, 354.1	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
TM60	Modified USEPA 9060. Determination of TOC by calculation from Total Carbon and Inorganic Carbon using a TOC analyser, the carbon in the sample is converted to CO2 and then passed through a non-dispersive infrared gas analyser (NDIR).	PM0	No preparation is required.			AR	Yes
TM61	Modified US EPA methods 245.7 and 200.7. Determination of Mercury by Cold Vapour Atomic Fluorescence.	PM38	Samples are brominated to reduce all mercury compounds to Mercury (II) which is analysed using method TM061.	Yes		AR	Yes
TM65	Asbestos Bulk Identification method based on HSG 248.	PM42	Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	
TM73	Modified US EPA methods 150.1 and 9045D and BS1377:1990. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.			AR	Yes
TM73	Modified US EPA methods 150.1 and 9045D and BS1377:1990. 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 340.2	PM0	No preparation is required.			AR	Yes
NONE	No Method Code	NONE	No Method Code			AR	Yes
NONE	No Method Code	PM17	Modified method EN12457-2 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	PM17	Modified method EN12457-2 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.			AR	

JE Job No: 18/7735

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
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 and BS1377.			AR	

Appendix - Methods used for WAC (2003/33/EC)

Leachate tests	
10l/kg; 4mm	I.S. EN 12457-2:2002 Specified particle size; water added to L/S ratio; capped; agitated for 24 ± 0.5 hours; eluate settled and filtered over 0.45 µm membrane filter.
Eluate analysis	
As	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Ba	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Cd	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Cr total	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Cu	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Hg	I.S. EN 13370 rec. EN 1483 (CVAAS)
Mo	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Ni	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Pb	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Sb	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Se	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Zn	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Chloride	I.S. EN 12506 rec. EN ISO 10304-part 1 (liquid chromatography of ions)
Fluoride	I.S. EN 12506 rec. EN ISO 10304-part 1 (liquid chromatography of ions)
Sulphate	I.S. EN 12506 rec. EN ISO 10304-part 1 (liquid chromatography of ions)
Phenol index	I.S. EN 13370 rec. ISO 6439 (4-Aminoantipyrine spectrometic methods after distillation)* (BY HPLC - Jones Env)
DOC	I.S. EN 1484
TDS	I.S. EN 15216
Compositional analysis	
TOC	I.S. EN 13137 Method B: carbonates removed with acid; TOC by combustion.
BTEX	GC-FID
PCB7**	I.S. EN 15308 analysis by GC-ECD.
Mineral oil	I.S. EN 14039 C10 to C40 analysis by GC-FID.
PAH17***	I.S. EN 15527 PAH17 analysis by GC-MS
Metals	I.S. EN 13657 - Aqua regia digestion: EN ISO 11885 (ICP-OES)
Other	
Dry matter	I.S. EN 14346 sample is dried to a constant mass in an oven at 105 ± 3 °C; Method B Water content by direct Karl-Fischer-titration and either volumetric or coulometric detection.
LOI	I.S. EN 15169 Difference in mass after heating in a furnace up to 550 ± 25 °C.
ANC	CEN/TS 15364 Determined by amouns of acid or base needed to cover the pH range

Notes:

*If not suitable due to LOD, precision, etc., any other suitable method can be used, e.g. AFS, ICP-MS

**PCB-28, PCB-52, PCB-101, PCB-118, PCB-138, PCB-153 and PCB-180

***Naphthalene, Acenaphthylene, Acenaphthene, Anthracene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(g,h,i)perylene, Benzo(a)pyrene, Chrysene, Coronene, Dibenzo(a,h)anthracene, Fluorene, Fluoranthene, Indeno(1,2,3-c,d)pyrene, Phenanthrene and Pyrene.

Appendix 4

Waste Classification Reports

Waste Classification Report

BSMBV-9Q54Q-ARW3Q

Job name

18_234_15

Description/Comments

Project

East Wall Road

Site

Waste Stream Template

O'Callaghan Moran Waste Stream

Classified by

Name:
Ryan Povey
Date:
24 May 2018 11:05 GMT
Telephone:
+353 (0)21 4321521

Company:
OCallaghan Moran and Associates
Unit 15 Melbourne Business Park
Model Farm Road
Cork

Report

Created by: Ryan Povey
Created date: 24 May 2018 11:05 GMT

Job summary

Classification of sample: WS01

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

Sample details

Sample Name:
WS01
Sample Depth:
0.50 m
Moisture content:
21.4%
(no 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: 21.4% No Moisture Correction applied (MC)

#	Determinand	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	3.591 mg/kg	0.000359 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		25.4 mg/kg	1.32	33.536 mg/kg	0.00335 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.9 mg/kg	1.142	1.028 mg/kg	0.000103 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		68.7 mg/kg	1.462	100.409 mg/kg	0.01 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		84 mg/kg	1.126	94.575 mg/kg	0.00946 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	284 mg/kg		284 mg/kg	0.0284 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.5 mg/kg	1.353	0.677 mg/kg	0.0000677 %		
8	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		6.3 mg/kg	1.5	9.451 mg/kg	0.000945 %		
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		30.5 mg/kg	2.976	90.776 mg/kg	0.00908 %		
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		**<LOD**
11	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		277 mg/kg	1.245	344.786 mg/kg	0.0345 %		
12	TPH (C6 to C40) petroleum group			TPH		63 mg/kg		63 mg/kg	0.0063 %		
13	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**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16	•	ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18	•	pH				8.55	pH		8.55	pH	8.55 pH		
				PH									
19		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20	•	acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
21	•	acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
22	•	fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
23	•	phenanthrene				0.33	mg/kg		0.33	mg/kg	0.000033 %		
			201-581-5	85-01-8									
24	•	anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
25	•	fluoranthene				0.45	mg/kg		0.45	mg/kg	0.000045 %		
			205-912-4	206-44-0									
26	•	pyrene				0.4	mg/kg		0.4	mg/kg	0.00004 %		
			204-927-3	129-00-0									
27		benzo[a]anthracene				0.26	mg/kg		0.26	mg/kg	0.000026 %		
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				0.26	mg/kg		0.26	mg/kg	0.000026 %		
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				0.33	mg/kg		0.33	mg/kg	0.000033 %		
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				0.13	mg/kg		0.13	mg/kg	0.000013 %		
		601-036-00-5	205-916-6	207-08-9									
31		benzo[a]pyrene; benzo[def]chrysene				0.21	mg/kg		0.21	mg/kg	0.000021 %		
		601-032-00-3	200-028-5	50-32-8									
32	•	indeno[123-cd]pyrene				0.13	mg/kg		0.13	mg/kg	0.000013 %		
			205-893-2	193-39-5									
33		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									
34	•	benzo[ghi]perylene				0.15	mg/kg		0.15	mg/kg	0.000015 %		
			205-883-8	191-24-2									
35	•	polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.103 %		

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0063%)

Classification of sample: WS01[1]

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

Sample details

Sample Name:
WS01[1]
Sample Depth:
1.50 m
Moisture content:
10.5%
(no 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: 10.5% No Moisture Correction applied (MC)

#	Determinand	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		7.2 mg/kg	1.32	9.506 mg/kg	0.000951 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.4 mg/kg	1.142	0.457 mg/kg	0.0000457 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		42.3 mg/kg	1.462	61.824 mg/kg	0.00618 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		8 mg/kg	1.126	9.007 mg/kg	0.000901 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	17 mg/kg		17 mg/kg	0.0017 %		
7	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
8	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.6 mg/kg	1.5	5.401 mg/kg	0.00054 %		
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		11.8 mg/kg	2.976	35.12 mg/kg	0.00351 %		
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
11	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		35 mg/kg	1.245	43.565 mg/kg	0.00436 %		
12	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
13	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

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18		pH				8.92	pH		8.92	pH	8.92 pH		
				PH									
19		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
21		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
22		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
23		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
24		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
25		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
26		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
27		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
31		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									
32		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
33		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									
34		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
35		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.0238 %		

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: WS03

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

Sample details

Sample Name:	LoW Code:	
WS03	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:		
0.50 m	Entry:	17 05 03 * (Soil and stones containing hazardous substances)

Hazard properties

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

Risk phrases hit:

R50/53 "Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment"

Because of determinands:

lead compounds with the exception of those specified elsewhere in this Annex: (Note 1 conc.: 0.186%)
zinc oxide: (compound conc.: 0.121%)

Determinands

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

#	Determinand	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		18	mg/kg	1.197	21.548	mg/kg	0.00215 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		20.2	mg/kg	1.32	26.671	mg/kg	0.00267 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1	mg/kg	1.142	1.142	mg/kg	0.000114 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		19.1	mg/kg	1.462	27.916	mg/kg	0.00279 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		266	mg/kg	1.126	299.486	mg/kg	0.0299 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	1861	mg/kg		1861	mg/kg	0.186 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.9	mg/kg	1.353	1.218	mg/kg	0.000122 %		
8	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		2.4	mg/kg	1.5	3.6	mg/kg	0.00036 %		
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		47.4	mg/kg	2.976	141.075	mg/kg	0.0141 %		
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
11	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		972	mg/kg	1.245	1209.862	mg/kg	0.121 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
12	●	TPH (C6 to C40) petroleum group				527	mg/kg		527	mg/kg	0.0527 %		
				TPH									
13		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16	●	ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18	●	pH				7.82	pH		7.82	pH	7.82 pH		
				PH									
19		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20	●	acenaphthylene				0.54	mg/kg		0.54	mg/kg	0.000054 %		
			205-917-1	208-96-8									
21	●	acenaphthene				0.1	mg/kg		0.1	mg/kg	0.00001 %		
			201-469-6	83-32-9									
22	●	fluorene				0.26	mg/kg		0.26	mg/kg	0.000026 %		
			201-695-5	86-73-7									
23	●	phenanthrene				2.76	mg/kg		2.76	mg/kg	0.000276 %		
			201-581-5	85-01-8									
24	●	anthracene				0.69	mg/kg		0.69	mg/kg	0.000069 %		
			204-371-1	120-12-7									
25	●	fluoranthene				5.95	mg/kg		5.95	mg/kg	0.000595 %		
			205-912-4	206-44-0									
26	●	pyrene				5.06	mg/kg		5.06	mg/kg	0.000506 %		
			204-927-3	129-00-0									
27		benzo[a]anthracene				3.43	mg/kg		3.43	mg/kg	0.000343 %		
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				3.28	mg/kg		3.28	mg/kg	0.000328 %		
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				5.01	mg/kg		5.01	mg/kg	0.000501 %		
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				1.95	mg/kg		1.95	mg/kg	0.000195 %		
		601-036-00-5	205-916-6	207-08-9									
31		benzo[a]pyrene; benzo[def]chrysene				3.61	mg/kg		3.61	mg/kg	0.000361 %		
		601-032-00-3	200-028-5	50-32-8									
32	●	indeno[123-cd]pyrene				2.53	mg/kg		2.53	mg/kg	0.000253 %		
			205-893-2	193-39-5									
33		dibenz[a,h]anthracene				0.69	mg/kg		0.69	mg/kg	0.000069 %		
		601-041-00-2	200-181-8	53-70-3									
34	●	benzo[ghi]perylene				2.56	mg/kg		2.56	mg/kg	0.000256 %		
			205-883-8	191-24-2									
35	●	polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
36		asbestos				20	mg/kg		20	mg/kg	0.002 %		
		650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5									
										Total:	0.418 %		

Key	
	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0527%)

Classification of sample: WS03[1]

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

Sample details

Sample Name:
WS03[1]
Sample Depth:
1.50 m
Moisture content:
43.9%
(no 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: 43.9% No Moisture Correction applied (MC)

#	Determinand	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		8 mg/kg	1.197	9.577 mg/kg	0.000958 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		71 mg/kg	1.32	93.743 mg/kg	0.00937 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.1 mg/kg	1.142	0.114 mg/kg	0.0000114 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		69.5 mg/kg	1.462	101.578 mg/kg	0.0102 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		186 mg/kg	1.126	209.415 mg/kg	0.0209 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	229 mg/kg		229 mg/kg	0.0229 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.7 mg/kg	1.353	0.947 mg/kg	0.0000947 %		
8	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		14.8 mg/kg	1.5	22.203 mg/kg	0.00222 %		
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		126 mg/kg	2.976	375.009 mg/kg	0.0375 %		
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				2 mg/kg	2.554	5.107 mg/kg	0.000511 %		
11	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		225 mg/kg	1.245	280.061 mg/kg	0.028 %		
12	TPH (C6 to C40) petroleum group			TPH		105 mg/kg		105 mg/kg	0.0105 %		
13	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**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16	•	ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18	•	pH				7.66	pH		7.66	pH	7.66 pH		
				PH									
19		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20	•	acenaphthylene				0.04	mg/kg		0.04	mg/kg	0.000004 %		
			205-917-1	208-96-8									
21	•	acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
22	•	fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
23	•	phenanthrene				0.67	mg/kg		0.67	mg/kg	0.000067 %		
			201-581-5	85-01-8									
24	•	anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
25	•	fluoranthene				0.5	mg/kg		0.5	mg/kg	0.00005 %		
			205-912-4	206-44-0									
26	•	pyrene				0.4	mg/kg		0.4	mg/kg	0.00004 %		
			204-927-3	129-00-0									
27		benzo[a]anthracene				0.25	mg/kg		0.25	mg/kg	0.000025 %		
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				0.25	mg/kg		0.25	mg/kg	0.000025 %		
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				0.29	mg/kg		0.29	mg/kg	0.000029 %		
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				0.11	mg/kg		0.11	mg/kg	0.000011 %		
		601-036-00-5	205-916-6	207-08-9									
31		benzo[a]pyrene; benzo[def]chrysene				0.19	mg/kg		0.19	mg/kg	0.000019 %		
		601-032-00-3	200-028-5	50-32-8									
32	•	indeno[123-cd]pyrene				0.11	mg/kg		0.11	mg/kg	0.000011 %		
			205-893-2	193-39-5									
33		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									
34	•	benzo[ghi]perylene				0.15	mg/kg		0.15	mg/kg	0.000015 %		
			205-883-8	191-24-2									
35	•	polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.143 %		

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0105%)

Classification of sample: WS03[2]

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

Sample details

Sample Name:
WS03[2]
Sample Depth:
2.50 m
Moisture content:
14%
(no 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: 14% No Moisture Correction applied (MC)

#	Determinand	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 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		6.2 mg/kg	1.32	8.186 mg/kg	0.000819 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.2 mg/kg	1.142	0.228 mg/kg	0.0000228 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		94.2 mg/kg	1.462	137.679 mg/kg	0.0138 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		7 mg/kg	1.126	7.881 mg/kg	0.000788 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	11 mg/kg		11 mg/kg	0.0011 %		
7	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
8	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		6.3 mg/kg	1.5	9.451 mg/kg	0.000945 %		
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		9 mg/kg	2.976	26.786 mg/kg	0.00268 %		
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
11	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		45 mg/kg	1.245	56.012 mg/kg	0.0056 %		
12	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
13	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

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18		pH				8.17	pH		8.17	pH	8.17 pH		
				PH									
19		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
21		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
22		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
23		phenanthrene				0.09	mg/kg		0.09	mg/kg	0.000009 %		
			201-581-5	85-01-8									
24		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
25		fluoranthene				0.08	mg/kg		0.08	mg/kg	0.000008 %		
			205-912-4	206-44-0									
26		pyrene				0.07	mg/kg		0.07	mg/kg	0.000007 %		
			204-927-3	129-00-0									
27		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
31		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									
32		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
33		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									
34		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
35		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.0314 %		

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: WS04

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

Sample details

Sample Name:
WS04
Sample Depth:
0.50 m
Moisture content:
13.8%
(no 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: 13.8% No Moisture Correction applied (MC)

#	Determinand	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		11 mg/kg	1.197	13.168 mg/kg	0.00132 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		29.4 mg/kg	1.32	38.818 mg/kg	0.00388 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.4 mg/kg	1.142	0.457 mg/kg	0.0000457 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		67.7 mg/kg	1.462	98.947 mg/kg	0.00989 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		42 mg/kg	1.126	47.287 mg/kg	0.00473 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	670 mg/kg		670 mg/kg	0.067 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.9 mg/kg	1.353	1.218 mg/kg	0.000122 %		
8	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		4.2 mg/kg	1.5	6.301 mg/kg	0.00063 %		
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		30.8 mg/kg	2.976	91.669 mg/kg	0.00917 %		
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
11	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		174 mg/kg	1.245	216.58 mg/kg	0.0217 %		
12	TPH (C6 to C40) petroleum group			TPH		255 mg/kg		255 mg/kg	0.0255 %		
13	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

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18		pH				8.17	pH		8.17	pH	8.17 pH		
				PH									
19		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20		acenaphthylene				0.6	mg/kg		0.6	mg/kg	0.00006 %		
			205-917-1	208-96-8									
21		acenaphthene				1.8	mg/kg		1.8	mg/kg	0.00018 %		
			201-469-6	83-32-9									
22		fluorene				1.15	mg/kg		1.15	mg/kg	0.000115 %		
			201-695-5	86-73-7									
23		phenanthrene				14.57	mg/kg		14.57	mg/kg	0.00146 %		
			201-581-5	85-01-8									
24		anthracene				4.29	mg/kg		4.29	mg/kg	0.000429 %		
			204-371-1	120-12-7									
25		fluoranthene				22.63	mg/kg		22.63	mg/kg	0.00226 %		
			205-912-4	206-44-0									
26		pyrene				19.04	mg/kg		19.04	mg/kg	0.0019 %		
			204-927-3	129-00-0									
27		benzo[a]anthracene				12.26	mg/kg		12.26	mg/kg	0.00123 %		
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				9.34	mg/kg		9.34	mg/kg	0.000934 %		
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				12.22	mg/kg		12.22	mg/kg	0.00122 %		
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				4.75	mg/kg		4.75	mg/kg	0.000475 %		
		601-036-00-5	205-916-6	207-08-9									
31		benzo[a]pyrene; benzo[def]chrysene				9.53	mg/kg		9.53	mg/kg	0.000953 %		
		601-032-00-3	200-028-5	50-32-8									
32		indeno[123-cd]pyrene				4.83	mg/kg		4.83	mg/kg	0.000483 %		
			205-893-2	193-39-5									
33		dibenz[a,h]anthracene				1.44	mg/kg		1.44	mg/kg	0.000144 %		
		601-041-00-2	200-181-8	53-70-3									
34		benzo[ghi]perylene				4.75	mg/kg		4.75	mg/kg	0.000475 %		
			205-883-8	191-24-2									
35		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.157 %		

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0255%)

Classification of sample: WS04[1]

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

Sample details

Sample Name:
WS04[1]
Sample Depth:
1.50 m
Moisture content:
28.4%
(no 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: 28.4% No Moisture Correction applied (MC)

#	Determinand	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number / EC Number / CAS Number							
1	antimony { antimony trioxide }		3 mg/kg	1.197	3.591 mg/kg	0.000359 %		
	051-005-00-X / 215-175-0 / 1309-64-4							
2	arsenic { arsenic trioxide }		31.9 mg/kg	1.32	42.118 mg/kg	0.00421 %		
	033-003-00-0 / 215-481-4 / 1327-53-3							
3	cadmium { cadmium oxide }		0.3 mg/kg	1.142	0.343 mg/kg	0.0000343 %		
	048-002-00-0 / 215-146-2 / 1306-19-0							
4	chromium in chromium(III) compounds { chromium(III) oxide }		56.2 mg/kg	1.462	82.139 mg/kg	0.00821 %		
	/ 215-160-9 / 1308-38-9							
5	copper { dicopper oxide; copper (I) oxide }		42 mg/kg	1.126	47.287 mg/kg	0.00473 %		
	029-002-00-X / 215-270-7 / 1317-39-1							
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }	1	69 mg/kg		69 mg/kg	0.0069 %		
	082-001-00-6 / /							
7	mercury { mercury dichloride }		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
	080-010-00-X / 231-299-8 / 7487-94-7							
8	molybdenum { molybdenum(VI) oxide }		5.4 mg/kg	1.5	8.101 mg/kg	0.00081 %		
	042-001-00-9 / 215-204-7 / 1313-27-5							
9	nickel { nickel chromate }		54 mg/kg	2.976	160.718 mg/kg	0.0161 %		
	028-035-00-7 / 238-766-5 / 14721-18-7							
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
	034-002-00-8 / /							
11	zinc { zinc oxide }		95 mg/kg	1.245	118.248 mg/kg	0.0118 %		
	030-013-00-7 / 215-222-5 / 1314-13-2							
12	TPH (C6 to C40) petroleum group		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
	/ / TPH							
13	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	603-181-00-X / 216-653-1 / 1634-04-4							

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16	●	ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18	●	pH				8.19	pH		8.19	pH	8.19 pH		
				PH									
19		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20	●	acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
21	●	acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
22	●	fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
23	●	phenanthrene				0.11	mg/kg		0.11	mg/kg	0.000011 %		
			201-581-5	85-01-8									
24	●	anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
25	●	fluoranthene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			205-912-4	206-44-0									
26	●	pyrene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			204-927-3	129-00-0									
27		benzo[a]anthracene				0.08	mg/kg		0.08	mg/kg	0.000008 %		
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				0.06	mg/kg		0.06	mg/kg	0.000006 %		
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
31		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									
32	●	indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
33		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									
34	●	benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
35	●	polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.0587 %		

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: WS05

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

Sample details

Sample Name:
WS05
Sample Depth:
0.50 m
Moisture content:
21.5%
(no 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: 21.5% No Moisture Correction applied (MC)

#	Determinand	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	2.394 mg/kg	0.000239 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		16.7 mg/kg	1.32	22.049 mg/kg	0.0022 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.5 mg/kg	1.142	0.571 mg/kg	0.0000571 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		68.7 mg/kg	1.462	100.409 mg/kg	0.01 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		54 mg/kg	1.126	60.798 mg/kg	0.00608 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	109 mg/kg		109 mg/kg	0.0109 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.7 mg/kg	1.353	0.947 mg/kg	0.0000947 %		
8	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		5.4 mg/kg	1.5	8.101 mg/kg	0.00081 %		
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		28 mg/kg	2.976	83.335 mg/kg	0.00833 %		
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1 mg/kg	2.554	2.554 mg/kg	0.000255 %		
11	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		91 mg/kg	1.245	113.269 mg/kg	0.0113 %		
12	TPH (C6 to C40) petroleum group			TPH		84 mg/kg		84 mg/kg	0.0084 %		
13	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**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18		pH				8.33	pH		8.33	pH	8.33 pH		
				PH									
19		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20		acenaphthylene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			205-917-1	208-96-8									
21		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
22		fluorene				0.06	mg/kg		0.06	mg/kg	0.000006 %		
			201-695-5	86-73-7									
23		phenanthrene				0.77	mg/kg		0.77	mg/kg	0.000077 %		
			201-581-5	85-01-8									
24		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
25		fluoranthene				0.43	mg/kg		0.43	mg/kg	0.000043 %		
			205-912-4	206-44-0									
26		pyrene				0.32	mg/kg		0.32	mg/kg	0.000032 %		
			204-927-3	129-00-0									
27		benzo[a]anthracene				0.33	mg/kg		0.33	mg/kg	0.000033 %		
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				0.3	mg/kg		0.3	mg/kg	0.00003 %		
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				0.31	mg/kg		0.31	mg/kg	0.000031 %		
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				0.12	mg/kg		0.12	mg/kg	0.000012 %		
		601-036-00-5	205-916-6	207-08-9									
31		benzo[a]pyrene; benzo[def]chrysene				0.2	mg/kg		0.2	mg/kg	0.00002 %		
		601-032-00-3	200-028-5	50-32-8									
32		indeno[123-cd]pyrene				0.11	mg/kg		0.11	mg/kg	0.000011 %		
			205-893-2	193-39-5									
33		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									
34		benzo[ghi]perylene				0.14	mg/kg		0.14	mg/kg	0.000014 %		
			205-883-8	191-24-2									
35		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.0591 %		

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0084%)

Classification of sample: WS06

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

Sample details

Sample Name:
WS06
Sample Depth:
0.50 m
Moisture content:
48.4%
(no 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: 48.4% No Moisture Correction applied (MC)

#	Determinand	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		10 mg/kg	1.197	11.971 mg/kg	0.0012 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		79.1 mg/kg	1.32	104.438 mg/kg	0.0104 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.8 mg/kg	1.142	0.914 mg/kg	0.0000914 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		64.3 mg/kg	1.462	93.978 mg/kg	0.0094 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		179 mg/kg	1.126	201.534 mg/kg	0.0202 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	288 mg/kg		288 mg/kg	0.0288 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.9 mg/kg	1.353	1.218 mg/kg	0.000122 %		
8	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		12.7 mg/kg	1.5	19.052 mg/kg	0.00191 %		
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		129.9 mg/kg	2.976	386.617 mg/kg	0.0387 %		
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				2 mg/kg	2.554	5.107 mg/kg	0.000511 %		
11	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		232 mg/kg	1.245	288.774 mg/kg	0.0289 %		
12	TPH (C6 to C40) petroleum group			TPH		91 mg/kg		91 mg/kg	0.0091 %		
13	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**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18		pH				8	pH		8	pH	8pH		
				PH									
19		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
21		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
22		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
23		phenanthrene				0.58	mg/kg		0.58	mg/kg	0.000058 %		
			201-581-5	85-01-8									
24		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
25		fluoranthene				0.12	mg/kg		0.12	mg/kg	0.000012 %		
			205-912-4	206-44-0									
26		pyrene				0.1	mg/kg		0.1	mg/kg	0.00001 %		
			204-927-3	129-00-0									
27		benzo[a]anthracene				0.1	mg/kg		0.1	mg/kg	0.00001 %		
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				0.15	mg/kg		0.15	mg/kg	0.000015 %		
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				0.11	mg/kg		0.11	mg/kg	0.000011 %		
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				0.04	mg/kg		0.04	mg/kg	0.000004 %		
		601-036-00-5	205-916-6	207-08-9									
31		benzo[a]pyrene; benzo[def]chrysene				0.07	mg/kg		0.07	mg/kg	0.000007 %		
		601-032-00-3	200-028-5	50-32-8									
32		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
33		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									
34		benzo[ghi]perylene				0.07	mg/kg		0.07	mg/kg	0.000007 %		
			205-883-8	191-24-2									
35		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.149 %		

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0091%)

Classification of sample: WS06[1]

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

Sample details

Sample Name:
WS06[1]
Sample Depth:
1.50 m
Moisture content:
40.7%
(no 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: 40.7% No Moisture Correction applied (MC)

#	Determinand	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number / EC Number / CAS Number							
1	antimony { antimony trioxide }		1 mg/kg	1.197	1.197 mg/kg	0.00012 %		
	051-005-00-X / 215-175-0 / 1309-64-4							
2	arsenic { arsenic trioxide }		13 mg/kg	1.32	17.164 mg/kg	0.00172 %		
	033-003-00-0 / 215-481-4 / 1327-53-3							
3	cadmium { cadmium oxide }		0.5 mg/kg	1.142	0.571 mg/kg	0.0000571 %		
	048-002-00-0 / 215-146-2 / 1306-19-0							
4	chromium in chromium(III) compounds { chromium(III) oxide }		46.4 mg/kg	1.462	67.816 mg/kg	0.00678 %		
	/ 215-160-9 / 1308-38-9							
5	copper { dicopper oxide; copper (I) oxide }		20 mg/kg	1.126	22.518 mg/kg	0.00225 %		
	029-002-00-X / 215-270-7 / 1317-39-1							
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }	1	34 mg/kg		34 mg/kg	0.0034 %		
	082-001-00-6 / /							
7	mercury { mercury dichloride }		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		**<LOD**
	080-010-00-X / 231-299-8 / 7487-94-7							
8	molybdenum { molybdenum(VI) oxide }		6.3 mg/kg	1.5	9.451 mg/kg	0.000945 %		
	042-001-00-9 / 215-204-7 / 1313-27-5							
9	nickel { nickel chromate }		26.3 mg/kg	2.976	78.276 mg/kg	0.00783 %		
	028-035-00-7 / 238-766-5 / 14721-18-7							
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		**<LOD**
	034-002-00-8 / /							
11	zinc { zinc oxide }		81 mg/kg	1.245	100.822 mg/kg	0.0101 %		
	030-013-00-7 / 215-222-5 / 1314-13-2							
12	TPH (C6 to C40) petroleum group		<52 mg/kg		<52 mg/kg	<0.0052 %		**<LOD**
	/ / TPH							
13	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		**<LOD**
	603-181-00-X / 216-653-1 / 1634-04-4							

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16	•	ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18	•	pH				8.05	pH		8.05	pH	8.05 pH		
				PH									
19		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20	•	acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
21	•	acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
22	•	fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
23	•	phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
24	•	anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
25	•	fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
26	•	pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
27		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
31		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									
32	•	indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
33		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									
34	•	benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
35	•	polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.0387 %		

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: WS09

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

Sample details

Sample Name:	LoW Code:	
WS09	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:		
0.50 m	Entry:	17 05 03 * (Soil and stones containing hazardous substances)

Hazard properties

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1A; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

asbestos: (conc.: 0.18%)

Determinands

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

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
1		TPH (C6 to C40) petroleum group		TPH		352	mg/kg		352	mg/kg	0.0352 %		
2		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		603-181-00-X	216-653-1	1634-04-4									
3		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-020-00-8	200-753-7	71-43-2									
4		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-021-00-3	203-625-9	108-88-3									
5		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-023-00-4	202-849-4	100-41-4									
6		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]									
7		pH		PH		8.36	pH		8.36	pH	8.36 pH		
8		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
		601-052-00-2	202-049-5	91-20-3									
9		acenaphthylene				0.12	mg/kg		0.12	mg/kg	0.000012 %		
			205-917-1	208-96-8									
10		acenaphthene				0.09	mg/kg		0.09	mg/kg	0.000009 %		
			201-469-6	83-32-9									
11		fluorene				0.09	mg/kg		0.09	mg/kg	0.000009 %		
			201-695-5	86-73-7									
12		phenanthrene				1.12	mg/kg		1.12	mg/kg	0.000112 %		
			201-581-5	85-01-8									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
13	●	anthracene				0.3	mg/kg		0.3	mg/kg	0.00003 %		
			204-371-1	120-12-7									
14	●	fluoranthene				2.28	mg/kg		2.28	mg/kg	0.000228 %		
			205-912-4	206-44-0									
15	●	pyrene				1.92	mg/kg		1.92	mg/kg	0.000192 %		
			204-927-3	129-00-0									
16		benzo[a]anthracene				1.27	mg/kg		1.27	mg/kg	0.000127 %		
		601-033-00-9	200-280-6	56-55-3									
17		chrysene				1.01	mg/kg		1.01	mg/kg	0.000101 %		
		601-048-00-0	205-923-4	218-01-9									
18		benzo[b]fluoranthene				1.64	mg/kg		1.64	mg/kg	0.000164 %		
		601-034-00-4	205-911-9	205-99-2									
19		benzo[k]fluoranthene				0.64	mg/kg		0.64	mg/kg	0.000064 %		
		601-036-00-5	205-916-6	207-08-9									
20		benzo[a]pyrene; benzo[def]chrysene				1.13	mg/kg		1.13	mg/kg	0.000113 %		
		601-032-00-3	200-028-5	50-32-8									
21	●	indeno[123-cd]pyrene				0.65	mg/kg		0.65	mg/kg	0.000065 %		
			205-893-2	193-39-5									
22		dibenz[a,h]anthracene				0.13	mg/kg		0.13	mg/kg	0.000013 %		
		601-041-00-2	200-181-8	53-70-3									
23	●	benzo[ghi]perylene				0.61	mg/kg		0.61	mg/kg	0.000061 %		
			205-883-8	191-24-2									
24	●	polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
		602-039-00-4	215-648-1	1336-36-3									
25		asbestos				1800	mg/kg		1800	mg/kg	0.18 %		
		650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5									
										Total:	0.217 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
<LOD	Below limit of detection

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0352%)

Classification of sample: WS10

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

Sample details

Sample Name:
WS10
Sample Depth:
0.50 m
Moisture content:
57.5%
(no 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: 57.5% No Moisture Correction applied (MC)

#	Determinand	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		5 mg/kg	1.197	5.986 mg/kg	0.000599 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		35.4 mg/kg	1.32	46.74 mg/kg	0.00467 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.8 mg/kg	1.142	0.914 mg/kg	0.0000914 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		90.1 mg/kg	1.462	131.686 mg/kg	0.0132 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		119 mg/kg	1.126	133.981 mg/kg	0.0134 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	350 mg/kg		350 mg/kg	0.035 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		1.4 mg/kg	1.353	1.895 mg/kg	0.000189 %		
8	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		9.4 mg/kg	1.5	14.102 mg/kg	0.00141 %		
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		45.3 mg/kg	2.976	134.825 mg/kg	0.0135 %		
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				2 mg/kg	2.554	5.107 mg/kg	0.000511 %		
11	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		200 mg/kg	1.245	248.943 mg/kg	0.0249 %		
12	TPH (C6 to C40) petroleum group			TPH		343 mg/kg		343 mg/kg	0.0343 %		
13	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**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16	•	ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18	•	pH				7.53	pH		7.53	pH	7.53 pH		
				PH									
19		naphthalene				0.26	mg/kg		0.26	mg/kg	0.000026 %		
		601-052-00-2	202-049-5	91-20-3									
20	•	acenaphthylene				0.32	mg/kg		0.32	mg/kg	0.000032 %		
			205-917-1	208-96-8									
21	•	acenaphthene				0.26	mg/kg		0.26	mg/kg	0.000026 %		
			201-469-6	83-32-9									
22	•	fluorene				0.24	mg/kg		0.24	mg/kg	0.000024 %		
			201-695-5	86-73-7									
23	•	phenanthrene				3.26	mg/kg		3.26	mg/kg	0.000326 %		
			201-581-5	85-01-8									
24	•	anthracene				0.66	mg/kg		0.66	mg/kg	0.000066 %		
			204-371-1	120-12-7									
25	•	fluoranthene				7.04	mg/kg		7.04	mg/kg	0.000704 %		
			205-912-4	206-44-0									
26	•	pyrene				6.15	mg/kg		6.15	mg/kg	0.000615 %		
			204-927-3	129-00-0									
27		benzo[a]anthracene				2.49	mg/kg		2.49	mg/kg	0.000249 %		
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				3.29	mg/kg		3.29	mg/kg	0.000329 %		
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				5.21	mg/kg		5.21	mg/kg	0.000521 %		
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				2.02	mg/kg		2.02	mg/kg	0.000202 %		
		601-036-00-5	205-916-6	207-08-9									
31		benzo[a]pyrene; benzo[def]chrysene				3.78	mg/kg		3.78	mg/kg	0.000378 %		
		601-032-00-3	200-028-5	50-32-8									
32	•	indeno[123-cd]pyrene				2.33	mg/kg		2.33	mg/kg	0.000233 %		
			205-893-2	193-39-5									
33		dibenz[a,h]anthracene				0.71	mg/kg		0.71	mg/kg	0.000071 %		
		601-041-00-2	200-181-8	53-70-3									
34	•	benzo[ghi]perylene				2.31	mg/kg		2.31	mg/kg	0.000231 %		
			205-883-8	191-24-2									
35	•	polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.146 %		

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0343%)

Classification of sample: WS10[1]

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

Sample details

Sample Name:
WS10[1]
Sample Depth:
1.50 m
Moisture content:
25.5%
(no 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: 25.5% No Moisture Correction applied (MC)

#	Determinand	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 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		3.9 mg/kg	1.32	5.149 mg/kg	0.000515 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<LOD
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		109.1 mg/kg	1.462	159.456 mg/kg	0.0159 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		5 mg/kg	1.126	5.629 mg/kg	0.000563 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	9 mg/kg		9 mg/kg	0.0009 %		
7	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
8	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		6.7 mg/kg	1.5	10.051 mg/kg	0.00101 %		
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		11 mg/kg	2.976	32.739 mg/kg	0.00327 %		
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
11	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		27 mg/kg	1.245	33.607 mg/kg	0.00336 %		
12	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
13	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

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18		pH				8.88	pH		8.88	pH	8.88 pH		
				PH									
19		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
21		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
22		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
23		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
24		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
25		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
26		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
27		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
31		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									
32		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
33		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									
34		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
35		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.0312 %		

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: WS10[2]

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

Sample details

Sample Name:
WS10[2]
Sample Depth:
2.50 m
Moisture content:
22.5%
(no 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: 22.5% No Moisture Correction applied (MC)

#	Determinand	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		4.4 mg/kg	1.32	5.809 mg/kg	0.000581 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.1 mg/kg	1.142	0.114 mg/kg	0.0000114 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		99 mg/kg	1.462	144.694 mg/kg	0.0145 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		6 mg/kg	1.126	6.755 mg/kg	0.000676 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	15 mg/kg		15 mg/kg	0.0015 %		
7	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
8	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		6.2 mg/kg	1.5	9.301 mg/kg	0.00093 %		
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		11.1 mg/kg	2.976	33.037 mg/kg	0.0033 %		
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
11	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		27 mg/kg	1.245	33.607 mg/kg	0.00336 %		
12	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
13	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

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18		pH				8.84	pH		8.84	pH	8.84 pH		
				PH									
19		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
21		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
22		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
23		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
24		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
25		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
26		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
27		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
31		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									
32		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
33		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									
34		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
35		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.0305 %		

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: WS12

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

Sample details

Sample Name:
WS12
Sample Depth:
0.50 m
Moisture content:
33.7%
(no 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: 33.7% No Moisture Correction applied (MC)

#	Determinand	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		5 mg/kg	1.197	5.986 mg/kg	0.000599 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		43.7 mg/kg	1.32	57.698 mg/kg	0.00577 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.7 mg/kg	1.142	0.8 mg/kg	0.00008 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		88.2 mg/kg	1.462	128.909 mg/kg	0.0129 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		250 mg/kg	1.126	281.472 mg/kg	0.0281 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	321 mg/kg		321 mg/kg	0.0321 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		1.2 mg/kg	1.353	1.624 mg/kg	0.000162 %		
8	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		9.8 mg/kg	1.5	14.702 mg/kg	0.00147 %		
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		67.5 mg/kg	2.976	200.898 mg/kg	0.0201 %		
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1 mg/kg	2.554	2.554 mg/kg	0.000255 %		
11	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		530 mg/kg	1.245	659.698 mg/kg	0.066 %		
12	TPH (C6 to C40) petroleum group			TPH		296 mg/kg		296 mg/kg	0.0296 %		
13	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**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18		pH				8.22	pH		8.22	pH	8.22 pH		
				PH									
19		naphthalene				0.13	mg/kg		0.13	mg/kg	0.000013 %		
		601-052-00-2	202-049-5	91-20-3									
20		acenaphthylene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			205-917-1	208-96-8									
21		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
22		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
23		phenanthrene				0.61	mg/kg		0.61	mg/kg	0.000061 %		
			201-581-5	85-01-8									
24		anthracene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			204-371-1	120-12-7									
25		fluoranthene				0.46	mg/kg		0.46	mg/kg	0.000046 %		
			205-912-4	206-44-0									
26		pyrene				0.39	mg/kg		0.39	mg/kg	0.000039 %		
			204-927-3	129-00-0									
27		benzo[a]anthracene				0.21	mg/kg		0.21	mg/kg	0.000021 %		
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				0.29	mg/kg		0.29	mg/kg	0.000029 %		
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				0.35	mg/kg		0.35	mg/kg	0.000035 %		
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				0.13	mg/kg		0.13	mg/kg	0.000013 %		
		601-036-00-5	205-916-6	207-08-9									
31		benzo[a]pyrene; benzo[def]chrysene				0.22	mg/kg		0.22	mg/kg	0.000022 %		
		601-032-00-3	200-028-5	50-32-8									
32		indeno[123-cd]pyrene				0.16	mg/kg		0.16	mg/kg	0.000016 %		
			205-893-2	193-39-5									
33		dibenz[a,h]anthracene				0.07	mg/kg		0.07	mg/kg	0.000007 %		
		601-041-00-2	200-181-8	53-70-3									
34		benzo[ghi]perylene				0.18	mg/kg		0.18	mg/kg	0.000018 %		
			205-883-8	191-24-2									
35		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.197 %		

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0296%)

Classification of sample: WS12[1]

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

Sample details

Sample Name:
WS12[1]
Sample Depth:
1.50 m
Moisture content:
19.4%
(no 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: 19.4% No Moisture Correction applied (MC)

#	Determinand	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	2.394 mg/kg	0.000239 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10.5 mg/kg	1.32	13.863 mg/kg	0.00139 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<**LOD**
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		87.3 mg/kg	1.462	127.594 mg/kg	0.0128 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		9 mg/kg	1.126	10.133 mg/kg	0.00101 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	9 mg/kg		9 mg/kg	0.0009 %		
7	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**
8	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		5.8 mg/kg	1.5	8.701 mg/kg	0.00087 %		
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		9.2 mg/kg	2.976	27.382 mg/kg	0.00274 %		
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
11	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		27 mg/kg	1.245	33.607 mg/kg	0.00336 %		
12	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
13	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**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16	●	ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18	●	pH				8.65	pH		8.65	pH	8.65 pH		
				PH									
19		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20	●	acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
21	●	acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
22	●	fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
23	●	phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
24	●	anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
25	●	fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
26	●	pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
27		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
31		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									
32	●	indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
33		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									
34	●	benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
35	●	polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.0288 %		

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: WS12[2]

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

Sample details

Sample Name:
WS12[2]
Sample Depth:
2.50 m
Moisture content:
8.5%
(no 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: 8.5% No Moisture Correction applied (MC)

#	Determinand	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 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.4 mg/kg	1.32	12.411 mg/kg	0.00124 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<**LOD**
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		114.6 mg/kg	1.462	167.494 mg/kg	0.0167 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		8 mg/kg	1.126	9.007 mg/kg	0.000901 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	8 mg/kg		8 mg/kg	0.0008 %		
7	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**
8	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		6.1 mg/kg	1.5	9.151 mg/kg	0.000915 %		
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		10.9 mg/kg	2.976	32.441 mg/kg	0.00324 %		
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
11	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		22 mg/kg	1.245	27.384 mg/kg	0.00274 %		
12	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
13	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**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16	•	ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18	•	pH				8.85	pH		8.85	pH	8.85 pH		
				PH									
19		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20	•	acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
21	•	acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
22	•	fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
23	•	phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
24	•	anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
25	•	fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
26	•	pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
27		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
31		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									
32	•	indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
33		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									
34	•	benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
35	•	polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										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: WS13

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

Sample details

Sample Name:
WS13
Sample Depth:
0.50 m
Moisture content:
35.1%
(no 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: 35.1% No Moisture Correction applied (MC)

#	Determinand	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		4 mg/kg	1.197	4.788 mg/kg	0.000479 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		29.1 mg/kg	1.32	38.421 mg/kg	0.00384 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.8 mg/kg	1.142	0.914 mg/kg	0.0000914 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		80.1 mg/kg	1.462	117.071 mg/kg	0.0117 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		80 mg/kg	1.126	90.071 mg/kg	0.00901 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	352 mg/kg		352 mg/kg	0.0352 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		1.1 mg/kg	1.353	1.489 mg/kg	0.000149 %		
8	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		9.2 mg/kg	1.5	13.802 mg/kg	0.00138 %		
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		45.2 mg/kg	2.976	134.527 mg/kg	0.0135 %		
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1 mg/kg	2.554	2.554 mg/kg	0.000255 %		
11	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		134 mg/kg	1.245	166.792 mg/kg	0.0167 %		
12	TPH (C6 to C40) petroleum group			TPH		242 mg/kg		242 mg/kg	0.0242 %		
13	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**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16	•	ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18	•	pH				7.86	pH		7.86	pH	7.86 pH		
				PH									
19		naphthalene				0.24	mg/kg		0.24	mg/kg	0.000024 %		
		601-052-00-2	202-049-5	91-20-3									
20	•	acenaphthylene				0.09	mg/kg		0.09	mg/kg	0.000009 %		
			205-917-1	208-96-8									
21	•	acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
22	•	fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
23	•	phenanthrene				0.34	mg/kg		0.34	mg/kg	0.000034 %		
			201-581-5	85-01-8									
24	•	anthracene				0.08	mg/kg		0.08	mg/kg	0.000008 %		
			204-371-1	120-12-7									
25	•	fluoranthene				0.45	mg/kg		0.45	mg/kg	0.000045 %		
			205-912-4	206-44-0									
26	•	pyrene				0.4	mg/kg		0.4	mg/kg	0.00004 %		
			204-927-3	129-00-0									
27		benzo[a]anthracene				0.29	mg/kg		0.29	mg/kg	0.000029 %		
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				0.39	mg/kg		0.39	mg/kg	0.000039 %		
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				0.63	mg/kg		0.63	mg/kg	0.000063 %		
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				0.25	mg/kg		0.25	mg/kg	0.000025 %		
		601-036-00-5	205-916-6	207-08-9									
31		benzo[a]pyrene; benzo[def]chrysene				0.42	mg/kg		0.42	mg/kg	0.000042 %		
		601-032-00-3	200-028-5	50-32-8									
32	•	indeno[123-cd]pyrene				0.25	mg/kg		0.25	mg/kg	0.000025 %		
			205-893-2	193-39-5									
33		dibenz[a,h]anthracene				0.09	mg/kg		0.09	mg/kg	0.000009 %		
		601-041-00-2	200-181-8	53-70-3									
34	•	benzo[ghi]perylene				0.25	mg/kg		0.25	mg/kg	0.000025 %		
			205-883-8	191-24-2									
35	•	polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.117 %		

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0242%)

Classification of sample: WS14

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

Sample details

Sample Name:
WS14
Sample Depth:
0.50 m
Moisture content:
21.4%
(no 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: 21.4% No Moisture Correction applied (MC)

#	Determinand	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		5 mg/kg	1.197	5.986 mg/kg	0.000599 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		32.7 mg/kg	1.32	43.175 mg/kg	0.00432 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1 mg/kg	1.142	1.142 mg/kg	0.000114 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		17.4 mg/kg	1.462	25.431 mg/kg	0.00254 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		100 mg/kg	1.126	112.589 mg/kg	0.0113 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	397 mg/kg		397 mg/kg	0.0397 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		2.5 mg/kg	1.353	3.384 mg/kg	0.000338 %		
8	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.6 mg/kg	1.5	5.401 mg/kg	0.00054 %		
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		59.1 mg/kg	2.976	175.897 mg/kg	0.0176 %		
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1 mg/kg	2.554	2.554 mg/kg	0.000255 %		
11	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		323 mg/kg	1.245	402.043 mg/kg	0.0402 %		
12	TPH (C6 to C40) petroleum group			TPH		288 mg/kg		288 mg/kg	0.0288 %		
13	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**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		**<LOD**
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		**<LOD**
		601-021-00-3	203-625-9	108-88-3									
16		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		**<LOD**
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18		pH				7.86	pH		7.86	pH	7.86 pH		
				PH									
19		naphthalene				0.22	mg/kg		0.22	mg/kg	0.000022 %		
		601-052-00-2	202-049-5	91-20-3									
20		acenaphthylene				0.32	mg/kg		0.32	mg/kg	0.000032 %		
			205-917-1	208-96-8									
21		acenaphthene				0.13	mg/kg		0.13	mg/kg	0.000013 %		
			201-469-6	83-32-9									
22		fluorene				0.22	mg/kg		0.22	mg/kg	0.000022 %		
			201-695-5	86-73-7									
23		phenanthrene				2.59	mg/kg		2.59	mg/kg	0.000259 %		
			201-581-5	85-01-8									
24		anthracene				0.59	mg/kg		0.59	mg/kg	0.000059 %		
			204-371-1	120-12-7									
25		fluoranthene				4.36	mg/kg		4.36	mg/kg	0.000436 %		
			205-912-4	206-44-0									
26		pyrene				3.41	mg/kg		3.41	mg/kg	0.000341 %		
			204-927-3	129-00-0									
27		benzo[a]anthracene				1.78	mg/kg		1.78	mg/kg	0.000178 %		
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				1.61	mg/kg		1.61	mg/kg	0.000161 %		
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				2.76	mg/kg		2.76	mg/kg	0.000276 %		
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				1.08	mg/kg		1.08	mg/kg	0.000108 %		
		601-036-00-5	205-916-6	207-08-9									
31		benzo[a]pyrene; benzo[def]chrysene				1.99	mg/kg		1.99	mg/kg	0.000199 %		
		601-032-00-3	200-028-5	50-32-8									
32		indeno[123-cd]pyrene				1.23	mg/kg		1.23	mg/kg	0.000123 %		
			205-893-2	193-39-5									
33		dibenz[a,h]anthracene				0.24	mg/kg		0.24	mg/kg	0.000024 %		
		601-041-00-2	200-181-8	53-70-3									
34		benzo[ghi]perylene				1.17	mg/kg		1.17	mg/kg	0.000117 %		
			205-883-8	191-24-2									
35		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		**<LOD**
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.149 %		

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0288%)

Classification of sample: WS14[1]

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

Sample details

Sample Name:
WS14[1]
Sample Depth:
1.50 m
Moisture content:
27.7%
(no 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: 27.7% No Moisture Correction applied (MC)

#	Determinand	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		6 mg/kg	1.32	7.922 mg/kg	0.000792 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.1 mg/kg	1.142	0.114 mg/kg	0.0000114 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		44 mg/kg	1.462	64.308 mg/kg	0.00643 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		4 mg/kg	1.126	4.504 mg/kg	0.00045 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	5 mg/kg		5 mg/kg	0.0005 %		
7	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**
8	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		2.3 mg/kg	1.5	3.45 mg/kg	0.000345 %		
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		9.6 mg/kg	2.976	28.572 mg/kg	0.00286 %		
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
11	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		24 mg/kg	1.245	29.873 mg/kg	0.00299 %		
12	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
13	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**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16	•	ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18	•	pH				8.21	pH		8.21	pH	8.21 pH		
				PH									
19		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20	•	acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
21	•	acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
22	•	fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
23	•	phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
24	•	anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
25	•	fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
26	•	pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
27		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
31		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									
32	•	indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
33		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									
34	•	benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
35	•	polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.02 %		

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: WS15

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

Sample details

Sample Name:
WS15
Sample Depth:
1.50 m
Moisture content:
29.7%
(no 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: 29.7% No Moisture Correction applied (MC)

#	Determinand	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 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		11 mg/kg	1.32	14.524 mg/kg	0.00145 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.2 mg/kg	1.142	0.228 mg/kg	0.0000228 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		59.5 mg/kg	1.462	86.963 mg/kg	0.0087 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		7 mg/kg	1.126	7.881 mg/kg	0.000788 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	11 mg/kg		11 mg/kg	0.0011 %		
7	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
8	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		5.9 mg/kg	1.5	8.851 mg/kg	0.000885 %		
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		18.9 mg/kg	2.976	56.251 mg/kg	0.00563 %		
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
11	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		39 mg/kg	1.245	48.544 mg/kg	0.00485 %		
12	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
13	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

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18		pH				8.21	pH		8.21	pH	8.21 pH		
				PH									
19		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
21		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
22		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
23		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
24		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
25		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
26		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
27		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
31		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									
32		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
33		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									
34		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
35		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.0291 %		

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: WS16

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

Sample details

Sample Name:
WS16
Sample Depth:
0.50 m
Moisture content:
38.2%
(no 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: 38.2% No Moisture Correction applied (MC)

#	Determinand	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		4 mg/kg	1.197	4.788 mg/kg	0.000479 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		31.6 mg/kg	1.32	41.722 mg/kg	0.00417 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.7 mg/kg	1.142	0.8 mg/kg	0.00008 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		77.9 mg/kg	1.462	113.855 mg/kg	0.0114 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		99 mg/kg	1.126	111.463 mg/kg	0.0111 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	188 mg/kg		188 mg/kg	0.0188 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.8 mg/kg	1.353	1.083 mg/kg	0.000108 %		
8	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		10.7 mg/kg	1.5	16.052 mg/kg	0.00161 %		
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		61.2 mg/kg	2.976	182.147 mg/kg	0.0182 %		
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1 mg/kg	2.554	2.554 mg/kg	0.000255 %		
11	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		114 mg/kg	1.245	141.897 mg/kg	0.0142 %		
12	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		**<LOD**
13	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**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16	•	ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18	•	pH				8.16	pH		8.16	pH	8.16 pH		
				PH									
19		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20	•	acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
21	•	acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
22	•	fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
23	•	phenanthrene				0.19	mg/kg		0.19	mg/kg	0.000019 %		
			201-581-5	85-01-8									
24	•	anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
25	•	fluoranthene				0.08	mg/kg		0.08	mg/kg	0.000008 %		
			205-912-4	206-44-0									
26	•	pyrene				0.08	mg/kg		0.08	mg/kg	0.000008 %		
			204-927-3	129-00-0									
27		benzo[a]anthracene				0.11	mg/kg		0.11	mg/kg	0.000011 %		
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				0.1	mg/kg		0.1	mg/kg	0.00001 %		
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				0.09	mg/kg		0.09	mg/kg	0.000009 %		
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				0.03	mg/kg		0.03	mg/kg	0.000003 %		
		601-036-00-5	205-916-6	207-08-9									
31		benzo[a]pyrene; benzo[def]chrysene				0.07	mg/kg		0.07	mg/kg	0.000007 %		
		601-032-00-3	200-028-5	50-32-8									
32	•	indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
33		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									
34	•	benzo[ghi]perylene				0.07	mg/kg		0.07	mg/kg	0.000007 %		
			205-883-8	191-24-2									
35	•	polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.0858 %		

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: WS16[1]

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

Sample details

Sample Name:
WS16[1]
Sample Depth:
1.50 m
Moisture content:
52.1%
(no 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: 52.1% No Moisture Correction applied (MC)

#	Determinand	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	2.394 mg/kg	0.000239 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		14.8 mg/kg	1.32	19.541 mg/kg	0.00195 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.8 mg/kg	1.142	0.914 mg/kg	0.0000914 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		57.5 mg/kg	1.462	84.039 mg/kg	0.0084 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		16 mg/kg	1.126	18.014 mg/kg	0.0018 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	26 mg/kg		26 mg/kg	0.0026 %		
7	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
8	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		5.5 mg/kg	1.5	8.251 mg/kg	0.000825 %		
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		21.8 mg/kg	2.976	64.883 mg/kg	0.00649 %		
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
11	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		65 mg/kg	1.245	80.906 mg/kg	0.00809 %		
12	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
13	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

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16	•	ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18	•	pH				7.89	pH		7.89	pH	7.89 pH		
				PH									
19		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20	•	acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
21	•	acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
22	•	fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
23	•	phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
24	•	anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
25	•	fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
26	•	pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
27		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
31		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									
32	•	indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
33		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									
34	•	benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
35	•	polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.036 %		

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: WS17

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

Sample details

Sample Name:
WS17
Sample Depth:
0.50 m
Moisture content:
15.3%
(no 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: 15.3% No Moisture Correction applied (MC)

#	Determinand	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	3.591 mg/kg	0.000359 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		19.3 mg/kg	1.32	25.482 mg/kg	0.00255 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.2 mg/kg	1.142	0.228 mg/kg	0.0000228 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		37.9 mg/kg	1.462	55.393 mg/kg	0.00554 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		14 mg/kg	1.126	15.762 mg/kg	0.00158 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	30 mg/kg		30 mg/kg	0.003 %		
7	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
8	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		2.7 mg/kg	1.5	4.051 mg/kg	0.000405 %		
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		19.7 mg/kg	2.976	58.632 mg/kg	0.00586 %		
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
11	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		41 mg/kg	1.245	51.033 mg/kg	0.0051 %		
12	TPH (C6 to C40) petroleum group			TPH		162 mg/kg		162 mg/kg	0.0162 %		
13	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

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16	•	ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18	•	pH				8.53	pH		8.53	pH	8.53 pH		
				PH									
19		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20	•	acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
21	•	acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
22	•	fluorene				0.06	mg/kg		0.06	mg/kg	0.000006 %		
			201-695-5	86-73-7									
23	•	phenanthrene				0.37	mg/kg		0.37	mg/kg	0.000037 %		
			201-581-5	85-01-8									
24	•	anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
25	•	fluoranthene				0.04	mg/kg		0.04	mg/kg	0.000004 %		
			205-912-4	206-44-0									
26	•	pyrene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			204-927-3	129-00-0									
27		benzo[a]anthracene				0.09	mg/kg		0.09	mg/kg	0.000009 %		
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				0.06	mg/kg		0.06	mg/kg	0.000006 %		
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
31		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									
32	•	indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
33		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									
34	•	benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
35	•	polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.041 %		

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0162%)

Classification of sample: WS18

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

Sample details

Sample Name:
WS18
Sample Depth:
0.50 m
Moisture content:
21.6%
(no 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% No Moisture Correction applied (MC)

#	Determinand	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number / EC Number / CAS Number							
1	antimony { antimony trioxide }		3 mg/kg	1.197	3.591 mg/kg	0.000359 %		
	051-005-00-X / 215-175-0 / 1309-64-4							
2	arsenic { arsenic trioxide }		22.7 mg/kg	1.32	29.971 mg/kg	0.003 %		
	033-003-00-0 / 215-481-4 / 1327-53-3							
3	cadmium { cadmium oxide }		0.7 mg/kg	1.142	0.8 mg/kg	0.00008 %		
	048-002-00-0 / 215-146-2 / 1306-19-0							
4	chromium in chromium(III) compounds { chromium(III) oxide }		46.5 mg/kg	1.462	67.962 mg/kg	0.0068 %		
	/ 215-160-9 / 1308-38-9							
5	copper { dicopper oxide; copper (I) oxide }		58 mg/kg	1.126	65.302 mg/kg	0.00653 %		
	029-002-00-X / 215-270-7 / 1317-39-1							
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }	1	332 mg/kg		332 mg/kg	0.0332 %		
	082-001-00-6 / /							
7	mercury { mercury dichloride }		0.9 mg/kg	1.353	1.218 mg/kg	0.000122 %		
	080-010-00-X / 231-299-8 / 7487-94-7							
8	molybdenum { molybdenum(VI) oxide }		5.6 mg/kg	1.5	8.401 mg/kg	0.00084 %		
	042-001-00-9 / 215-204-7 / 1313-27-5							
9	nickel { nickel chromate }		41.7 mg/kg	2.976	124.11 mg/kg	0.0124 %		
	028-035-00-7 / 238-766-5 / 14721-18-7							
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
	034-002-00-8 / /							
11	zinc { zinc oxide }		103 mg/kg	1.245	128.206 mg/kg	0.0128 %		
	030-013-00-7 / 215-222-5 / 1314-13-2							
12	TPH (C6 to C40) petroleum group		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
	/ / TPH							
13	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	603-181-00-X / 216-653-1 / 1634-04-4							

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18		pH				8.34	pH		8.34	pH	8.34 pH		
				PH									
19		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
21		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
22		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
23		phenanthrene				0.26	mg/kg		0.26	mg/kg	0.000026 %		
			201-581-5	85-01-8									
24		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
25		fluoranthene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			205-912-4	206-44-0									
26		pyrene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			204-927-3	129-00-0									
27		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				0.08	mg/kg		0.08	mg/kg	0.000008 %		
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
31		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									
32		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
33		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									
34		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
35		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.0817 %		

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: WS18[1]

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

Sample details

Sample Name:
WS18[1]
Sample Depth:
1.50 m
Moisture content:
16.6%
(no 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: 16.6% No Moisture Correction applied (MC)

#	Determinand	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 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		6 mg/kg	1.32	7.922 mg/kg	0.000792 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.1 mg/kg	1.142	0.114 mg/kg	0.0000114 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		106.6 mg/kg	1.462	155.802 mg/kg	0.0156 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		10 mg/kg	1.126	11.259 mg/kg	0.00113 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	27 mg/kg		27 mg/kg	0.0027 %		
7	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
8	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		6.9 mg/kg	1.5	10.351 mg/kg	0.00104 %		
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		11.7 mg/kg	2.976	34.822 mg/kg	0.00348 %		
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
11	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		26 mg/kg	1.245	32.363 mg/kg	0.00324 %		
12	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
13	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

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18		pH				8.92	pH		8.92	pH	8.92 pH		
				PH									
19		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
21		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
22		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
23		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
24		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
25		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
26		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
27		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
31		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									
32		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
33		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									
34		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
35		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.0336 %		

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: WS19

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

Sample details

Sample Name:
WS19
Sample Depth:
0.50 m
Moisture content:
54.4%
(no 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: 54.4% No Moisture Correction applied (MC)

#	Determinand	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		6 mg/kg	1.197	7.183 mg/kg	0.000718 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		42 mg/kg	1.32	55.454 mg/kg	0.00555 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.7 mg/kg	1.142	0.8 mg/kg	0.00008 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		73.6 mg/kg	1.462	107.571 mg/kg	0.0108 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		210 mg/kg	1.126	236.437 mg/kg	0.0236 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	703 mg/kg		703 mg/kg	0.0703 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		1.2 mg/kg	1.353	1.624 mg/kg	0.000162 %		
8	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		7.7 mg/kg	1.5	11.551 mg/kg	0.00116 %		
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		64.8 mg/kg	2.976	192.862 mg/kg	0.0193 %		
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				2 mg/kg	2.554	5.107 mg/kg	0.000511 %		
11	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		220 mg/kg	1.245	273.837 mg/kg	0.0274 %		
12	TPH (C6 to C40) petroleum group			TPH		267 mg/kg		267 mg/kg	0.0267 %		
13	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

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18		pH				8.02	pH		8.02	pH	8.02 pH		
				PH									
19		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20		acenaphthylene				0.14	mg/kg		0.14	mg/kg	0.000014 %		
			205-917-1	208-96-8									
21		acenaphthene				0.34	mg/kg		0.34	mg/kg	0.000034 %		
			201-469-6	83-32-9									
22		fluorene				0.3	mg/kg		0.3	mg/kg	0.00003 %		
			201-695-5	86-73-7									
23		phenanthrene				4.7	mg/kg		4.7	mg/kg	0.00047 %		
			201-581-5	85-01-8									
24		anthracene				1.06	mg/kg		1.06	mg/kg	0.000106 %		
			204-371-1	120-12-7									
25		fluoranthene				7.76	mg/kg		7.76	mg/kg	0.000776 %		
			205-912-4	206-44-0									
26		pyrene				6.63	mg/kg		6.63	mg/kg	0.000663 %		
			204-927-3	129-00-0									
27		benzo[a]anthracene				2.8	mg/kg		2.8	mg/kg	0.00028 %		
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				3.73	mg/kg		3.73	mg/kg	0.000373 %		
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				4.8	mg/kg		4.8	mg/kg	0.00048 %		
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				1.87	mg/kg		1.87	mg/kg	0.000187 %		
		601-036-00-5	205-916-6	207-08-9									
31		benzo[a]pyrene; benzo[def]chrysene				3.45	mg/kg		3.45	mg/kg	0.000345 %		
		601-032-00-3	200-028-5	50-32-8									
32		indeno[123-cd]pyrene				2.06	mg/kg		2.06	mg/kg	0.000206 %		
			205-893-2	193-39-5									
33		dibenz[a,h]anthracene				0.43	mg/kg		0.43	mg/kg	0.000043 %		
		601-041-00-2	200-181-8	53-70-3									
34		benzo[ghi]perylene				2.01	mg/kg		2.01	mg/kg	0.000201 %		
			205-883-8	191-24-2									
35		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.19 %		

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0267%)

Classification of sample: WS20

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

Sample details

Sample Name:
WS20
Sample Depth:
0.50 m
Moisture content:
32.8%
(no 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: 32.8% No Moisture Correction applied (MC)

#	Determinand	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		6 mg/kg	1.197	7.183 mg/kg	0.000718 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		43.6 mg/kg	1.32	57.566 mg/kg	0.00576 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.7 mg/kg	1.142	0.8 mg/kg	0.00008 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		63.3 mg/kg	1.462	92.516 mg/kg	0.00925 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		115 mg/kg	1.126	129.477 mg/kg	0.0129 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	346 mg/kg		346 mg/kg	0.0346 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		1 mg/kg	1.353	1.353 mg/kg	0.000135 %		
8	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		10.4 mg/kg	1.5	15.602 mg/kg	0.00156 %		
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		70.8 mg/kg	2.976	210.72 mg/kg	0.0211 %		
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1 mg/kg	2.554	2.554 mg/kg	0.000255 %		
11	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		169 mg/kg	1.245	210.357 mg/kg	0.021 %		
12	TPH (C6 to C40) petroleum group			TPH		128 mg/kg		128 mg/kg	0.0128 %		
13	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**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18		pH				7.47	pH		7.47	pH	7.47 pH		
				PH									
19		naphthalene				0.16	mg/kg		0.16	mg/kg	0.000016 %		
		601-052-00-2	202-049-5	91-20-3									
20		acenaphthylene				0.06	mg/kg		0.06	mg/kg	0.000006 %		
			205-917-1	208-96-8									
21		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
22		fluorene				0.07	mg/kg		0.07	mg/kg	0.000007 %		
			201-695-5	86-73-7									
23		phenanthrene				1.28	mg/kg		1.28	mg/kg	0.000128 %		
			201-581-5	85-01-8									
24		anthracene				0.1	mg/kg		0.1	mg/kg	0.00001 %		
			204-371-1	120-12-7									
25		fluoranthene				0.99	mg/kg		0.99	mg/kg	0.000099 %		
			205-912-4	206-44-0									
26		pyrene				0.89	mg/kg		0.89	mg/kg	0.000089 %		
			204-927-3	129-00-0									
27		benzo[a]anthracene				0.62	mg/kg		0.62	mg/kg	0.000062 %		
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				0.6	mg/kg		0.6	mg/kg	0.00006 %		
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				0.67	mg/kg		0.67	mg/kg	0.000067 %		
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				0.26	mg/kg		0.26	mg/kg	0.000026 %		
		601-036-00-5	205-916-6	207-08-9									
31		benzo[a]pyrene; benzo[def]chrysene				0.46	mg/kg		0.46	mg/kg	0.000046 %		
		601-032-00-3	200-028-5	50-32-8									
32		indeno[123-cd]pyrene				0.26	mg/kg		0.26	mg/kg	0.000026 %		
			205-893-2	193-39-5									
33		dibenz[a,h]anthracene				0.07	mg/kg		0.07	mg/kg	0.000007 %		
		601-041-00-2	200-181-8	53-70-3									
34		benzo[ghi]perylene				0.32	mg/kg		0.32	mg/kg	0.000032 %		
			205-883-8	191-24-2									
35		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.121 %		

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0128%)

Classification of sample: WS21

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

Sample details

Sample Name:
WS21
Sample Depth:
0.50 m
Moisture content:
36.2%
(no 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: 36.2% No Moisture Correction applied (MC)

#	Determinand	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		5 mg/kg	1.197	5.986 mg/kg	0.000599 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		31.5 mg/kg	1.32	41.59 mg/kg	0.00416 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.7 mg/kg	1.142	0.8 mg/kg	0.00008 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		77.7 mg/kg	1.462	113.563 mg/kg	0.0114 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		102 mg/kg	1.126	114.841 mg/kg	0.0115 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	320 mg/kg		320 mg/kg	0.032 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		1.6 mg/kg	1.353	2.166 mg/kg	0.000217 %		
8	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		9.5 mg/kg	1.5	14.252 mg/kg	0.00143 %		
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		48.7 mg/kg	2.976	144.944 mg/kg	0.0145 %		
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				2 mg/kg	2.554	5.107 mg/kg	0.000511 %		
11	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		173 mg/kg	1.245	215.336 mg/kg	0.0215 %		
12	TPH (C6 to C40) petroleum group			TPH		61 mg/kg		61 mg/kg	0.0061 %		
13	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

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18		pH				7.67	pH		7.67	pH	7.67 pH		
				PH									
19		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20		acenaphthylene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			205-917-1	208-96-8									
21		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
22		fluorene				0.07	mg/kg		0.07	mg/kg	0.000007 %		
			201-695-5	86-73-7									
23		phenanthrene				1.01	mg/kg		1.01	mg/kg	0.000101 %		
			201-581-5	85-01-8									
24		anthracene				0.1	mg/kg		0.1	mg/kg	0.00001 %		
			204-371-1	120-12-7									
25		fluoranthene				1.27	mg/kg		1.27	mg/kg	0.000127 %		
			205-912-4	206-44-0									
26		pyrene				1.14	mg/kg		1.14	mg/kg	0.000114 %		
			204-927-3	129-00-0									
27		benzo[a]anthracene				0.47	mg/kg		0.47	mg/kg	0.000047 %		
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				0.71	mg/kg		0.71	mg/kg	0.000071 %		
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				0.86	mg/kg		0.86	mg/kg	0.000086 %		
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				0.34	mg/kg		0.34	mg/kg	0.000034 %		
		601-036-00-5	205-916-6	207-08-9									
31		benzo[a]pyrene; benzo[def]chrysene				0.64	mg/kg		0.64	mg/kg	0.000064 %		
		601-032-00-3	200-028-5	50-32-8									
32		indeno[123-cd]pyrene				0.38	mg/kg		0.38	mg/kg	0.000038 %		
			205-893-2	193-39-5									
33		dibenz[a,h]anthracene				0.09	mg/kg		0.09	mg/kg	0.000009 %		
		601-041-00-2	200-181-8	53-70-3									
34		benzo[ghi]perylene				0.42	mg/kg		0.42	mg/kg	0.000042 %		
			205-883-8	191-24-2									
35		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.105 %		

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0061%)

Classification of sample: WS21[1]

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

Sample details

Sample Name:
WS21[1]
Sample Depth:
1.50 m
Moisture content:
20.2%
(no 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: 20.2% No Moisture Correction applied (MC)

#	Determinand	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		3.9 mg/kg	1.32	5.149 mg/kg	0.000515 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.1 mg/kg	1.142	0.114 mg/kg	0.0000114 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		97.5 mg/kg	1.462	142.502 mg/kg	0.0143 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		6 mg/kg	1.126	6.755 mg/kg	0.000676 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	11 mg/kg		11 mg/kg	0.0011 %		
7	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**
8	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		6 mg/kg	1.5	9.001 mg/kg	0.0009 %		
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		9.7 mg/kg	2.976	28.87 mg/kg	0.00289 %		
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
11	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		25 mg/kg	1.245	31.118 mg/kg	0.00311 %		
12	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
13	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**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16	•	ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18	•	pH				8.89	pH		8.89	pH	8.89 pH		
				PH									
19		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20	•	acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
21	•	acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
22	•	fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
23	•	phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
24	•	anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
25	•	fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
26	•	pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
27		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
31		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									
32	•	indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
33		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									
34	•	benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
35	•	polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.0291 %		

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: WS21[2]

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

Sample details

Sample Name:
WS21[2]
Sample Depth:
2.50 m
Moisture content:
20.7%
(no 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: 20.7% No Moisture Correction applied (MC)

#		Determinand	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		4.5	mg/kg	1.32	5.941	mg/kg	0.000594 %		
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.1	mg/kg	1.142	0.114	mg/kg	0.0000114 %		
4		chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		47.2	mg/kg	1.462	68.985	mg/kg	0.0069 %		
5		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		5	mg/kg	1.126	5.629	mg/kg	0.000563 %		
6		lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	7	mg/kg		7	mg/kg	0.0007 %		
7		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**
8		molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.2	mg/kg	1.5	4.801	mg/kg	0.00048 %		
9		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		8.8	mg/kg	2.976	26.191	mg/kg	0.00262 %		
10		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<**LOD**
11		zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		20	mg/kg	1.245	24.894	mg/kg	0.00249 %		
12		TPH (C6 to C40) petroleum group			TPH		<52	mg/kg		<52	mg/kg	<0.0052 %		<**LOD**
13		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**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16	•	ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		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]									
18	•	pH				8.57	pH		8.57	pH	8.57 pH		
				PH									
19		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20	•	acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
21	•	acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
22	•	fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
23	•	phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
24	•	anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
25	•	fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
26	•	pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
27		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
31		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									
32	•	indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
33		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									
34	•	benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
35	•	polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.02 %		

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 CLP determinands

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

Conversion factor: 1.462
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
Risk Phrases: R61 , R60 , R50/53 , R43 , R42 , R38 , R37 , R36 , R22 , R20
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Repr. 1B H360FD , Skin Sens. 1 H317 , Resp. Sens. 1 H334 , Skin Irrit. 2 H315 , STOT SE 3 H335 , Eye Irrit. 2 H319 , Acute Tox. 4 H302 , Acute Tox. 4 H332

dicopper oxide; copper (I) oxide (EC Number: 215-270-7, CAS Number: 1317-39-1)

CLP index number: 029-002-00-X
Description/Comments: M-factor for long-term aquatic hazard not included as per paragraph (5), ATP9
Data source: Regulation (EU) 2016/1179 of 19 July 2016 (ATP9)
Additional Risk Phrases: N R50/53 >= 0.25 %, N R50/53
Additional Hazard Statement(s): None.
Reason for additional Hazards Statement(s)/Risk Phrase(s):
10 Oct 2016 - N R50/53 >= 0.25 % risk phrase sourced from: WM3 v1 still uses ecotoxic risk phrases
10 Oct 2016 - N R50/53 risk phrase sourced from: WM3 v1 still uses ecotoxic risk phrases

lead compounds with the exception of those specified elsewhere in this Annex

CLP index number: 082-001-00-6
Description/Comments: Least-worst case: Lead REACH Consortium considers some lead compounds Carcinogenic category 2B
Data source: Regulation 1272/2008/EC - Classification, labelling and packaging of substances and mixtures. (CLP)
Additional Risk Phrases: None.
Additional Hazard Statement(s): Carc. 2 H351
Reason for additional Hazards Statement(s)/Risk Phrase(s):
03 Jun 2015 - Carc. 2 H351 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html. Review date 29/09/2015

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
Risk Phrases: R65 , R63 , R51/53 , R46 , R45 , R10
Hazard Statements: Aquatic Chronic 2 H411 , Repr. 2 H361d , Carc. 1B H350 , Muta. 1B H340 , STOT RE 2 H373 , Asp. Tox. 1 H304 , Flam. Liq. 3 H226

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

CLP index number: 601-023-00-4
Description/Comments:
Data source: Commission Regulation (EU) No 605/2014 – 6th Adaptation to Technical Progress for Regulation (EC) No 1272/2008. (ATP6)
Additional Risk Phrases: None.
Additional Hazard Statement(s): Carc. 2 H351
Reason for additional Hazards Statement(s)/Risk Phrase(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
Risk Phrases: None.
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
Risk Phrases: R38 , R37 , R36 , R27 , R26 , R22
Hazard Statements: Skin Irrit. 2 H315 , STOT SE 3 H335 , Eye Irrit. 2 H319 , Acute Tox. 1 H310 , Acute Tox. 1 H330 , Acute Tox. 4 H302

- **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
Risk Phrases: N R51/53 , N R50/53 , R38 , R37 , R36
Hazard Statements: Aquatic Chronic 2 H411 , Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Skin Irrit. 2 H315 , STOT SE 3 H335 , Eye Irrit. 2 H319

- **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
Risk Phrases: N R50/53
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400

- **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
Risk Phrases: N R50/53 , R43 , R40 , R38 , R37 , R36 , R22
Hazard Statements: Skin Irrit. 2 H315 , Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Skin Sens. 1 H317 , Carc. 2 H351 , STOT SE 3 H335 , Eye Irrit. 2 H319 , Acute Tox. 4 H302

- **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
Risk Phrases: N R50/53 , R43 , R38 , R37 , R36
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Skin Sens. 1 H317 , Skin Irrit. 2 H315 , STOT SE 3 H335 , Eye Irrit. 2 H319

- **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
Risk Phrases: N R50/53 , Xn R22
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Acute Tox. 4 H302

- **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
Risk Phrases: N R50/53 , Xi R36/37/38
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , STOT SE 3 H335 , Eye Irrit. 2 H319 , Skin Irrit. 2 H315

- **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
Risk Phrases: R40
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
Risk Phrases: N R50/53
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400

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

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.
Data source: Regulation 1272/2008/EC - Classification, labelling and packaging of substances and mixtures. (CLP)
Additional Risk Phrases: None.
Additional Hazard Statement(s): Carc. 1A H350
Reason for additional Hazards Statement(s)/Risk Phrase(s):
29 Sep 2015 - Carc. 1A H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

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

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

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. 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

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

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

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. Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected.

lead {lead compounds with the exception of those specified elsewhere in this Annex}

Lab analysis shows chromium is low, thus lead chromate is unlikely to have formed

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight

molybdenum {molybdenum(VI) oxide}

Worst case CLP species based on hazard statements/molecular weight

nickel {nickel chromate}

Worst case CLP species based on hazard statements/molecular weight

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

Harmonised group entry used as most reasonable case. Pigment cadmium sulphoselenide not likely to be present in this soil. No evidence for the other CLP entries: sodium selenite, nickel II selenite and nickel selenide, to be present in this soil.

zinc {zinc oxide}

Lab analysis shows chromium is low, thus zinc chromate is unlikely to have formed

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition, May 2015
HazWasteOnline Classification Engine Version: 2018.129.3535.7218 (09 May 2018)
HazWasteOnline Database: 2018.129.3535.7218 (09 May 2018)

This classification utilises the following guidance and legislation:
WM3 - Waste Classification - May 2015
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 Wastes 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
POPs Regulation 2004 - Regulation 850/2004/EC of 29 April 2004
1st ATP to POPs Regulation - Regulation 756/2010/EU of 24 August 2010
2nd ATP to POPs Regulation - Regulation 757/2010/EU of 24 August 2010

Waste Classification Report

Q4N5E-G7JLX-A8D8E

Job name

18_234_15B

Description/Comments

Project

East Wall Road

Site

Waste Stream Template

O'Callaghan Moran Waste Stream

Classified by

Name:
Ryan Povey
Date:
06 Jun 2018 10:16 GMT
Telephone:
+353 (0)21 4321521

Company:
OCallaghan Moran and Associates
Unit 15 Melbourne Business Park
Model Farm Road
Cork

Report

Created by: Ryan Povey
Created date: 06 Jun 2018 10:16 GMT

Job summary

Classification of sample: WS01

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

Sample details

Sample Name:
WS01
Sample Depth:
0.50 m
Moisture content:
21.4%
(no 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: 21.4% No Moisture Correction applied (MC)

#	Determinand	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	3.591 mg/kg	0.000359 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		25.4 mg/kg	1.32	33.536 mg/kg	0.00335 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.9 mg/kg	1.142	1.028 mg/kg	0.000103 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		68.7 mg/kg	1.462	100.409 mg/kg	0.01 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		**<LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		84 mg/kg	1.126	94.575 mg/kg	0.00946 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	284 mg/kg		284 mg/kg	0.0284 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.5 mg/kg	1.353	0.677 mg/kg	0.0000677 %		
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		6.3 mg/kg	1.5	9.451 mg/kg	0.000945 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		30.5 mg/kg	2.976	90.776 mg/kg	0.00908 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		**<LOD**
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		277 mg/kg	1.245	344.786 mg/kg	0.0345 %		
13	TPH (C6 to C40) petroleum group			TPH		63 mg/kg		63 mg/kg	0.0063 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
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				8.55	pH		8.55	pH	8.55 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				0.33	mg/kg		0.33	mg/kg	0.000033 %		
			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				0.45	mg/kg		0.45	mg/kg	0.000045 %		
			205-912-4	206-44-0									
27	•	pyrene				0.4	mg/kg		0.4	mg/kg	0.00004 %		
			204-927-3	129-00-0									
28		benzo[a]anthracene				0.26	mg/kg		0.26	mg/kg	0.000026 %		
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				0.26	mg/kg		0.26	mg/kg	0.000026 %		
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				0.33	mg/kg		0.33	mg/kg	0.000033 %		
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				0.13	mg/kg		0.13	mg/kg	0.000013 %		
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				0.21	mg/kg		0.21	mg/kg	0.000021 %		
		601-032-00-3	200-028-5	50-32-8									
33	•	indeno[123-cd]pyrene				0.13	mg/kg		0.13	mg/kg	0.000013 %		
			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				0.15	mg/kg		0.15	mg/kg	0.000015 %		
			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									
										Total:	0.103 %		

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0063%)

Classification of sample: WS01[1]

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

Sample details

Sample Name:
WS01[1]
Sample Depth:
1.50 m
Moisture content:
10.5%
(no 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: 10.5% No Moisture Correction applied (MC)

#	Determinand	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		7.2 mg/kg	1.32	9.506 mg/kg	0.000951 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.4 mg/kg	1.142	0.457 mg/kg	0.0000457 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		42.3 mg/kg	1.462	61.824 mg/kg	0.00618 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		8 mg/kg	1.126	9.007 mg/kg	0.000901 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	17 mg/kg		17 mg/kg	0.0017 %		
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		3.6 mg/kg	1.5	5.401 mg/kg	0.00054 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		11.8 mg/kg	2.976	35.12 mg/kg	0.00351 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		35 mg/kg	1.245	43.565 mg/kg	0.00436 %		
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
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				8.92	pH		8.92	pH	8.92 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									
										Total:	0.0239 %		

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: WS03

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

Sample details

Sample Name:
WS03
Sample Depth:
0.50 m

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

Hazard properties

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

Risk phrases hit:

R50/53 "Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment"

Because of determinands:

lead compounds with the exception of those specified elsewhere in this Annex: (Note 1 conc.: 0.186%)
zinc oxide: (compound conc.: 0.121%)

Determinands

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

#	Determinand	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		18 mg/kg	1.197	21.548 mg/kg	0.00215 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		20.2 mg/kg	1.32	26.671 mg/kg	0.00267 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1 mg/kg	1.142	1.142 mg/kg	0.000114 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		19.1 mg/kg	1.462	27.916 mg/kg	0.00279 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		266 mg/kg	1.126	299.486 mg/kg	0.0299 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	1861 mg/kg		1861 mg/kg	0.186 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.9 mg/kg	1.353	1.218 mg/kg	0.000122 %		
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		2.4 mg/kg	1.5	3.6 mg/kg	0.00036 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		47.4 mg/kg	2.976	141.075 mg/kg	0.0141 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
12		zinc { zinc oxide }				972	mg/kg	1.245	1209.862	mg/kg	0.121 %		
		030-013-00-7	215-222-5	1314-13-2									
13		TPH (C6 to C40) petroleum group				527	mg/kg		527	mg/kg	0.0527 %		
				TPH									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-021-00-3	203-625-9	108-88-3									
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				7.82	pH		7.82	pH	7.82 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				0.54	mg/kg		0.54	mg/kg	0.000054 %		
			205-917-1	208-96-8									
22		acenaphthene				0.1	mg/kg		0.1	mg/kg	0.00001 %		
			201-469-6	83-32-9									
23		fluorene				0.26	mg/kg		0.26	mg/kg	0.000026 %		
			201-695-5	86-73-7									
24		phenanthrene				2.76	mg/kg		2.76	mg/kg	0.000276 %		
			201-581-5	85-01-8									
25		anthracene				0.69	mg/kg		0.69	mg/kg	0.000069 %		
			204-371-1	120-12-7									
26		fluoranthene				5.95	mg/kg		5.95	mg/kg	0.000595 %		
			205-912-4	206-44-0									
27		pyrene				5.06	mg/kg		5.06	mg/kg	0.000506 %		
			204-927-3	129-00-0									
28		benzo[a]anthracene				3.43	mg/kg		3.43	mg/kg	0.000343 %		
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				3.28	mg/kg		3.28	mg/kg	0.000328 %		
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				5.01	mg/kg		5.01	mg/kg	0.000501 %		
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				1.95	mg/kg		1.95	mg/kg	0.000195 %		
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				3.61	mg/kg		3.61	mg/kg	0.000361 %		
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				2.53	mg/kg		2.53	mg/kg	0.000253 %		
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				0.69	mg/kg		0.69	mg/kg	0.000069 %		
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				2.56	mg/kg		2.56	mg/kg	0.000256 %		
			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		asbestos				20	mg/kg		20	mg/kg	0.002 %		
		650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5									

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
								Total:	0.418 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0527%)

Classification of sample: WS03[1]

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

Sample details

Sample Name:
WS03[1]
Sample Depth:
1.50 m
Moisture content:
43.9%
(no 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: 43.9% No Moisture Correction applied (MC)

#	Determinand	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		8 mg/kg	1.197	9.577 mg/kg	0.000958 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		71 mg/kg	1.32	93.743 mg/kg	0.00937 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.1 mg/kg	1.142	0.114 mg/kg	0.0000114 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		69.5 mg/kg	1.462	101.578 mg/kg	0.0102 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		**<LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		186 mg/kg	1.126	209.415 mg/kg	0.0209 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	229 mg/kg		229 mg/kg	0.0229 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.7 mg/kg	1.353	0.947 mg/kg	0.0000947 %		
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		14.8 mg/kg	1.5	22.203 mg/kg	0.00222 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		126 mg/kg	2.976	375.009 mg/kg	0.0375 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				2 mg/kg	2.554	5.107 mg/kg	0.000511 %		
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		225 mg/kg	1.245	280.061 mg/kg	0.028 %		
13	TPH (C6 to C40) petroleum group			TPH		105 mg/kg		105 mg/kg	0.0105 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
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				7.66	pH		7.66	pH	7.66 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				0.04	mg/kg		0.04	mg/kg	0.000004 %		
			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				0.67	mg/kg		0.67	mg/kg	0.000067 %		
			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				0.5	mg/kg		0.5	mg/kg	0.00005 %		
			205-912-4	206-44-0									
27	•	pyrene				0.4	mg/kg		0.4	mg/kg	0.00004 %		
			204-927-3	129-00-0									
28		benzo[a]anthracene				0.25	mg/kg		0.25	mg/kg	0.000025 %		
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				0.25	mg/kg		0.25	mg/kg	0.000025 %		
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				0.29	mg/kg		0.29	mg/kg	0.000029 %		
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				0.11	mg/kg		0.11	mg/kg	0.000011 %		
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				0.19	mg/kg		0.19	mg/kg	0.000019 %		
		601-032-00-3	200-028-5	50-32-8									
33	•	indeno[123-cd]pyrene				0.11	mg/kg		0.11	mg/kg	0.000011 %		
			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				0.15	mg/kg		0.15	mg/kg	0.000015 %		
			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									
										Total:	0.144 %		

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0105%)

Classification of sample: WS03[2]

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

Sample details

Sample Name:
WS03[2]
Sample Depth:
2.50 m
Moisture content:
14%
(no 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: 14% No Moisture Correction applied (MC)

#	Determinand	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 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		6.2 mg/kg	1.32	8.186 mg/kg	0.000819 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.2 mg/kg	1.142	0.228 mg/kg	0.0000228 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		94.2 mg/kg	1.462	137.679 mg/kg	0.0138 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		7 mg/kg	1.126	7.881 mg/kg	0.000788 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	11 mg/kg		11 mg/kg	0.0011 %		
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		6.3 mg/kg	1.5	9.451 mg/kg	0.000945 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		9 mg/kg	2.976	26.786 mg/kg	0.00268 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		45 mg/kg	1.245	56.012 mg/kg	0.0056 %		
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
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				8.17	pH		8.17	pH	8.17 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				0.09	mg/kg		0.09	mg/kg	0.000009 %		
			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				0.08	mg/kg		0.08	mg/kg	0.000008 %		
			205-912-4	206-44-0									
27	●	pyrene				0.07	mg/kg		0.07	mg/kg	0.000007 %		
			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		0.05	mg/kg	0.000005 %		
		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									
										Total:	0.0315 %		

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: WS04

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

Sample details

Sample Name:
WS04
Sample Depth:
0.50 m
Moisture content:
13.8%
(no 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: 13.8% No Moisture Correction applied (MC)

#	Determinand	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number / EC Number / CAS Number							
1	antimony { antimony trioxide }		11 mg/kg	1.197	13.168 mg/kg	0.00132 %		
	051-005-00-X / 215-175-0 / 1309-64-4							
2	arsenic { arsenic trioxide }		29.4 mg/kg	1.32	38.818 mg/kg	0.00388 %		
	033-003-00-0 / 215-481-4 / 1327-53-3							
3	cadmium { cadmium oxide }		0.4 mg/kg	1.142	0.457 mg/kg	0.0000457 %		
	048-002-00-0 / 215-146-2 / 1306-19-0							
4	chromium in chromium(III) compounds { chromium(III) oxide }		67.7 mg/kg	1.462	98.947 mg/kg	0.00989 %		
	215-160-9 / 1308-38-9							
5	chromium in chromium(VI) compounds { chromium(VI) oxide }		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
	024-001-00-0 / 215-607-8 / 1333-82-0							
6	copper { dicopper oxide; copper (I) oxide }		42 mg/kg	1.126	47.287 mg/kg	0.00473 %		
	029-002-00-X / 215-270-7 / 1317-39-1							
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	1	670 mg/kg		670 mg/kg	0.067 %		
	082-001-00-6							
8	mercury { mercury dichloride }		0.9 mg/kg	1.353	1.218 mg/kg	0.000122 %		
	080-010-00-X / 231-299-8 / 7487-94-7							
9	molybdenum { molybdenum(VI) oxide }		4.2 mg/kg	1.5	6.301 mg/kg	0.00063 %		
	042-001-00-9 / 215-204-7 / 1313-27-5							
10	nickel { nickel chromate }		30.8 mg/kg	2.976	91.669 mg/kg	0.00917 %		
	028-035-00-7 / 238-766-5 / 14721-18-7							
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
	034-002-00-8							
12	zinc { zinc oxide }		174 mg/kg	1.245	216.58 mg/kg	0.0217 %		
	030-013-00-7 / 215-222-5 / 1314-13-2							
13	TPH (C6 to C40) petroleum group		255 mg/kg		255 mg/kg	0.0255 %		
	TPH							

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-021-00-3	203-625-9	108-88-3									
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				8.17	pH		8.17	pH	8.17 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				0.6	mg/kg		0.6	mg/kg	0.00006 %		
			205-917-1	208-96-8									
22	●	acenaphthene				1.8	mg/kg		1.8	mg/kg	0.00018 %		
			201-469-6	83-32-9									
23	●	fluorene				1.15	mg/kg		1.15	mg/kg	0.000115 %		
			201-695-5	86-73-7									
24	●	phenanthrene				14.57	mg/kg		14.57	mg/kg	0.00146 %		
			201-581-5	85-01-8									
25	●	anthracene				4.29	mg/kg		4.29	mg/kg	0.000429 %		
			204-371-1	120-12-7									
26	●	fluoranthene				22.63	mg/kg		22.63	mg/kg	0.00226 %		
			205-912-4	206-44-0									
27	●	pyrene				19.04	mg/kg		19.04	mg/kg	0.0019 %		
			204-927-3	129-00-0									
28		benzo[a]anthracene				12.26	mg/kg		12.26	mg/kg	0.00123 %		
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				9.34	mg/kg		9.34	mg/kg	0.000934 %		
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				12.22	mg/kg		12.22	mg/kg	0.00122 %		
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				4.75	mg/kg		4.75	mg/kg	0.000475 %		
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				9.53	mg/kg		9.53	mg/kg	0.000953 %		
		601-032-00-3	200-028-5	50-32-8									
33	●	indeno[123-cd]pyrene				4.83	mg/kg		4.83	mg/kg	0.000483 %		
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				1.44	mg/kg		1.44	mg/kg	0.000144 %		
		601-041-00-2	200-181-8	53-70-3									
35	●	benzo[ghi]perylene				4.75	mg/kg		4.75	mg/kg	0.000475 %		
			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									
										Total:	0.157 %		

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0255%)

Classification of sample: WS04[1]

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

Sample details

Sample Name:
WS04[1]
Sample Depth:
1.50 m
Moisture content:
28.4%
(no 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: 28.4% No Moisture Correction applied (MC)

#	Determinand	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	3.591 mg/kg	0.000359 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		31.9 mg/kg	1.32	42.118 mg/kg	0.00421 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.3 mg/kg	1.142	0.343 mg/kg	0.0000343 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		56.2 mg/kg	1.462	82.139 mg/kg	0.00821 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		**<LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		42 mg/kg	1.126	47.287 mg/kg	0.00473 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	69 mg/kg		69 mg/kg	0.0069 %		
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		5.4 mg/kg	1.5	8.101 mg/kg	0.00081 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		54 mg/kg	2.976	160.718 mg/kg	0.0161 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		**<LOD**
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		95 mg/kg	1.245	118.248 mg/kg	0.0118 %		
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		**<LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
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				8.19	pH		8.19	pH	8.19 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				0.11	mg/kg		0.11	mg/kg	0.000011 %		
			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				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			205-912-4	206-44-0									
27	•	pyrene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			204-927-3	129-00-0									
28		benzo[a]anthracene				0.08	mg/kg		0.08	mg/kg	0.000008 %		
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				0.06	mg/kg		0.06	mg/kg	0.000006 %		
		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									
										Total:	0.0588 %		

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: WS05

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

Sample details

Sample Name:
WS05
Sample Depth:
0.50 m
Moisture content:
21.5%
(no 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: 21.5% No Moisture Correction applied (MC)

#	Determinand	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	2.394 mg/kg	0.000239 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		16.7 mg/kg	1.32	22.049 mg/kg	0.0022 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.5 mg/kg	1.142	0.571 mg/kg	0.0000571 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		68.7 mg/kg	1.462	100.409 mg/kg	0.01 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		**<LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		54 mg/kg	1.126	60.798 mg/kg	0.00608 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	109 mg/kg		109 mg/kg	0.0109 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.7 mg/kg	1.353	0.947 mg/kg	0.0000947 %		
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		5.4 mg/kg	1.5	8.101 mg/kg	0.00081 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		28 mg/kg	2.976	83.335 mg/kg	0.00833 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1 mg/kg	2.554	2.554 mg/kg	0.000255 %		
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		91 mg/kg	1.245	113.269 mg/kg	0.0113 %		
13	TPH (C6 to C40) petroleum group			TPH		84 mg/kg		84 mg/kg	0.0084 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
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				8.33	pH		8.33	pH	8.33 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				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			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				0.06	mg/kg		0.06	mg/kg	0.000006 %		
			201-695-5	86-73-7									
24	•	phenanthrene				0.77	mg/kg		0.77	mg/kg	0.000077 %		
			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				0.43	mg/kg		0.43	mg/kg	0.000043 %		
			205-912-4	206-44-0									
27	•	pyrene				0.32	mg/kg		0.32	mg/kg	0.000032 %		
			204-927-3	129-00-0									
28		benzo[a]anthracene				0.33	mg/kg		0.33	mg/kg	0.000033 %		
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				0.3	mg/kg		0.3	mg/kg	0.00003 %		
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				0.31	mg/kg		0.31	mg/kg	0.000031 %		
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				0.12	mg/kg		0.12	mg/kg	0.000012 %		
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				0.2	mg/kg		0.2	mg/kg	0.00002 %		
		601-032-00-3	200-028-5	50-32-8									
33	•	indeno[123-cd]pyrene				0.11	mg/kg		0.11	mg/kg	0.000011 %		
			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				0.14	mg/kg		0.14	mg/kg	0.000014 %		
			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									
										Total:	0.0591 %		

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0084%)

Classification of sample: WS06

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

Sample details

Sample Name:
WS06
Sample Depth:
0.50 m
Moisture content:
48.4%
(no 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: 48.4% No Moisture Correction applied (MC)

#	Determinand	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number / EC Number / CAS Number							
1	antimony { antimony trioxide }		10 mg/kg	1.197	11.971 mg/kg	0.0012 %		
	051-005-00-X / 215-175-0 / 1309-64-4							
2	arsenic { arsenic trioxide }		79.1 mg/kg	1.32	104.438 mg/kg	0.0104 %		
	033-003-00-0 / 215-481-4 / 1327-53-3							
3	cadmium { cadmium oxide }		0.8 mg/kg	1.142	0.914 mg/kg	0.0000914 %		
	048-002-00-0 / 215-146-2 / 1306-19-0							
4	chromium in chromium(III) compounds { chromium(III) oxide }		64.3 mg/kg	1.462	93.978 mg/kg	0.0094 %		
	215-160-9 / 1308-38-9							
5	chromium in chromium(VI) compounds { chromium(VI) oxide }		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
	024-001-00-0 / 215-607-8 / 1333-82-0							
6	copper { dicopper oxide; copper (I) oxide }		179 mg/kg	1.126	201.534 mg/kg	0.0202 %		
	029-002-00-X / 215-270-7 / 1317-39-1							
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	1	288 mg/kg		288 mg/kg	0.0288 %		
	082-001-00-6							
8	mercury { mercury dichloride }		0.9 mg/kg	1.353	1.218 mg/kg	0.000122 %		
	080-010-00-X / 231-299-8 / 7487-94-7							
9	molybdenum { molybdenum(VI) oxide }		12.7 mg/kg	1.5	19.052 mg/kg	0.00191 %		
	042-001-00-9 / 215-204-7 / 1313-27-5							
10	nickel { nickel chromate }		129.9 mg/kg	2.976	386.617 mg/kg	0.0387 %		
	028-035-00-7 / 238-766-5 / 14721-18-7							
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }		2 mg/kg	2.554	5.107 mg/kg	0.000511 %		
	034-002-00-8							
12	zinc { zinc oxide }		232 mg/kg	1.245	288.774 mg/kg	0.0289 %		
	030-013-00-7 / 215-222-5 / 1314-13-2							
13	TPH (C6 to C40) petroleum group		91 mg/kg		91 mg/kg	0.0091 %		
	TPH							

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
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	pH		8	pH	8pH		
				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				0.58	mg/kg		0.58	mg/kg	0.000058 %		
			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				0.12	mg/kg		0.12	mg/kg	0.000012 %		
			205-912-4	206-44-0									
27	●	pyrene				0.1	mg/kg		0.1	mg/kg	0.00001 %		
			204-927-3	129-00-0									
28		benzo[a]anthracene				0.1	mg/kg		0.1	mg/kg	0.00001 %		
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				0.15	mg/kg		0.15	mg/kg	0.000015 %		
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				0.11	mg/kg		0.11	mg/kg	0.000011 %		
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				0.04	mg/kg		0.04	mg/kg	0.000004 %		
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				0.07	mg/kg		0.07	mg/kg	0.000007 %		
		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				0.07	mg/kg		0.07	mg/kg	0.000007 %		
			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									
										Total:	0.149 %		

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0091%)

Classification of sample: WS06[1]

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

Sample details

Sample Name:
WS06[1]
Sample Depth:
1.50 m
Moisture content:
40.7%
(no 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: 40.7% No Moisture Correction applied (MC)

#	Determinand	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 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		13 mg/kg	1.32	17.164 mg/kg	0.00172 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.5 mg/kg	1.142	0.571 mg/kg	0.0000571 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		46.4 mg/kg	1.462	67.816 mg/kg	0.00678 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		**<LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		20 mg/kg	1.126	22.518 mg/kg	0.00225 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	34 mg/kg		34 mg/kg	0.0034 %		
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		6.3 mg/kg	1.5	9.451 mg/kg	0.000945 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		26.3 mg/kg	2.976	78.276 mg/kg	0.00783 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		**<LOD**
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		81 mg/kg	1.245	100.822 mg/kg	0.0101 %		
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		**<LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
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				8.05	pH		8.05	pH	8.05 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									
										Total:	0.0388 %		

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: WS09

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

Sample details

Sample Name:	LoW Code:	
WS09	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:		
0.50 m	Entry:	17 05 03 * (Soil and stones containing hazardous substances)

Hazard properties

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1A; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

asbestos: (conc.: 0.18%)

Determinands

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

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
2	TPH (C6 to C40) petroleum group			TPH		352 mg/kg		352 mg/kg	0.0352 %		
3	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**
4	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
5	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
6	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
7	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**
8	pH			PH		8.36 pH		8.36 pH	8.36 pH		
9	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<**LOD**
10	acenaphthylene		205-917-1	208-96-8		0.12 mg/kg		0.12 mg/kg	0.000012 %		
11	acenaphthene		201-469-6	83-32-9		0.09 mg/kg		0.09 mg/kg	0.000009 %		
12	fluorene		201-695-5	86-73-7		0.09 mg/kg		0.09 mg/kg	0.000009 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
13		phenanthrene				1.12	mg/kg		1.12	mg/kg	0.000112 %		
			201-581-5	85-01-8									
14		anthracene				0.3	mg/kg		0.3	mg/kg	0.00003 %		
			204-371-1	120-12-7									
15		fluoranthene				2.28	mg/kg		2.28	mg/kg	0.000228 %		
			205-912-4	206-44-0									
16		pyrene				1.92	mg/kg		1.92	mg/kg	0.000192 %		
			204-927-3	129-00-0									
17		benzo[a]anthracene				1.27	mg/kg		1.27	mg/kg	0.000127 %		
		601-033-00-9	200-280-6	56-55-3									
18		chrysene				1.01	mg/kg		1.01	mg/kg	0.000101 %		
		601-048-00-0	205-923-4	218-01-9									
19		benzo[b]fluoranthene				1.64	mg/kg		1.64	mg/kg	0.000164 %		
		601-034-00-4	205-911-9	205-99-2									
20		benzo[k]fluoranthene				0.64	mg/kg		0.64	mg/kg	0.000064 %		
		601-036-00-5	205-916-6	207-08-9									
21		benzo[a]pyrene; benzo[def]chrysene				1.13	mg/kg		1.13	mg/kg	0.000113 %		
		601-032-00-3	200-028-5	50-32-8									
22		indeno[123-cd]pyrene				0.65	mg/kg		0.65	mg/kg	0.000065 %		
			205-893-2	193-39-5									
23		dibenz[a,h]anthracene				0.13	mg/kg		0.13	mg/kg	0.000013 %		
		601-041-00-2	200-181-8	53-70-3									
24		benzo[ghi]perylene				0.61	mg/kg		0.61	mg/kg	0.000061 %		
			205-883-8	191-24-2									
25		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
		602-039-00-4	215-648-1	1336-36-3									
26		asbestos				1800	mg/kg		1800	mg/kg	0.18 %		
		650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5									
										Total:	0.217 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0352%)

Classification of sample: WS10

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

Sample details

Sample Name:
WS10
Sample Depth:
0.50 m
Moisture content:
57.5%
(no 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: 57.5% No Moisture Correction applied (MC)

#	Determinand	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		5 mg/kg	1.197	5.986 mg/kg	0.000599 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		35.4 mg/kg	1.32	46.74 mg/kg	0.00467 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.8 mg/kg	1.142	0.914 mg/kg	0.0000914 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		90.1 mg/kg	1.462	131.686 mg/kg	0.0132 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		**<LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		119 mg/kg	1.126	133.981 mg/kg	0.0134 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	350 mg/kg		350 mg/kg	0.035 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		1.4 mg/kg	1.353	1.895 mg/kg	0.000189 %		
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		9.4 mg/kg	1.5	14.102 mg/kg	0.00141 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		45.3 mg/kg	2.976	134.825 mg/kg	0.0135 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				2 mg/kg	2.554	5.107 mg/kg	0.000511 %		
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		200 mg/kg	1.245	248.943 mg/kg	0.0249 %		
13	TPH (C6 to C40) petroleum group			TPH		343 mg/kg		343 mg/kg	0.0343 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
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				7.53	pH		7.53	pH	7.53 pH		
				PH									
20		naphthalene				0.26	mg/kg		0.26	mg/kg	0.000026 %		
		601-052-00-2	202-049-5	91-20-3									
21	•	acenaphthylene				0.32	mg/kg		0.32	mg/kg	0.000032 %		
			205-917-1	208-96-8									
22	•	acenaphthene				0.26	mg/kg		0.26	mg/kg	0.000026 %		
			201-469-6	83-32-9									
23	•	fluorene				0.24	mg/kg		0.24	mg/kg	0.000024 %		
			201-695-5	86-73-7									
24	•	phenanthrene				3.26	mg/kg		3.26	mg/kg	0.000326 %		
			201-581-5	85-01-8									
25	•	anthracene				0.66	mg/kg		0.66	mg/kg	0.000066 %		
			204-371-1	120-12-7									
26	•	fluoranthene				7.04	mg/kg		7.04	mg/kg	0.000704 %		
			205-912-4	206-44-0									
27	•	pyrene				6.15	mg/kg		6.15	mg/kg	0.000615 %		
			204-927-3	129-00-0									
28		benzo[a]anthracene				2.49	mg/kg		2.49	mg/kg	0.000249 %		
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				3.29	mg/kg		3.29	mg/kg	0.000329 %		
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				5.21	mg/kg		5.21	mg/kg	0.000521 %		
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				2.02	mg/kg		2.02	mg/kg	0.000202 %		
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				3.78	mg/kg		3.78	mg/kg	0.000378 %		
		601-032-00-3	200-028-5	50-32-8									
33	•	indeno[123-cd]pyrene				2.33	mg/kg		2.33	mg/kg	0.000233 %		
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				0.71	mg/kg		0.71	mg/kg	0.000071 %		
		601-041-00-2	200-181-8	53-70-3									
35	•	benzo[ghi]perylene				2.31	mg/kg		2.31	mg/kg	0.000231 %		
			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									
										Total:	0.146 %		

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0343%)

Classification of sample: WS10[1]

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

Sample details

Sample Name:
WS10[1]
Sample Depth:
1.50 m
Moisture content:
25.5%
(no 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: 25.5% No Moisture Correction applied (MC)

#	Determinand	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 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		3.9 mg/kg	1.32	5.149 mg/kg	0.000515 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<**LOD**
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		109.1 mg/kg	1.462	159.456 mg/kg	0.0159 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		5 mg/kg	1.126	5.629 mg/kg	0.000563 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	9 mg/kg		9 mg/kg	0.0009 %		
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		6.7 mg/kg	1.5	10.051 mg/kg	0.00101 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		11 mg/kg	2.976	32.739 mg/kg	0.00327 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		27 mg/kg	1.245	33.607 mg/kg	0.00336 %		
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
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				8.88	pH		8.88	pH	8.88 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									
										Total:	0.0313 %		

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: WS10[2]

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

Sample details

Sample Name:
WS10[2]
Sample Depth:
2.50 m
Moisture content:
22.5%
(no 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: 22.5% No Moisture Correction applied (MC)

#	Determinand	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		4.4 mg/kg	1.32	5.809 mg/kg	0.000581 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.1 mg/kg	1.142	0.114 mg/kg	0.0000114 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		99 mg/kg	1.462	144.694 mg/kg	0.0145 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		6 mg/kg	1.126	6.755 mg/kg	0.000676 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	15 mg/kg		15 mg/kg	0.0015 %		
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		6.2 mg/kg	1.5	9.301 mg/kg	0.00093 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		11.1 mg/kg	2.976	33.037 mg/kg	0.0033 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		27 mg/kg	1.245	33.607 mg/kg	0.00336 %		
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
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				8.84	pH		8.84	pH	8.84 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									
										Total:	0.0305 %		

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: WS12

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

Sample details

Sample Name:
WS12
Sample Depth:
0.50 m
Moisture content:
33.7%
(no 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: 33.7% No Moisture Correction applied (MC)

#	Determinand	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		5 mg/kg	1.197	5.986 mg/kg	0.000599 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		43.7 mg/kg	1.32	57.698 mg/kg	0.00577 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.7 mg/kg	1.142	0.8 mg/kg	0.00008 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		88.2 mg/kg	1.462	128.909 mg/kg	0.0129 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		250 mg/kg	1.126	281.472 mg/kg	0.0281 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	321 mg/kg		321 mg/kg	0.0321 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		1.2 mg/kg	1.353	1.624 mg/kg	0.000162 %		
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		9.8 mg/kg	1.5	14.702 mg/kg	0.00147 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		67.5 mg/kg	2.976	200.898 mg/kg	0.0201 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1 mg/kg	2.554	2.554 mg/kg	0.000255 %		
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		530 mg/kg	1.245	659.698 mg/kg	0.066 %		
13	TPH (C6 to C40) petroleum group			TPH		296 mg/kg		296 mg/kg	0.0296 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
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				8.22	pH		8.22	pH	8.22 pH		
				PH									
20		naphthalene				0.13	mg/kg		0.13	mg/kg	0.000013 %		
		601-052-00-2	202-049-5	91-20-3									
21	●	acenaphthylene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			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				0.61	mg/kg		0.61	mg/kg	0.000061 %		
			201-581-5	85-01-8									
25	●	anthracene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			204-371-1	120-12-7									
26	●	fluoranthene				0.46	mg/kg		0.46	mg/kg	0.000046 %		
			205-912-4	206-44-0									
27	●	pyrene				0.39	mg/kg		0.39	mg/kg	0.000039 %		
			204-927-3	129-00-0									
28		benzo[a]anthracene				0.21	mg/kg		0.21	mg/kg	0.000021 %		
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				0.29	mg/kg		0.29	mg/kg	0.000029 %		
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				0.35	mg/kg		0.35	mg/kg	0.000035 %		
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				0.13	mg/kg		0.13	mg/kg	0.000013 %		
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				0.22	mg/kg		0.22	mg/kg	0.000022 %		
		601-032-00-3	200-028-5	50-32-8									
33	●	indeno[123-cd]pyrene				0.16	mg/kg		0.16	mg/kg	0.000016 %		
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				0.07	mg/kg		0.07	mg/kg	0.000007 %		
		601-041-00-2	200-181-8	53-70-3									
35	●	benzo[ghi]perylene				0.18	mg/kg		0.18	mg/kg	0.000018 %		
			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									
										Total:	0.198 %		

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0296%)

Classification of sample: WS12[1]

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

Sample details

Sample Name:
WS12[1]
Sample Depth:
1.50 m
Moisture content:
19.4%
(no 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: 19.4% No Moisture Correction applied (MC)

#	Determinand	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	2.394 mg/kg	0.000239 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10.5 mg/kg	1.32	13.863 mg/kg	0.00139 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<**LOD**
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		87.3 mg/kg	1.462	127.594 mg/kg	0.0128 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		9 mg/kg	1.126	10.133 mg/kg	0.00101 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	9 mg/kg		9 mg/kg	0.0009 %		
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		5.8 mg/kg	1.5	8.701 mg/kg	0.00087 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		9.2 mg/kg	2.976	27.382 mg/kg	0.00274 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		27 mg/kg	1.245	33.607 mg/kg	0.00336 %		
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
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									
										Total:	0.0289 %		

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: WS12[2]

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

Sample details

Sample Name:
WS12[2]
Sample Depth:
2.50 m
Moisture content:
8.5%
(no 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: 8.5% No Moisture Correction applied (MC)

#	Determinand	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 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.4 mg/kg	1.32	12.411 mg/kg	0.00124 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<**LOD**
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		114.6 mg/kg	1.462	167.494 mg/kg	0.0167 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		8 mg/kg	1.126	9.007 mg/kg	0.000901 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	8 mg/kg		8 mg/kg	0.0008 %		
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		6.1 mg/kg	1.5	9.151 mg/kg	0.000915 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		10.9 mg/kg	2.976	32.441 mg/kg	0.00324 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		22 mg/kg	1.245	27.384 mg/kg	0.00274 %		
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
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				8.85	pH		8.85	pH	8.85 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									
										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: WS13

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

Sample details

Sample Name:
WS13
Sample Depth:
0.50 m
Moisture content:
35.1%
(no 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: 35.1% No Moisture Correction applied (MC)

#	Determinand	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		4 mg/kg	1.197	4.788 mg/kg	0.000479 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		29.1 mg/kg	1.32	38.421 mg/kg	0.00384 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.8 mg/kg	1.142	0.914 mg/kg	0.0000914 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		80.1 mg/kg	1.462	117.071 mg/kg	0.0117 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		**<LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		80 mg/kg	1.126	90.071 mg/kg	0.00901 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	352 mg/kg		352 mg/kg	0.0352 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		1.1 mg/kg	1.353	1.489 mg/kg	0.000149 %		
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		9.2 mg/kg	1.5	13.802 mg/kg	0.00138 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		45.2 mg/kg	2.976	134.527 mg/kg	0.0135 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1 mg/kg	2.554	2.554 mg/kg	0.000255 %		
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		134 mg/kg	1.245	166.792 mg/kg	0.0167 %		
13	TPH (C6 to C40) petroleum group			TPH		242 mg/kg		242 mg/kg	0.0242 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
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				7.86	pH		7.86	pH	7.86 pH		
				PH									
20		naphthalene				0.24	mg/kg		0.24	mg/kg	0.000024 %		
		601-052-00-2	202-049-5	91-20-3									
21	•	acenaphthylene				0.09	mg/kg		0.09	mg/kg	0.000009 %		
			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				0.34	mg/kg		0.34	mg/kg	0.000034 %		
			201-581-5	85-01-8									
25	•	anthracene				0.08	mg/kg		0.08	mg/kg	0.000008 %		
			204-371-1	120-12-7									
26	•	fluoranthene				0.45	mg/kg		0.45	mg/kg	0.000045 %		
			205-912-4	206-44-0									
27	•	pyrene				0.4	mg/kg		0.4	mg/kg	0.00004 %		
			204-927-3	129-00-0									
28		benzo[a]anthracene				0.29	mg/kg		0.29	mg/kg	0.000029 %		
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				0.39	mg/kg		0.39	mg/kg	0.000039 %		
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				0.63	mg/kg		0.63	mg/kg	0.000063 %		
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				0.25	mg/kg		0.25	mg/kg	0.000025 %		
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				0.42	mg/kg		0.42	mg/kg	0.000042 %		
		601-032-00-3	200-028-5	50-32-8									
33	•	indeno[123-cd]pyrene				0.25	mg/kg		0.25	mg/kg	0.000025 %		
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				0.09	mg/kg		0.09	mg/kg	0.000009 %		
		601-041-00-2	200-181-8	53-70-3									
35	•	benzo[ghi]perylene				0.25	mg/kg		0.25	mg/kg	0.000025 %		
			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									
										Total:	0.117 %		

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0242%)

Classification of sample: WS14

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

Sample details

Sample Name:
WS14
Sample Depth:
0.50 m
Moisture content:
21.4%
(no 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: 21.4% No Moisture Correction applied (MC)

#	Determinand	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		5 mg/kg	1.197	5.986 mg/kg	0.000599 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		32.7 mg/kg	1.32	43.175 mg/kg	0.00432 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1 mg/kg	1.142	1.142 mg/kg	0.000114 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		17.4 mg/kg	1.462	25.431 mg/kg	0.00254 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		100 mg/kg	1.126	112.589 mg/kg	0.0113 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	397 mg/kg		397 mg/kg	0.0397 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		2.5 mg/kg	1.353	3.384 mg/kg	0.000338 %		
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.6 mg/kg	1.5	5.401 mg/kg	0.00054 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		59.1 mg/kg	2.976	175.897 mg/kg	0.0176 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1 mg/kg	2.554	2.554 mg/kg	0.000255 %		
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		323 mg/kg	1.245	402.043 mg/kg	0.0402 %		
13	TPH (C6 to C40) petroleum group			TPH		288 mg/kg		288 mg/kg	0.0288 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-021-00-3	203-625-9	108-88-3									
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				7.86	pH		7.86	pH	7.86 pH		
				PH									
20		naphthalene				0.22	mg/kg		0.22	mg/kg	0.000022 %		
		601-052-00-2	202-049-5	91-20-3									
21	●	acenaphthylene				0.32	mg/kg		0.32	mg/kg	0.000032 %		
			205-917-1	208-96-8									
22	●	acenaphthene				0.13	mg/kg		0.13	mg/kg	0.000013 %		
			201-469-6	83-32-9									
23	●	fluorene				0.22	mg/kg		0.22	mg/kg	0.000022 %		
			201-695-5	86-73-7									
24	●	phenanthrene				2.59	mg/kg		2.59	mg/kg	0.000259 %		
			201-581-5	85-01-8									
25	●	anthracene				0.59	mg/kg		0.59	mg/kg	0.000059 %		
			204-371-1	120-12-7									
26	●	fluoranthene				4.36	mg/kg		4.36	mg/kg	0.000436 %		
			205-912-4	206-44-0									
27	●	pyrene				3.41	mg/kg		3.41	mg/kg	0.000341 %		
			204-927-3	129-00-0									
28		benzo[a]anthracene				1.78	mg/kg		1.78	mg/kg	0.000178 %		
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				1.61	mg/kg		1.61	mg/kg	0.000161 %		
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				2.76	mg/kg		2.76	mg/kg	0.000276 %		
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				1.08	mg/kg		1.08	mg/kg	0.000108 %		
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				1.99	mg/kg		1.99	mg/kg	0.000199 %		
		601-032-00-3	200-028-5	50-32-8									
33	●	indeno[123-cd]pyrene				1.23	mg/kg		1.23	mg/kg	0.000123 %		
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				0.24	mg/kg		0.24	mg/kg	0.000024 %		
		601-041-00-2	200-181-8	53-70-3									
35	●	benzo[ghi]perylene				1.17	mg/kg		1.17	mg/kg	0.000117 %		
			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									
										Total:	0.149 %		

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0288%)

Classification of sample: WS14[1]

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

Sample details

Sample Name:
WS14[1]
Sample Depth:
1.50 m
Moisture content:
27.7%
(no 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: 27.7% No Moisture Correction applied (MC)

#	Determinand	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		6 mg/kg	1.32	7.922 mg/kg	0.000792 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.1 mg/kg	1.142	0.114 mg/kg	0.0000114 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		44 mg/kg	1.462	64.308 mg/kg	0.00643 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		4 mg/kg	1.126	4.504 mg/kg	0.00045 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	5 mg/kg		5 mg/kg	0.0005 %		
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		2.3 mg/kg	1.5	3.45 mg/kg	0.000345 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		9.6 mg/kg	2.976	28.572 mg/kg	0.00286 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		24 mg/kg	1.245	29.873 mg/kg	0.00299 %		
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
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				8.21	pH		8.21	pH	8.21 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									
										Total:	0.0201 %		

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: WS15

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

Sample details

Sample Name:
WS15
Sample Depth:
1.50 m
Moisture content:
29.7%
(no 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: 29.7% No Moisture Correction applied (MC)

#	Determinand	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 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		11 mg/kg	1.32	14.524 mg/kg	0.00145 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.2 mg/kg	1.142	0.228 mg/kg	0.0000228 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		59.5 mg/kg	1.462	86.963 mg/kg	0.0087 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		**<LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		7 mg/kg	1.126	7.881 mg/kg	0.000788 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	11 mg/kg		11 mg/kg	0.0011 %		
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		5.9 mg/kg	1.5	8.851 mg/kg	0.000885 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		18.9 mg/kg	2.976	56.251 mg/kg	0.00563 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		**<LOD**
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		39 mg/kg	1.245	48.544 mg/kg	0.00485 %		
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		**<LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
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				8.21	pH		8.21	pH	8.21 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									
										Total:	0.0291 %		

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: WS16

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

Sample details

Sample Name:
WS16
Sample Depth:
0.50 m
Moisture content:
38.2%
(no 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: 38.2% No Moisture Correction applied (MC)

#	Determinand	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		4 mg/kg	1.197	4.788 mg/kg	0.000479 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		31.6 mg/kg	1.32	41.722 mg/kg	0.00417 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.7 mg/kg	1.142	0.8 mg/kg	0.00008 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		77.9 mg/kg	1.462	113.855 mg/kg	0.0114 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		**<LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		99 mg/kg	1.126	111.463 mg/kg	0.0111 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	188 mg/kg		188 mg/kg	0.0188 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.8 mg/kg	1.353	1.083 mg/kg	0.000108 %		
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		10.7 mg/kg	1.5	16.052 mg/kg	0.00161 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		61.2 mg/kg	2.976	182.147 mg/kg	0.0182 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1 mg/kg	2.554	2.554 mg/kg	0.000255 %		
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		114 mg/kg	1.245	141.897 mg/kg	0.0142 %		
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		**<LOD**

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4							
15		benzene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2							
16		toluene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3							
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				8.16 pH		8.16 pH	8.16 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				0.19 mg/kg		0.19 mg/kg	0.000019 %		
			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				0.08 mg/kg		0.08 mg/kg	0.000008 %		
			205-912-4	206-44-0							
27	•	pyrene				0.08 mg/kg		0.08 mg/kg	0.000008 %		
			204-927-3	129-00-0							
28		benzo[a]anthracene				0.11 mg/kg		0.11 mg/kg	0.000011 %		
		601-033-00-9	200-280-6	56-55-3							
29		chrysene				0.1 mg/kg		0.1 mg/kg	0.00001 %		
		601-048-00-0	205-923-4	218-01-9							
30		benzo[b]fluoranthene				0.09 mg/kg		0.09 mg/kg	0.000009 %		
		601-034-00-4	205-911-9	205-99-2							
31		benzo[k]fluoranthene				0.03 mg/kg		0.03 mg/kg	0.000003 %		
		601-036-00-5	205-916-6	207-08-9							
32		benzo[a]pyrene; benzo[def]chrysene				0.07 mg/kg		0.07 mg/kg	0.000007 %		
		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				0.07 mg/kg		0.07 mg/kg	0.000007 %		
			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							
								Total:	0.0858 %		

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: WS16[1]

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

Sample details

Sample Name:
WS16[1]
Sample Depth:
1.50 m
Moisture content:
52.1%
(no 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: 52.1% No Moisture Correction applied (MC)

#	Determinand	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	2.394 mg/kg	0.000239 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		14.8 mg/kg	1.32	19.541 mg/kg	0.00195 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.8 mg/kg	1.142	0.914 mg/kg	0.0000914 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		57.5 mg/kg	1.462	84.039 mg/kg	0.0084 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		**<LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		16 mg/kg	1.126	18.014 mg/kg	0.0018 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	26 mg/kg		26 mg/kg	0.0026 %		
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		5.5 mg/kg	1.5	8.251 mg/kg	0.000825 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		21.8 mg/kg	2.976	64.883 mg/kg	0.00649 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		**<LOD**
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		65 mg/kg	1.245	80.906 mg/kg	0.00809 %		
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		**<LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
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				7.89	pH		7.89	pH	7.89 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									
										Total:	0.0361 %		

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: WS17

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

Sample details

Sample Name:
WS17
Sample Depth:
0.50 m
Moisture content:
15.3%
(no 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: 15.3% No Moisture Correction applied (MC)

#	Determinand	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	3.591 mg/kg	0.000359 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		19.3 mg/kg	1.32	25.482 mg/kg	0.00255 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.2 mg/kg	1.142	0.228 mg/kg	0.0000228 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		37.9 mg/kg	1.462	55.393 mg/kg	0.00554 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		**<LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		14 mg/kg	1.126	15.762 mg/kg	0.00158 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	30 mg/kg		30 mg/kg	0.003 %		
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	4.051 mg/kg	0.000405 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		19.7 mg/kg	2.976	58.632 mg/kg	0.00586 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		**<LOD**
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		41 mg/kg	1.245	51.033 mg/kg	0.0051 %		
13	TPH (C6 to C40) petroleum group			TPH		162 mg/kg		162 mg/kg	0.0162 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
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				8.53	pH		8.53	pH	8.53 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				0.06	mg/kg		0.06	mg/kg	0.000006 %		
			201-695-5	86-73-7									
24	•	phenanthrene				0.37	mg/kg		0.37	mg/kg	0.000037 %		
			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				0.04	mg/kg		0.04	mg/kg	0.000004 %		
			205-912-4	206-44-0									
27	•	pyrene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			204-927-3	129-00-0									
28		benzo[a]anthracene				0.09	mg/kg		0.09	mg/kg	0.000009 %		
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				0.06	mg/kg		0.06	mg/kg	0.000006 %		
		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									
										Total:	0.0411 %		

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0162%)

Classification of sample: WS18

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

Sample details

Sample Name:
WS18
Sample Depth:
0.50 m
Moisture content:
21.6%
(no 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% No Moisture Correction applied (MC)

#	Determinand	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	3.591 mg/kg	0.000359 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		22.7 mg/kg	1.32	29.971 mg/kg	0.003 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.7 mg/kg	1.142	0.8 mg/kg	0.00008 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		46.5 mg/kg	1.462	67.962 mg/kg	0.0068 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		58 mg/kg	1.126	65.302 mg/kg	0.00653 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	332 mg/kg		332 mg/kg	0.0332 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.9 mg/kg	1.353	1.218 mg/kg	0.000122 %		
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		5.6 mg/kg	1.5	8.401 mg/kg	0.00084 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		41.7 mg/kg	2.976	124.11 mg/kg	0.0124 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		103 mg/kg	1.245	128.206 mg/kg	0.0128 %		
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
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				8.34	pH		8.34	pH	8.34 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				0.26	mg/kg		0.26	mg/kg	0.000026 %		
			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				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			205-912-4	206-44-0									
27	●	pyrene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			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				0.08	mg/kg		0.08	mg/kg	0.000008 %		
		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									
										Total:	0.0818 %		

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: WS18[1]

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

Sample details

Sample Name:
WS18[1]
Sample Depth:
1.50 m
Moisture content:
16.6%
(no 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: 16.6% No Moisture Correction applied (MC)

#	Determinand	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 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		6 mg/kg	1.32	7.922 mg/kg	0.000792 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.1 mg/kg	1.142	0.114 mg/kg	0.0000114 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		106.6 mg/kg	1.462	155.802 mg/kg	0.0156 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		10 mg/kg	1.126	11.259 mg/kg	0.00113 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	27 mg/kg		27 mg/kg	0.0027 %		
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		6.9 mg/kg	1.5	10.351 mg/kg	0.00104 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		11.7 mg/kg	2.976	34.822 mg/kg	0.00348 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		26 mg/kg	1.245	32.363 mg/kg	0.00324 %		
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
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				8.92	pH		8.92	pH	8.92 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									
										Total:	0.0337 %		

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: WS19

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

Sample details

Sample Name:
WS19
Sample Depth:
0.50 m
Moisture content:
54.4%
(no 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: 54.4% No Moisture Correction applied (MC)

#	Determinand	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		6 mg/kg	1.197	7.183 mg/kg	0.000718 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		42 mg/kg	1.32	55.454 mg/kg	0.00555 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.7 mg/kg	1.142	0.8 mg/kg	0.00008 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		73.6 mg/kg	1.462	107.571 mg/kg	0.0108 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		210 mg/kg	1.126	236.437 mg/kg	0.0236 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	703 mg/kg		703 mg/kg	0.0703 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		1.2 mg/kg	1.353	1.624 mg/kg	0.000162 %		
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		7.7 mg/kg	1.5	11.551 mg/kg	0.00116 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		64.8 mg/kg	2.976	192.862 mg/kg	0.0193 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				2 mg/kg	2.554	5.107 mg/kg	0.000511 %		
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		220 mg/kg	1.245	273.837 mg/kg	0.0274 %		
13	TPH (C6 to C40) petroleum group			TPH		267 mg/kg		267 mg/kg	0.0267 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-021-00-3	203-625-9	108-88-3									
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				8.02	pH		8.02	pH	8.02 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				0.14	mg/kg		0.14	mg/kg	0.000014 %		
			205-917-1	208-96-8									
22	●	acenaphthene				0.34	mg/kg		0.34	mg/kg	0.000034 %		
			201-469-6	83-32-9									
23	●	fluorene				0.3	mg/kg		0.3	mg/kg	0.00003 %		
			201-695-5	86-73-7									
24	●	phenanthrene				4.7	mg/kg		4.7	mg/kg	0.00047 %		
			201-581-5	85-01-8									
25	●	anthracene				1.06	mg/kg		1.06	mg/kg	0.000106 %		
			204-371-1	120-12-7									
26	●	fluoranthene				7.76	mg/kg		7.76	mg/kg	0.000776 %		
			205-912-4	206-44-0									
27	●	pyrene				6.63	mg/kg		6.63	mg/kg	0.000663 %		
			204-927-3	129-00-0									
28		benzo[a]anthracene				2.8	mg/kg		2.8	mg/kg	0.00028 %		
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				3.73	mg/kg		3.73	mg/kg	0.000373 %		
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				4.8	mg/kg		4.8	mg/kg	0.00048 %		
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				1.87	mg/kg		1.87	mg/kg	0.000187 %		
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				3.45	mg/kg		3.45	mg/kg	0.000345 %		
		601-032-00-3	200-028-5	50-32-8									
33	●	indeno[123-cd]pyrene				2.06	mg/kg		2.06	mg/kg	0.000206 %		
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				0.43	mg/kg		0.43	mg/kg	0.000043 %		
		601-041-00-2	200-181-8	53-70-3									
35	●	benzo[ghi]perylene				2.01	mg/kg		2.01	mg/kg	0.000201 %		
			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									
										Total:	0.191 %		

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0267%)

Classification of sample: WS20

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

Sample details

Sample Name:
WS20
Sample Depth:
0.50 m
Moisture content:
32.8%
(no 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: 32.8% No Moisture Correction applied (MC)

#	Determinand	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		6 mg/kg	1.197	7.183 mg/kg	0.000718 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		43.6 mg/kg	1.32	57.566 mg/kg	0.00576 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.7 mg/kg	1.142	0.8 mg/kg	0.00008 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		63.3 mg/kg	1.462	92.516 mg/kg	0.00925 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		**<LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		115 mg/kg	1.126	129.477 mg/kg	0.0129 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	346 mg/kg		346 mg/kg	0.0346 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		1 mg/kg	1.353	1.353 mg/kg	0.000135 %		
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		10.4 mg/kg	1.5	15.602 mg/kg	0.00156 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		70.8 mg/kg	2.976	210.72 mg/kg	0.0211 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1 mg/kg	2.554	2.554 mg/kg	0.000255 %		
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		169 mg/kg	1.245	210.357 mg/kg	0.021 %		
13	TPH (C6 to C40) petroleum group			TPH		128 mg/kg		128 mg/kg	0.0128 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
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				7.47	pH		7.47	pH	7.47 pH		
				PH									
20		naphthalene				0.16	mg/kg		0.16	mg/kg	0.000016 %		
		601-052-00-2	202-049-5	91-20-3									
21	•	acenaphthylene				0.06	mg/kg		0.06	mg/kg	0.000006 %		
			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				0.07	mg/kg		0.07	mg/kg	0.000007 %		
			201-695-5	86-73-7									
24	•	phenanthrene				1.28	mg/kg		1.28	mg/kg	0.000128 %		
			201-581-5	85-01-8									
25	•	anthracene				0.1	mg/kg		0.1	mg/kg	0.00001 %		
			204-371-1	120-12-7									
26	•	fluoranthene				0.99	mg/kg		0.99	mg/kg	0.000099 %		
			205-912-4	206-44-0									
27	•	pyrene				0.89	mg/kg		0.89	mg/kg	0.000089 %		
			204-927-3	129-00-0									
28		benzo[a]anthracene				0.62	mg/kg		0.62	mg/kg	0.000062 %		
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				0.6	mg/kg		0.6	mg/kg	0.00006 %		
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				0.67	mg/kg		0.67	mg/kg	0.000067 %		
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				0.26	mg/kg		0.26	mg/kg	0.000026 %		
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				0.46	mg/kg		0.46	mg/kg	0.000046 %		
		601-032-00-3	200-028-5	50-32-8									
33	•	indeno[123-cd]pyrene				0.26	mg/kg		0.26	mg/kg	0.000026 %		
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				0.07	mg/kg		0.07	mg/kg	0.000007 %		
		601-041-00-2	200-181-8	53-70-3									
35	•	benzo[ghi]perylene				0.32	mg/kg		0.32	mg/kg	0.000032 %		
			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									
										Total:	0.121 %		

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0128%)

Classification of sample: WS21

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

Sample details

Sample Name:
WS21
Sample Depth:
0.50 m
Moisture content:
36.2%
(no 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: 36.2% No Moisture Correction applied (MC)

#	Determinand	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		5 mg/kg	1.197	5.986 mg/kg	0.000599 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		31.5 mg/kg	1.32	41.59 mg/kg	0.00416 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.7 mg/kg	1.142	0.8 mg/kg	0.00008 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		77.7 mg/kg	1.462	113.563 mg/kg	0.0114 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		102 mg/kg	1.126	114.841 mg/kg	0.0115 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	320 mg/kg		320 mg/kg	0.032 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		1.6 mg/kg	1.353	2.166 mg/kg	0.000217 %		
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		9.5 mg/kg	1.5	14.252 mg/kg	0.00143 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		48.7 mg/kg	2.976	144.944 mg/kg	0.0145 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				2 mg/kg	2.554	5.107 mg/kg	0.000511 %		
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		173 mg/kg	1.245	215.336 mg/kg	0.0215 %		
13	TPH (C6 to C40) petroleum group			TPH		61 mg/kg		61 mg/kg	0.0061 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-021-00-3	203-625-9	108-88-3									
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				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				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			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				0.07	mg/kg		0.07	mg/kg	0.000007 %		
			201-695-5	86-73-7									
24	●	phenanthrene				1.01	mg/kg		1.01	mg/kg	0.000101 %		
			201-581-5	85-01-8									
25	●	anthracene				0.1	mg/kg		0.1	mg/kg	0.00001 %		
			204-371-1	120-12-7									
26	●	fluoranthene				1.27	mg/kg		1.27	mg/kg	0.000127 %		
			205-912-4	206-44-0									
27	●	pyrene				1.14	mg/kg		1.14	mg/kg	0.000114 %		
			204-927-3	129-00-0									
28		benzo[a]anthracene				0.47	mg/kg		0.47	mg/kg	0.000047 %		
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				0.71	mg/kg		0.71	mg/kg	0.000071 %		
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				0.86	mg/kg		0.86	mg/kg	0.000086 %		
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				0.34	mg/kg		0.34	mg/kg	0.000034 %		
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				0.64	mg/kg		0.64	mg/kg	0.000064 %		
		601-032-00-3	200-028-5	50-32-8									
33	●	indeno[123-cd]pyrene				0.38	mg/kg		0.38	mg/kg	0.000038 %		
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				0.09	mg/kg		0.09	mg/kg	0.000009 %		
		601-041-00-2	200-181-8	53-70-3									
35	●	benzo[ghi]perylene				0.42	mg/kg		0.42	mg/kg	0.000042 %		
			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									
										Total:	0.105 %		

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0061%)

Classification of sample: WS21[1]

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

Sample details

Sample Name:
WS21[1]
Sample Depth:
1.50 m
Moisture content:
20.2%
(no 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: 20.2% No Moisture Correction applied (MC)

#	Determinand	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		3.9 mg/kg	1.32	5.149 mg/kg	0.000515 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.1 mg/kg	1.142	0.114 mg/kg	0.0000114 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		97.5 mg/kg	1.462	142.502 mg/kg	0.0143 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		6 mg/kg	1.126	6.755 mg/kg	0.000676 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	11 mg/kg		11 mg/kg	0.0011 %		
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		6 mg/kg	1.5	9.001 mg/kg	0.0009 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		9.7 mg/kg	2.976	28.87 mg/kg	0.00289 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		25 mg/kg	1.245	31.118 mg/kg	0.00311 %		
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
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				8.89	pH		8.89	pH	8.89 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									
										Total:	0.0292 %		

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: WS21[2]

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

Sample details

Sample Name:
WS21[2]
Sample Depth:
2.50 m
Moisture content:
20.7%
(no 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: 20.7% No Moisture Correction applied (MC)

#	Determinand	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		4.5 mg/kg	1.32	5.941 mg/kg	0.000594 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.1 mg/kg	1.142	0.114 mg/kg	0.0000114 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		47.2 mg/kg	1.462	68.985 mg/kg	0.0069 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		5 mg/kg	1.126	5.629 mg/kg	0.000563 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	7 mg/kg		7 mg/kg	0.0007 %		
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		3.2 mg/kg	1.5	4.801 mg/kg	0.00048 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		8.8 mg/kg	2.976	26.191 mg/kg	0.00262 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		20 mg/kg	1.245	24.894 mg/kg	0.00249 %		
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
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				8.57	pH		8.57	pH	8.57 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									
										Total:	0.0201 %		

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: WS22

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

Sample details

Sample Name:
WS22
Sample Depth:
0.50 m
Moisture content:
34.6%
(no 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: 34.6% No Moisture Correction applied (MC)

#	Determinand	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		6 mg/kg	1.197	7.183 mg/kg	0.000718 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		41.7 mg/kg	1.32	55.058 mg/kg	0.00551 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.5 mg/kg	1.142	0.571 mg/kg	0.0000571 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		106.8 mg/kg	1.462	156.094 mg/kg	0.0156 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		**<LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		79 mg/kg	1.126	88.945 mg/kg	0.00889 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	272 mg/kg		272 mg/kg	0.0272 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.8 mg/kg	1.353	1.083 mg/kg	0.000108 %		
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		14 mg/kg	1.5	21.003 mg/kg	0.0021 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		35.4 mg/kg	2.976	105.36 mg/kg	0.0105 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1 mg/kg	2.554	2.554 mg/kg	0.000255 %		
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		184 mg/kg	1.245	229.027 mg/kg	0.0229 %		
13	TPH (C6 to C40) petroleum group			TPH		204 mg/kg		204 mg/kg	0.0204 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		naphthalene				0.15	mg/kg		0.15	mg/kg	0.000015 %		
		601-052-00-2	202-049-5	91-20-3									
16	•	acenaphthylene				0.09	mg/kg		0.09	mg/kg	0.000009 %		
			205-917-1	208-96-8									
17	•	acenaphthene				0.12	mg/kg		0.12	mg/kg	0.000012 %		
			201-469-6	83-32-9									
18	•	fluorene				0.09	mg/kg		0.09	mg/kg	0.000009 %		
			201-695-5	86-73-7									
19	•	phenanthrene				1.4	mg/kg		1.4	mg/kg	0.00014 %		
			201-581-5	85-01-8									
20	•	anthracene				0.2	mg/kg		0.2	mg/kg	0.00002 %		
			204-371-1	120-12-7									
21	•	fluoranthene				2.25	mg/kg		2.25	mg/kg	0.000225 %		
			205-912-4	206-44-0									
22	•	pyrene				2.06	mg/kg		2.06	mg/kg	0.000206 %		
			204-927-3	129-00-0									
23		benzo[a]anthracene				1.28	mg/kg		1.28	mg/kg	0.000128 %		
		601-033-00-9	200-280-6	56-55-3									
24		chrysene				1.33	mg/kg		1.33	mg/kg	0.000133 %		
		601-048-00-0	205-923-4	218-01-9									
25		benzo[b]fluoranthene				1.6	mg/kg		1.6	mg/kg	0.00016 %		
		601-034-00-4	205-911-9	205-99-2									
26		benzo[k]fluoranthene				0.62	mg/kg		0.62	mg/kg	0.000062 %		
		601-036-00-5	205-916-6	207-08-9									
27		benzo[a]pyrene; benzo[def]chrysene				1.2	mg/kg		1.2	mg/kg	0.00012 %		
		601-032-00-3	200-028-5	50-32-8									
28	•	indeno[123-cd]pyrene				0.71	mg/kg		0.71	mg/kg	0.000071 %		
			205-893-2	193-39-5									
29		dibenz[a,h]anthracene				0.19	mg/kg		0.19	mg/kg	0.000019 %		
		601-041-00-2	200-181-8	53-70-3									
30	•	benzo[ghi]perylene				0.71	mg/kg		0.71	mg/kg	0.000071 %		
			205-883-8	191-24-2									
31	•	polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.116 %		

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0204%)

Classification of sample: WS22[1]

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

Sample details

Sample Name:
WS22[1]
Sample Depth:
1.50 m
Moisture content:
33.8%
(no 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: 33.8% No Moisture Correction applied (MC)

#	Determinand	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		9 mg/kg	1.197	10.774 mg/kg	0.00108 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		34.9 mg/kg	1.32	46.079 mg/kg	0.00461 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.4 mg/kg	1.142	0.457 mg/kg	0.0000457 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		42.5 mg/kg	1.462	62.116 mg/kg	0.00621 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		**<LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		91 mg/kg	1.126	102.456 mg/kg	0.0102 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	227 mg/kg		227 mg/kg	0.0227 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.7 mg/kg	1.353	0.947 mg/kg	0.0000947 %		
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		9.5 mg/kg	1.5	14.252 mg/kg	0.00143 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		68.9 mg/kg	2.976	205.065 mg/kg	0.0205 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				2 mg/kg	2.554	5.107 mg/kg	0.000511 %		
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		134 mg/kg	1.245	166.792 mg/kg	0.0167 %		
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		**<LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<5	mg/kg		<5	mg/kg	<0.0005 %		<**LOD**
		603-181-00-X	216-653-1	1634-04-4									
15		naphthalene				0.07	mg/kg		0.07	mg/kg	0.000007 %		
		601-052-00-2	202-049-5	91-20-3									
16	●	acenaphthylene				0.04	mg/kg		0.04	mg/kg	0.000004 %		
			205-917-1	208-96-8									
17	●	acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
			201-469-6	83-32-9									
18	●	fluorene				0.07	mg/kg		0.07	mg/kg	0.000007 %		
			201-695-5	86-73-7									
19	●	phenanthrene				0.7	mg/kg		0.7	mg/kg	0.00007 %		
			201-581-5	85-01-8									
20	●	anthracene				0.08	mg/kg		0.08	mg/kg	0.000008 %		
			204-371-1	120-12-7									
21	●	fluoranthene				0.12	mg/kg		0.12	mg/kg	0.000012 %		
			205-912-4	206-44-0									
22	●	pyrene				0.15	mg/kg		0.15	mg/kg	0.000015 %		
			204-927-3	129-00-0									
23		benzo[a]anthracene				0.24	mg/kg		0.24	mg/kg	0.000024 %		
		601-033-00-9	200-280-6	56-55-3									
24		chrysene				0.27	mg/kg		0.27	mg/kg	0.000027 %		
		601-048-00-0	205-923-4	218-01-9									
25		benzo[b]fluoranthene				0.17	mg/kg		0.17	mg/kg	0.000017 %		
		601-034-00-4	205-911-9	205-99-2									
26		benzo[k]fluoranthene				0.07	mg/kg		0.07	mg/kg	0.000007 %		
		601-036-00-5	205-916-6	207-08-9									
27		benzo[a]pyrene; benzo[def]chrysene				0.11	mg/kg		0.11	mg/kg	0.000011 %		
		601-032-00-3	200-028-5	50-32-8									
28	●	indeno[123-cd]pyrene				0.07	mg/kg		0.07	mg/kg	0.000007 %		
			205-893-2	193-39-5									
29		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									
30	●	benzo[ghi]perylene				0.13	mg/kg		0.13	mg/kg	0.000013 %		
			205-883-8	191-24-2									
31	●	polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.0901 %		

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: WS22[2]

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

Sample details

Sample Name:
WS22[2]
Sample Depth:
2.50 m
Moisture content:
12.7%
(no 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: 12.7% No Moisture Correction applied (MC)

#	Determinand	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 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		4.5 mg/kg	1.32	5.941 mg/kg	0.000594 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.2 mg/kg	1.142	0.228 mg/kg	0.0000228 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		148.4 mg/kg	1.462	216.895 mg/kg	0.0217 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		5 mg/kg	1.126	5.629 mg/kg	0.000563 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	6 mg/kg		6 mg/kg	0.0006 %		
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		7.5 mg/kg	1.5	11.251 mg/kg	0.00113 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		10.8 mg/kg	2.976	32.144 mg/kg	0.00321 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		24 mg/kg	1.245	29.873 mg/kg	0.00299 %		
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<5 mg/kg		<5 mg/kg	<0.0005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4							
15		benzene				<5 mg/kg		<5 mg/kg	<0.0005 %		<LOD
		601-020-00-8	200-753-7	71-43-2							
16		toluene				<5 mg/kg		<5 mg/kg	<0.0005 %		<LOD
		601-021-00-3	203-625-9	108-88-3							
17	•	ethylbenzene				<5 mg/kg		<5 mg/kg	<0.0005 %		<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		naphthalene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3							
20	•	acenaphthylene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8							
21	•	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9							
22	•	fluorene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7							
23	•	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8							
24	•	anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7							
25	•	fluoranthene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0							
26	•	pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0							
27		benzo[a]anthracene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3							
28		chrysene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9							
29		benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2							
30		benzo[k]fluoranthene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9							
31		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							
32	•	indeno[123-cd]pyrene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5							
33		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							
34	•	benzo[ghi]perylene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2							
35	•	polychlorobiphenyls; PCB				<0.035 mg/kg		<0.035 mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3							
								Total:	0.0385 %		

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: WS23

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

Sample details

Sample Name:	LoW Code:	
WS23	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:		
0.50 m	Entry:	17 05 03 * (Soil and stones containing hazardous substances)
Moisture content:		
22.4% (no correction)		

Hazard properties

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1B; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.114%)

HP 11: Mutagenic "waste which may cause a mutation, that is a permanent change in the amount or structure of the genetic material in a cell"

Hazard Statements hit:

Muta. 1B; H340 "May cause genetic defects [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.114%)

Determinands

Moisture content: 22.4% No Moisture Correction applied (MC)

#	Determinand	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		34 mg/kg	1.197	40.701 mg/kg	0.00407 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		16 mg/kg	1.32	21.125 mg/kg	0.00211 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1 mg/kg	1.142	1.142 mg/kg	0.000114 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		101.2 mg/kg	1.462	147.909 mg/kg	0.0148 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		**<LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		60 mg/kg	1.126	67.553 mg/kg	0.00676 %		

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	263 mg/kg		263 mg/kg	0.0263 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.5 mg/kg	1.353	0.677 mg/kg	0.0000677 %		
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		7.9 mg/kg	1.5	11.851 mg/kg	0.00119 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		55.2 mg/kg	2.976	164.29 mg/kg	0.0164 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		175 mg/kg	1.245	217.825 mg/kg	0.0218 %		
13	TPH (C6 to C40) petroleum group			TPH		1136 mg/kg		1136 mg/kg	0.114 %		
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5 mg/kg		<5 mg/kg	<0.0005 %		<LOD
15	naphthalene	601-052-00-2	202-049-5	91-20-3		1.92 mg/kg		1.92 mg/kg	0.000192 %		
16	acenaphthylene		205-917-1	208-96-8		0.48 mg/kg		0.48 mg/kg	0.000048 %		
17	acenaphthene		201-469-6	83-32-9		12.13 mg/kg		12.13 mg/kg	0.00121 %		
18	fluorene		201-695-5	86-73-7		7.94 mg/kg		7.94 mg/kg	0.000794 %		
19	phenanthrene		201-581-5	85-01-8		26.74 mg/kg		26.74 mg/kg	0.00267 %		
20	anthracene		204-371-1	120-12-7		5.37 mg/kg		5.37 mg/kg	0.000537 %		
21	fluoranthene		205-912-4	206-44-0		33.15 mg/kg		33.15 mg/kg	0.00331 %		
22	pyrene		204-927-3	129-00-0		29.01 mg/kg		29.01 mg/kg	0.0029 %		
23	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		13.26 mg/kg		13.26 mg/kg	0.00133 %		
24	chrysene	601-048-00-0	205-923-4	218-01-9		14.8 mg/kg		14.8 mg/kg	0.00148 %		
25	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		15.16 mg/kg		15.16 mg/kg	0.00152 %		
26	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		5.89 mg/kg		5.89 mg/kg	0.000589 %		
27	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		11.64 mg/kg		11.64 mg/kg	0.00116 %		
28	indeno[123-cd]pyrene		205-893-2	193-39-5		6.99 mg/kg		6.99 mg/kg	0.000699 %		
29	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		1.75 mg/kg		1.75 mg/kg	0.000175 %		
30	benzo[ghi]perylene		205-883-8	191-24-2		6.92 mg/kg		6.92 mg/kg	0.000692 %		
31	polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035 mg/kg		<0.035 mg/kg	<0.0000035 %		<LOD
								Total:	0.227 %		

Key	
	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.114%)

Classification of sample: WS23[1]

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

Sample details

Sample Name:
WS23[1]
Sample Depth:
1.00 m
Moisture content:
32%
(no correction)

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

Hazard properties

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

Risk phrases hit:

R50/53 "Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment"

Because of determinand:

zinc oxide: (compound conc.: 0.256%)

Determinands

Moisture content: 32% No Moisture Correction applied (MC)

#	Determinand	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		8 mg/kg	1.197	9.577 mg/kg	0.000958 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		28 mg/kg	1.32	36.969 mg/kg	0.0037 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1 mg/kg	1.142	1.142 mg/kg	0.000114 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		106.7 mg/kg	1.462	155.948 mg/kg	0.0156 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		92 mg/kg	1.126	103.582 mg/kg	0.0104 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	280 mg/kg		280 mg/kg	0.028 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.6 mg/kg	1.353	0.812 mg/kg	0.0000812 %		
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		8.2 mg/kg	1.5	12.302 mg/kg	0.00123 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		54.5 mg/kg	2.976	162.206 mg/kg	0.0162 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
11		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<**LOD**
		034-002-00-8											
12		zinc { zinc oxide }				2060	mg/kg	1.245	2564.111	mg/kg	0.256 %		
		030-013-00-7	215-222-5	1314-13-2									
13		TPH (C6 to C40) petroleum group				292	mg/kg		292	mg/kg	0.0292 %		
				TPH									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<5	mg/kg		<5	mg/kg	<0.0005 %		<**LOD**
		603-181-00-X	216-653-1	1634-04-4									
15		naphthalene				0.69	mg/kg		0.69	mg/kg	0.000069 %		
		601-052-00-2	202-049-5	91-20-3									
16		acenaphthylene				0.12	mg/kg		0.12	mg/kg	0.000012 %		
			205-917-1	208-96-8									
17		acenaphthene				3.67	mg/kg		3.67	mg/kg	0.000367 %		
			201-469-6	83-32-9									
18		fluorene				3.08	mg/kg		3.08	mg/kg	0.000308 %		
			201-695-5	86-73-7									
19		phenanthrene				14.88	mg/kg		14.88	mg/kg	0.00149 %		
			201-581-5	85-01-8									
20		anthracene				2.86	mg/kg		2.86	mg/kg	0.000286 %		
			204-371-1	120-12-7									
21		fluoranthene				16.33	mg/kg		16.33	mg/kg	0.00163 %		
			205-912-4	206-44-0									
22		pyrene				13.68	mg/kg		13.68	mg/kg	0.00137 %		
			204-927-3	129-00-0									
23		benzo[a]anthracene				8.58	mg/kg		8.58	mg/kg	0.000858 %		
		601-033-00-9	200-280-6	56-55-3									
24		chrysene				6.1	mg/kg		6.1	mg/kg	0.00061 %		
		601-048-00-0	205-923-4	218-01-9									
25		benzo[b]fluoranthene				7.36	mg/kg		7.36	mg/kg	0.000736 %		
		601-034-00-4	205-911-9	205-99-2									
26		benzo[k]fluoranthene				2.86	mg/kg		2.86	mg/kg	0.000286 %		
		601-036-00-5	205-916-6	207-08-9									
27		benzo[a]pyrene; benzo[def]chrysene				5.76	mg/kg		5.76	mg/kg	0.000576 %		
		601-032-00-3	200-028-5	50-32-8									
28		indeno[123-cd]pyrene				3.15	mg/kg		3.15	mg/kg	0.000315 %		
			205-893-2	193-39-5									
29		dibenz[a,h]anthracene				0.73	mg/kg		0.73	mg/kg	0.000073 %		
		601-041-00-2	200-181-8	53-70-3									
30		benzo[ghi]perylene				3.12	mg/kg		3.12	mg/kg	0.000312 %		
			205-883-8	191-24-2									
31		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.372 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0292%)

Classification of sample: WS24

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

Sample details

Sample Name:
WS24
Sample Depth:
0.50 m
Moisture content:
39.9%
(no 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: 39.9% No Moisture Correction applied (MC)

#	Determinand	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	3.591 mg/kg	0.000359 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		27.8 mg/kg	1.32	36.705 mg/kg	0.00367 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.8 mg/kg	1.142	0.914 mg/kg	0.0000914 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		35.8 mg/kg	1.462	52.324 mg/kg	0.00523 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		**<LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		85 mg/kg	1.126	95.701 mg/kg	0.00957 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	301 mg/kg		301 mg/kg	0.0301 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		1.4 mg/kg	1.353	1.895 mg/kg	0.000189 %		
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.6 mg/kg	1.5	5.401 mg/kg	0.00054 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		33.9 mg/kg	2.976	100.895 mg/kg	0.0101 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1 mg/kg	2.554	2.554 mg/kg	0.000255 %		
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		208 mg/kg	1.245	258.901 mg/kg	0.0259 %		
13	TPH (C6 to C40) petroleum group			TPH		162 mg/kg		162 mg/kg	0.0162 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		naphthalene				0.45	mg/kg		0.45	mg/kg	0.000045 %		
		601-052-00-2	202-049-5	91-20-3									
16	●	acenaphthylene				0.13	mg/kg		0.13	mg/kg	0.000013 %		
			205-917-1	208-96-8									
17	●	acenaphthene				1.05	mg/kg		1.05	mg/kg	0.000105 %		
			201-469-6	83-32-9									
18	●	fluorene				0.66	mg/kg		0.66	mg/kg	0.000066 %		
			201-695-5	86-73-7									
19	●	phenanthrene				6.95	mg/kg		6.95	mg/kg	0.000695 %		
			201-581-5	85-01-8									
20	●	anthracene				0.87	mg/kg		0.87	mg/kg	0.000087 %		
			204-371-1	120-12-7									
21	●	fluoranthene				9.61	mg/kg		9.61	mg/kg	0.000961 %		
			205-912-4	206-44-0									
22	●	pyrene				8.59	mg/kg		8.59	mg/kg	0.000859 %		
			204-927-3	129-00-0									
23		benzo[a]anthracene				4.21	mg/kg		4.21	mg/kg	0.000421 %		
		601-033-00-9	200-280-6	56-55-3									
24		chrysene				5.3	mg/kg		5.3	mg/kg	0.00053 %		
		601-048-00-0	205-923-4	218-01-9									
25		benzo[b]fluoranthene				5.41	mg/kg		5.41	mg/kg	0.000541 %		
		601-034-00-4	205-911-9	205-99-2									
26		benzo[k]fluoranthene				2.1	mg/kg		2.1	mg/kg	0.00021 %		
		601-036-00-5	205-916-6	207-08-9									
27		benzo[a]pyrene; benzo[def]chrysene				4.14	mg/kg		4.14	mg/kg	0.000414 %		
		601-032-00-3	200-028-5	50-32-8									
28	●	indeno[123-cd]pyrene				2.46	mg/kg		2.46	mg/kg	0.000246 %		
			205-893-2	193-39-5									
29		dibenz[a,h]anthracene				0.57	mg/kg		0.57	mg/kg	0.000057 %		
		601-041-00-2	200-181-8	53-70-3									
30	●	benzo[ghi]perylene				2.64	mg/kg		2.64	mg/kg	0.000264 %		
			205-883-8	191-24-2									
31	●	polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.108 %		

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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0162%)

Classification of sample: WS24[1]

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

Sample details

Sample Name:
WS24[1]
Sample Depth:
1.50 m
Moisture content:
27.6%
(no 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: 27.6% No Moisture Correction applied (MC)

#	Determinand	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	2.394 mg/kg	0.000239 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		4.1 mg/kg	1.32	5.413 mg/kg	0.000541 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<**LOD**
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		157.9 mg/kg	1.462	230.78 mg/kg	0.0231 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		5 mg/kg	1.126	5.629 mg/kg	0.000563 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	7 mg/kg		7 mg/kg	0.0007 %		
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		8.7 mg/kg	1.5	13.052 mg/kg	0.00131 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		15.9 mg/kg	2.976	47.323 mg/kg	0.00473 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		30 mg/kg	1.245	37.341 mg/kg	0.00373 %		
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<5 mg/kg		<5 mg/kg	<0.0005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4							
15		benzene				<5 mg/kg		<5 mg/kg	<0.0005 %		<LOD
		601-020-00-8	200-753-7	71-43-2							
16		toluene				<5 mg/kg		<5 mg/kg	<0.0005 %		<LOD
		601-021-00-3	203-625-9	108-88-3							
17	●	ethylbenzene				<5 mg/kg		<5 mg/kg	<0.0005 %		<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		naphthalene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3							
20	●	acenaphthylene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8							
21	●	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9							
22	●	fluorene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7							
23	●	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8							
24	●	anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7							
25	●	fluoranthene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0							
26	●	pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0							
27		benzo[a]anthracene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3							
28		chrysene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9							
29		benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2							
30		benzo[k]fluoranthene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9							
31		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							
32	●	indeno[123-cd]pyrene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5							
33		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							
34	●	benzo[ghi]perylene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2							
35	●	polychlorobiphenyls; PCB				<0.035 mg/kg		<0.035 mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3							
								Total:	0.0425 %		

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: WS24[2]

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

Sample details

Sample Name:
WS24[2]
Sample Depth:
2.50 m
Moisture content:
12.6%
(no 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% No Moisture Correction applied (MC)

#	Determinand	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	2.394 mg/kg	0.000239 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		3.9 mg/kg	1.32	5.149 mg/kg	0.000515 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<**LOD**
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		165.6 mg/kg	1.462	242.034 mg/kg	0.0242 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		6 mg/kg	1.126	6.755 mg/kg	0.000676 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	10 mg/kg		10 mg/kg	0.001 %		
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		10.2 mg/kg	1.5	15.302 mg/kg	0.00153 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		12.6 mg/kg	2.976	37.501 mg/kg	0.00375 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		28 mg/kg	1.245	34.852 mg/kg	0.00349 %		
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<5 mg/kg		<5 mg/kg	<0.0005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4							
15		benzene				<5 mg/kg		<5 mg/kg	<0.0005 %		<LOD
		601-020-00-8	200-753-7	71-43-2							
16		toluene				<5 mg/kg		<5 mg/kg	<0.0005 %		<LOD
		601-021-00-3	203-625-9	108-88-3							
17	•	ethylbenzene				<5 mg/kg		<5 mg/kg	<0.0005 %		<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		naphthalene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3							
20	•	acenaphthylene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8							
21	•	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9							
22	•	fluorene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7							
23	•	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8							
24	•	anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7							
25	•	fluoranthene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0							
26	•	pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0							
27		benzo[a]anthracene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3							
28		chrysene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9							
29		benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2							
30		benzo[k]fluoranthene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9							
31		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							
32	•	indeno[123-cd]pyrene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5							
33		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							
34	•	benzo[ghi]perylene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2							
35	•	polychlorobiphenyls; PCB				<0.035 mg/kg		<0.035 mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3							
								Total:	0.043 %		

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: BH05

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

Sample details

Sample Name:	LoW Code:	
BH05	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:		
1.70 + 2.00 m	Entry:	17 05 03 * (Soil and stones containing hazardous substances)
Moisture content:		
14.6% (no correction)		

Hazard properties

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1B; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.228%)

HP 11: Mutagenic "waste which may cause a mutation, that is a permanent change in the amount or structure of the genetic material in a cell"

Hazard Statements hit:

Muta. 1B; H340 "May cause genetic defects [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.228%)

Determinands

Moisture content: 14.6% No Moisture Correction applied (MC)

#	Determinand	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	2.394 mg/kg	0.000239 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		14.8 mg/kg	1.32	19.541 mg/kg	0.00195 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.3 mg/kg	1.142	0.343 mg/kg	0.0000343 %		
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		11.2 mg/kg	1.462	16.369 mg/kg	0.00164 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		**<LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		37 mg/kg	1.126	41.658 mg/kg	0.00417 %		

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	219	mg/kg		219	mg/kg	0.0219 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.7	mg/kg	1.353	0.947	mg/kg	0.0000947 %		
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		1.4	mg/kg	1.5	2.1	mg/kg	0.00021 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		21.2	mg/kg	2.976	63.097	mg/kg	0.00631 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		108	mg/kg	1.245	134.429	mg/kg	0.0134 %		
13	TPH (C6 to C40) petroleum group			TPH		2283	mg/kg		2283	mg/kg	0.228 %		
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
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	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
20	acenaphthylene		205-917-1	208-96-8		<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<LOD
21	acenaphthene		201-469-6	83-32-9		<0.25	mg/kg		<0.25	mg/kg	<0.000025 %		<LOD
22	fluorene		201-695-5	86-73-7		<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
23	phenanthrene		201-581-5	85-01-8		<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<LOD
24	anthracene		204-371-1	120-12-7		<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
25	fluoranthene		205-912-4	206-44-0		<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<LOD
26	pyrene		204-927-3	129-00-0		<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<LOD
27	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
28	chrysene	601-048-00-0	205-923-4	218-01-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
29	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.25	mg/kg		<0.25	mg/kg	<0.000025 %		<LOD
30	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
31	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
32	indeno[123-cd]pyrene		205-893-2	193-39-5		<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
33	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
34		benzo[ghi]perylene				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<**LOD**
			205-883-8	191-24-2							
35		polychlorobiphenyls; PCB				<0.035 mg/kg		<0.035 mg/kg	<0.0000035 %		<**LOD**
		602-039-00-4	215-648-1	1336-36-3							
									Total:	0.279 %	

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.228%)

Classification of sample: BH05[1]

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

Sample details

Sample Name:
BH05[1]
Sample Depth:
3.00 m
Moisture content:
9.5%
(no correction)

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

Hazard properties

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1B; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.248%)

HP 11: Mutagenic "waste which may cause a mutation, that is a permanent change in the amount or structure of the genetic material in a cell"

Hazard Statements hit:

Muta. 1B; H340 "May cause genetic defects [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.248%)

Determinands

Moisture content: 9.5% No Moisture Correction applied (MC)

#		Determinand	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number / EC Number / CAS Number							
1		antimony { antimony trioxide }		2 mg/kg	1.197	2.394 mg/kg	0.000239 %		
		051-005-00-X / 215-175-0 / 1309-64-4							
2		arsenic { arsenic trioxide }		18.8 mg/kg	1.32	24.822 mg/kg	0.00248 %		
		033-003-00-0 / 215-481-4 / 1327-53-3							
3		cadmium { cadmium oxide }		1 mg/kg	1.142	1.142 mg/kg	0.000114 %		
		048-002-00-0 / 215-146-2 / 1306-19-0							
4		chromium in chromium(III) compounds { chromium(III) oxide }		14.3 mg/kg	1.462	20.9 mg/kg	0.00209 %		
		215-160-9 / 1308-38-9							
5		chromium in chromium(VI) compounds { chromium(VI) oxide }		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<LOD
		024-001-00-0 / 215-607-8 / 1333-82-0							
6		copper { dicopper oxide; copper (I) oxide }		25 mg/kg	1.126	28.147 mg/kg	0.00281 %		
		029-002-00-X / 215-270-7 / 1317-39-1							

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	73 mg/kg		73 mg/kg	0.0073 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.5 mg/kg	1.353	0.677 mg/kg	0.0000677 %		
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		1.5 mg/kg	1.5	2.25 mg/kg	0.000225 %		
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		25.1 mg/kg	2.976	74.704 mg/kg	0.00747 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		96 mg/kg	1.245	119.493 mg/kg	0.0119 %		
13	TPH (C6 to C40) petroleum group			TPH		2483 mg/kg		2483 mg/kg	0.248 %		
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
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	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
20	acenaphthylene		205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
21	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
22	fluorene		201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
23	phenanthrene		201-581-5	85-01-8		0.46 mg/kg		0.46 mg/kg	0.000046 %		
24	anthracene		204-371-1	120-12-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
25	fluoranthene		205-912-4	206-44-0		0.11 mg/kg		0.11 mg/kg	0.000011 %		
26	pyrene		204-927-3	129-00-0		0.11 mg/kg		0.11 mg/kg	0.000011 %		
27	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.07 mg/kg		0.07 mg/kg	0.000007 %		
28	chrysene	601-048-00-0	205-923-4	218-01-9		0.14 mg/kg		0.14 mg/kg	0.000014 %		
29	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.1 mg/kg		0.1 mg/kg	0.00001 %		
30	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.04 mg/kg		0.04 mg/kg	0.000004 %		
31	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 %		
32	indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
33	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

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
34		benzo[ghi]perylene									
			205-883-8	191-24-2		0.08 mg/kg		0.08 mg/kg	0.000008 %		
35		polychlorobiphenyls; PCB									
		602-039-00-4	215-648-1	1336-36-3		<0.035 mg/kg		<0.035 mg/kg	<0.0000035 %		<**LOD**
								Total:	0.284 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<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 Can be discounted as this is solid waste with no free draining liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.248%)

Appendix A: Classifier defined and non CLP determinands

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

Conversion factor: 1.462
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
Risk Phrases: R61 , R60 , R50/53 , R43 , R42 , R38 , R37 , R36 , R22 , R20
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Repr. 1B H360FD , Skin Sens. 1 H317 , Resp. Sens. 1 H334 , Skin Irrit. 2 H315 , STOT SE 3 H335 , Eye Irrit. 2 H319 , Acute Tox. 4 H302 , Acute Tox. 4 H332

dicopper oxide; copper (I) oxide (EC Number: 215-270-7, CAS Number: 1317-39-1)

CLP index number: 029-002-00-X
Description/Comments: M-factor for long-term aquatic hazard not included as per paragraph (5), ATP9
Data source: Regulation (EU) 2016/1179 of 19 July 2016 (ATP9)
Additional Risk Phrases: N R50/53 >= 0.25 %, N R50/53
Additional Hazard Statement(s): None.
Reason for additional Hazards Statement(s)/Risk Phrase(s):
10 Oct 2016 - N R50/53 >= 0.25 % risk phrase sourced from: WM3 v1 still uses ecotoxic risk phrases
10 Oct 2016 - N R50/53 risk phrase sourced from: WM3 v1 still uses ecotoxic risk phrases

lead compounds with the exception of those specified elsewhere in this Annex

CLP index number: 082-001-00-6
Description/Comments: Least-worst case: Lead REACH Consortium considers some lead compounds Carcinogenic category 2B
Data source: Regulation 1272/2008/EC - Classification, labelling and packaging of substances and mixtures. (CLP)
Additional Risk Phrases: None.
Additional Hazard Statement(s): Carc. 2 H351
Reason for additional Hazards Statement(s)/Risk Phrase(s):
03 Jun 2015 - Carc. 2 H351 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html. Review date 29/09/2015

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
Risk Phrases: R65 , R63 , R51/53 , R46 , R45 , R10
Hazard Statements: Aquatic Chronic 2 H411 , Repr. 2 H361d , Carc. 1B H350 , Muta. 1B H340 , STOT RE 2 H373 , Asp. Tox. 1 H304 , Flam. Liq. 3 H226

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

CLP index number: 601-023-00-4
Description/Comments:
Data source: Commission Regulation (EU) No 605/2014 – 6th Adaptation to Technical Progress for Regulation (EC) No 1272/2008. (ATP6)
Additional Risk Phrases: None.
Additional Hazard Statement(s): Carc. 2 H351
Reason for additional Hazards Statement(s)/Risk Phrase(s):
03 Jun 2015 - Carc. 2 H351 hazard statement sourced from: IARC Group 2B (77) 2000

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
Risk Phrases: R38 , R37 , R36 , R27 , R26 , R22
Hazard Statements: Skin Irrit. 2 H315 , STOT SE 3 H335 , Eye Irrit. 2 H319 , Acute Tox. 1 H310 , Acute Tox. 1 H330 , Acute Tox. 4 H302

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
Risk Phrases: N R51/53 , N R50/53 , R38 , R37 , R36
Hazard Statements: Aquatic Chronic 2 H411 , Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Skin Irrit. 2 H315 , STOT SE 3 H335 , Eye Irrit. 2 H319

- **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
Risk Phrases: N R50/53
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400

- **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
Risk Phrases: N R50/53 , R43 , R40 , R38 , R37 , R36 , R22
Hazard Statements: Skin Irrit. 2 H315 , Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Skin Sens. 1 H317 , Carc. 2 H351 , STOT SE 3 H335 , Eye Irrit. 2 H319 , Acute Tox. 4 H302

- **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
Risk Phrases: N R50/53 , R43 , R38 , R37 , R36
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Skin Sens. 1 H317 , Skin Irrit. 2 H315 , STOT SE 3 H335 , Eye Irrit. 2 H319

- **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
Risk Phrases: N R50/53 , Xn R22
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Acute Tox. 4 H302

- **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
Risk Phrases: N R50/53 , Xi R36/37/38
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , STOT SE 3 H335 , Eye Irrit. 2 H319 , Skin Irrit. 2 H315

- **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
Risk Phrases: R40
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
Risk Phrases: N R50/53
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400

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

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.
Data source: Regulation 1272/2008/EC - Classification, labelling and packaging of substances and mixtures. (CLP)
Additional Risk Phrases: None.
Additional Hazard Statement(s): Carc. 1A H350
Reason for additional Hazards Statement(s)/Risk Phrase(s):
29 Sep 2015 - Carc. 1A H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

pH (CAS Number: PH)

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

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

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

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. 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

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

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

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

Worst case CLP species based on hazard statements/molecular weight. Industrial sources include: production stainless steel, electroplating, wood preservation, anti-corrosion agents or coatings, pigments

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. Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected.

lead {lead compounds with the exception of those specified elsewhere in this Annex}

Lab analysis indicates hexavalent chromium is low, thus lead chromate is unlikely to have formed

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight

molybdenum {molybdenum(VI) oxide}

Worst case CLP species based on hazard statements/molecular weight

nickel {nickel chromate}

Worst case CLP species based on hazard statements/molecular weight

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

Harmonised group entry used as most reasonable case. Pigment cadmium sulphoselenide not likely to be present in this soil. No evidence for the other CLP entries: sodium selenite, nickel II selenite and nickel selenide, to be present in this soil.

zinc {zinc oxide}

Lab analysis indicates hexavalent chromium is low, thus zinc chromate is unlikely to have formed

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition, May 2015
HazWasteOnline Classification Engine Version: 2018.152.3543.7262 (01 Jun 2018)
HazWasteOnline Database: 2018.151.3542.7260 (31 May 2018)

This classification utilises the following guidance and legislation:
WM3 - Waste Classification - May 2015
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 Wastes 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
POPs Regulation 2004 - Regulation 850/2004/EC of 29 April 2004
1st ATP to POPs Regulation - Regulation 756/2010/EU of 24 August 2010
2nd ATP to POPs Regulation - Regulation 757/2010/EU of 24 August 2010

A13.1 CRITERIA FOR RATING SITE ATTRIBUTES NRA

A13.1 Appendix

Criteria for Rating Site Attributes - Estimation of Importance of Hydrology Attributes (NRA, 2009)

Table 1: Criteria for rating Site Attributes - Estimation of Importance of Hydrology Attributes (NRA)

Importance	Criteria	Typical Example
Extremely High	Attribute has a high quality, significance or value on a regional or national scale.	River, wetland or surface water body ecosystem protected by EU legislation e.g. 'European sites' designated under the Habitats Regulations or 'Salmonid waters' designated pursuant to the European Communities (Quality of Salmonid Waters) Regulations, 1988.
Very High	Attribute has a high quality, significance or value on a regional or national scale.	River, wetland or surface water body ecosystem protected by national legislation – NHA status Regionally important potable water source supplying >2500 homes Quality Class A (Biotic Index Q4, Q5) Flood plain protecting more than 50 residential or commercial properties from flooding Nationally important amenity site for wide range of leisure activities
High	Attribute has a high quality, significance or value on a local scale.	Salmon fishery Locally important potable water source supplying >1000 homes Quality Class B (Biotic Index Q3-4) Flood plain protecting between 5 and 50 residential or commercial properties from flooding Locally important amenity site for wide range of leisure activities
Medium	Attribute has a medium quality, significance or value on a local scale.	Coarse fisher Local potable water source supplying >50 homes Quality Class C (Biotic Index Q3, Q2- 3) Flood plain protecting between 1 and 5 residential or commercial properties from flooding
Low	Attribute has a low quality, significance or value on a local scale.	Locally important amenity site for small range of leisure activities Local potable water source supplying <50 homes Quality Class D (Biotic Index Q2, Q1) Flood plain protecting 1 residential or commercial property from flooding Amenity site used by small numbers of local people

A14.1 AMBIENT AIR QUALITY STANDARDS

A14.1 Appendix

A14.1.1 Ambient Air Quality Standards

National standards for ambient air pollutants in Ireland have generally ensued from Council Directives enacted in the EU (& previously the EC & EEC). The initial interest in ambient air pollution legislation in the EU dates from the early 1980s and was in response to the most serious pollutant problems at that time which was the issue of acid rain. As a result of this sulphur dioxide, and later nitrogen dioxide, were both the focus of EU legislation. Linked to the acid rain problem was urban smog associated with fuel burning for space heating purposes. Also apparent at this time were the problems caused by leaded petrol and EU legislation was introduced to deal with this problem in the early 1980s.

In recent years the EU has focused on defining a basis strategy across the EU in relation to ambient air quality. In 1996, a Framework Directive, Council Directive 96/62/EC, on ambient air quality assessment and management was enacted. The aims of the Directive are fourfold. Firstly, the Directive's aim is to establish objectives for ambient air quality designed to avoid harmful effects to health. Secondly, the Directive aims to assess ambient air quality on the basis of common methods and criteria throughout the EU. Additionally, it is aimed to make information on air quality available to the public via alert thresholds and fourthly, it aims to maintain air quality where it is good and improve it in other cases.

As part of these measures to improve air quality, the European Commission has adopted proposals for daughter legislation under Directive 96/62/EC. The first of these directives to be enacted, Council Directive 1999/30/EC, has been passed into Irish Law as S.I. No 271 of 2002 (Air Quality Standards Regulations 2002), and has set limit values which came into operation on 17th June 2002. The Air Quality Standards Regulations 2002 detail margins of tolerance, which are trigger levels for certain types of action in the period leading to the attainment date. The margin of tolerance varies from 60% for lead, to 30% for 24-hour limit value for PM_{10}, 40% for the hourly and annual limit value for NO_2 and 26% for hourly SO_2 limit values. The margin of tolerance commenced from June 2002, and started to reduce from 1 January 2003 and every 12 months thereafter by equal annual percentages to reach 0% by the attainment date. A second daughter directive, EU Council Directive 2000/69/EC, has published limit values for both carbon monoxide and benzene in ambient air. This has also been passed into Irish Law under the Air Quality Standards Regulations 2002.

The most recent EU Council Directive on ambient air quality was published on the 11/06/08 which has been transposed into Irish Law as S.I. 180 of 2011. Council Directive 2008/50/EC combines the previous Air Quality Framework Directive and its subsequent daughter directives. Provisions were also made for the inclusion of new ambient limit values relating to $PM_{2.5}$. The margins of tolerance specific to each pollutant were also slightly adjusted from previous directives. In regards to existing ambient air quality standards, it is not proposed to modify the standards but to strengthen existing provisions to ensure that non-compliances are removed. In addition, new ambient standards for $PM_{2.5}$ are included in Directive 2008/50/EC. The approach for $PM_{2.5}$ was to establish a target value of 25 µg/m^3, as an annual average (to be attained everywhere by 2010) and a limit value of 25 µg/m^3, as an annual average (to be attained everywhere by 2015), coupled with a target to reduce human exposure generally to $PM_{2.5}$ between 2010 and 2020. This exposure reduction target will range from 0% (for $PM_{2.5}$ concentrations of less than 8.5 µg/m^3 to 20% of the average exposure indicator (AEI) for concentrations of between 18 - 22 µg/m^3). Where the AEI is currently greater than 22 µg/m^3 all appropriate measures should be employed to reduce this level to 18 µg/m^3 by 2020. The AEI is based on measurements taken in urban background locations averaged over a three year period from 2008 - 2010 and again from 2018-2020. Additionally, an exposure concentration obligation of 20 µg/m^3 was set to be complied with by 2015 again based on the AEI.

Although the EU Air Quality Limit Values are the basis of legislation, other thresholds outlined by the EU Directives are used which are triggers for particular actions. The Alert Threshold is defined in Council Directive 96/62/EC as "a level beyond which there is a risk to human health from brief exposure and at which

immediate steps shall be taken as laid down in Directive 96/62/EC". These steps include undertaking to ensure that the necessary steps are taken to inform the public (e.g. by means of radio, television and the press).

The Margin of Tolerance is defined in Council Directive 96/62/EC as a concentration which is higher than the limit value when legislation comes into force. It decreases to meet the limit value by the attainment date. The Upper Assessment Threshold is defined in Council Directive 96/62/EC as a concentration above which high quality measurement is mandatory. Data from measurement may be supplemented by information from other sources, including air quality modelling.

An annual average limit for both NO_X (NO and NO_2) is applicable for the protection of vegetation in highly rural areas away from major sources of NO_X such as large conurbations, factories and high road vehicle activity such as a dual carriageway or motorway. Annex VI of EU Directive 1999/30/EC identifies that monitoring to demonstrate compliance with the NO_X limit for the protection of vegetation should be carried out distances greater than:

- 5 km from the nearest motorway or dual carriageway
- 5 km from the nearest major industrial installation
- 20 km from a major urban conurbation.

As a guideline, a monitoring station should be indicative of approximately 1000 km^2 of surrounding area.

Under the terms of EU Framework Directive on Ambient Air Quality (96/62/EC), geographical areas within member states have been classified in terms of zones. The zones have been defined in order to meet the criteria for air quality monitoring, assessment and management as described in the Framework Directive and Daughter Directives. Zone A is defined as Dublin and its environs, Zone B is defined as Cork City, Zone C is defined as 23 urban areas with a population greater than 15,000 and Zone D is defined as the remainder of the country. The Zones were defined based on among other things, population and existing ambient air quality.

EU Council Directive 96/62/EC on ambient air quality and assessment has been adopted into Irish Legislation (S.I. No. 33 of 1999). The act has designated the Environmental Protection Agency (EPA) as the competent authority responsible for the implementation of the Directive and for assessing ambient air quality in the State. Other commonly referenced ambient air quality standards include the World Health Organisation. The WHO guidelines differ from air quality standards in that they are primarily set to protect public health from the effects of air pollution. Air quality standards, however, are air quality guidelines recommended by governments, for which additional factors, such as socio-economic factors, may be considered.

A14.1.2 Air Dispersion Modelling

The inputs to the DMRB model consist of information on road layouts, receptor locations, annual average daily traffic movements, annual average traffic speeds and background concentrations[1]. Using this input data the model predicts ambient ground level concentrations at the worst-case sensitive receptor using generic meteorological data.

The DMRB has recently undergone an extensive validation exercise[2] as part of the UK's Review and Assessment Process to designate areas as Air Quality Management Areas (AQMAs). The validation exercise was carried out at 12 monitoring sites within the UK DEFRAs national air quality monitoring network. The validation exercise was carried out for NO_X, NO_2 and PM_{10}, and included urban background and kerbside/roadside locations, "open" and "confined" settings and a variety of geographical locations(16).

In relation to NO_2, the model generally over-predicts concentrations, with a greater degree of over-prediction at "open" site locations. The performance of the model with respect to NO_2 mirrors that of NO_X showing that the over-prediction is due to NO_X calculations rather than the NO_X:NO_2 conversion. Within most urban situations, the model overestimates annual mean NO_2 concentrations by between 0 to 40% at confined locations and by 20 to 60% at open locations. The performance is considered comparable with that of sophisticated dispersion models when applied to situations where specific local validation corrections have not been carried out.

The model also tends to over-predict PM_{10}. Within most urban situations, the model will over-estimate annual mean PM_{10} concentrations by between 20 to 40%. The performance is comparable to more sophisticated models, which, if not validated locally, can be expected to predict concentrations within the range of ±50%.

Thus, the validation exercise has confirmed that the model is a useful screening tool for the Second Stage Review and Assessment, for which a conservative approach is applicable[3] .

[1] EPA (2015) Advice Notes for Preparing Environmental Impact Statements – Draft
[2] UK DEFRA (2016a) Part IV of the Environment Act 1995: Local Air Quality Management, LAQM. PG(16)
[3] UK DEFRA (2016a) Part IV of the Environment Act 1995: Local Air Quality Management, LAQM. PG(16)

A14.2 TRANSPORT INFRASTRUCTURE IRELAND SIGNIFICANCE CRITERIA

A14.2 Appendix

A14.2.1 Transport Infrastructure Ireland Significance Criteria

Table A1: Definition of Impact Magnitude for Changes in Ambient Pollutant Concentrations

Magnitude of Change	Annual Mean NO_2 / PM_{10}	No. days with PM_{10} concentration > 50 µg/m^3	Annual Mean $PM_{2.5}$
Large	Increase / decrease ≥4 µg/m^3	Increase / decrease >4 days	Increase / decrease ≥2.5 µg/m^3
Medium	Increase / decrease 2 - <4 µg/m^3	Increase / decrease 3 or 4 days	Increase / decrease 1.25 - <2.5 µg/m^3
Small	Increase / decrease 0.4 - <2 µg/m^3	Increase / decrease 1 or 2 days	Increase / decrease 0.25 - <1.25 µg/m^3
Imperceptible	Increase / decrease <0.4 µg/m^3	Increase / decrease <1 day	Increase / decrease <0.25 µg/m^3

Table A2: Air Quality Impact Significance Criteria For Annual Mean NO_2 and PM_{10} and $PM_{2.5}$ Concentrations at a Receptor

Absolute Concentration in Relation to Objective/Limit Value	Change in Concentration [Note 1]		
	Small	Medium	Large
Increase with Scheme			
Above Objective/Limit Value With Scheme (≥40 µg/m^3 of NO_2 or PM_{10}) (≥25 µg/m^3 of $PM_{2.5}$)	Slight Adverse	Moderate Adverse	Substantial Adverse
Just Below Objective/Limit Value With Scheme (36 - <40 µg/m^3 of NO_2 or PM_{10}) (22.5 - <25 µg/m^3 of $PM_{2.5}$)	Slight Adverse	Moderate Adverse	Moderate Adverse
Below Objective/Limit Value With Scheme (30 - <36 µg/m^3 of NO_2 or PM_{10}) (18.75 - <22.5 µg/m^3 of $PM_{2.5}$)	Negligible	Slight Adverse	Slight Adverse
Well Below Objective/Limit Value With Scheme (<30 µg/m^3 of NO_2 or PM_{10}) (<18.75 µg/m^3 of $PM_{2.5}$)	Negligible	Negligible	Slight Adverse
Decrease with Scheme			
Above Objective/Limit Value With Scheme (≥40 µg/m^3 of NO_2 or PM_{10}) (≥25 µg/m^3 of $PM_{2.5}$)	Slight Beneficial	Moderate Beneficial	Substantial Beneficial
Just Below Objective/Limit Value With Scheme (36 - <40 µg/m^3 of NO_2 or PM_{10}) (22.5 - <25 µg/m^3 of $PM_{2.5}$)	Slight Beneficial	Moderate Beneficial	Moderate Beneficial
Below Objective/Limit Value With Scheme (30 - <36 µg/m^3 of NO_2 or PM_{10}) (18.75 - <22.5 µg/m^3 of $PM_{2.5}$)	Negligible	Slight Beneficial	Slight Beneficial
Well Below Objective/Limit Value With Scheme (<30 µg/m^3 of NO_2 or PM_{10}) (<18.75 µg/m^3 of $PM_{2.5}$)	Negligible	Negligible	Slight Beneficial

Note 1 Well Below Standard = <75% of limit value.

Table A3: Air Quality Impact Significance Criteria for Changes to Number of Days with PM_{10} Concentration Greater than 50 µg/m^3 at a Receptor

Absolute Concentration in Relation to Objective / Limit Value	Change in Concentration Note 1		
	Small	Medium	Large
Increase with Scheme			
Above Objective/Limit Value With Scheme (≥35 days)	Slight Adverse	Moderate Adverse	Substantial Adverse
Just Below Objective/Limit Value With Scheme (32 - <35 days)	Slight Adverse	Moderate Adverse	Moderate Adverse
Below Objective/Limit Value With Scheme (26 - <32 days)	Negligible	Slight Adverse	Slight Adverse
Well Below Objective/Limit Value With Scheme (<26 days)	Negligible	Negligible	Slight Adverse
Decrease with Scheme			
Above Objective/Limit Value With Scheme (≥35 days)	Slight Beneficial	Moderate Beneficial	Substantial Beneficial
Just Below Objective/Limit Value With Scheme (32 - <35 days)	Slight Beneficial	Moderate Beneficial	Moderate Beneficial
Below Objective/Limit Value With Scheme (26 - <32 days)	Negligible	Slight Beneficial	Slight Beneficial
Well Below Objective/Limit Value With Scheme (<26 days)	Negligible	Negligible	Slight Beneficial

Note 1 Where the Impact Magnitude is Imperceptible, then the Impact Description is Negligible

A14.3 DUST MINIMISATION PLAN

A14.3 Appendix

A14.3.1 Dust Minimisation Plan

The objective of dust control at the site is to ensure that no significant nuisance occurs at nearby sensitive receptors. In order to develop a workable and transparent dust control strategy, the following management plan has been formulated by drawing on best practice guidance from Ireland, the UK[1] and the USA[2].

Site Management

The aim is to ensure good site management by avoiding dust becoming airborne at source. This will be done through good design and effective control strategies.

At the construction planning stage, the siting of activities and storage piles will take note of the location of sensitive receptors and prevailing wind directions in order to minimise the potential for significant dust nuisance (see Figure 14.1 for the windrose for Dublin Airport). As the prevailing wind is predominantly south-westerly, locating construction compounds and storage piles downwind of sensitive receptors will minimise the potential for dust nuisance to occur at sensitive receptors.

Good site management will include the ability to respond to adverse weather conditions by either restricting operations on-site or quickly implementing effective control measures before the potential for nuisance occurs. When rainfall is greater than 0.2mm/day, dust generation is generally suppressed[3]. The potential for significant dust generation is also reliant on threshold wind speeds of greater than 10m/s (19.4 knots) (at 7m above ground) to release loose material from storage piles and other exposed materials[4]. Particular care should be taken during periods of high winds (gales) as these are periods where the potential for significant dust emissions are highest. The prevailing meteorological conditions in the vicinity of the site are favourable in general for the suppression of dust for a significant period of the year. Nevertheless, there will be infrequent periods were care will be needed to ensure that dust nuisance does not occur. The following measures shall be taken in order to avoid dust nuisance occurring under unfavourable meteorological conditions:

- The Principal Contractor or equivalent must monitor the contractors' performance to ensure that the proposed mitigation measures are implemented and that dust impacts and nuisance are minimised;
- During working hours, dust control methods will be monitored as appropriate, depending on the prevailing meteorological conditions;
- The name and contact details of a person to contact regarding air quality and dust issues shall be displayed on the site boundary, this notice board should also include head / regional office contact details;
- It is recommended that community engagement be undertaken before works commence on site explaining the nature and duration of the works to local residents and businesses;
- A complaints register will be kept on site detailing all telephone calls and letters of complaint received in connection with dust nuisance or air quality concerns, together with details of any remedial actions carried out;
- It is the responsibility of the contractor at all times to demonstrate full compliance with the dust control conditions herein; and
- At all times, the procedures put in place will be strictly monitored and assessed.

[1] Institute of Air Quality Management (IAQM) (2014); BRE (2003);The Scottish Office (1996) Planning Advice Note PAN50 Annex B; UK Office of Deputy Prime Minister (2002)
[2] USEPA (1997)
[3] BRE (2003) ; UK Office of Deputy Prime Minister (2002)
[4] USEPA (1986)

The dust minimisation measures shall be reviewed at regular intervals during the works to ensure the effectiveness of the procedures in place and to maintain the goal of minimisation of dust through the use of best practice and procedures. In the event of dust nuisance occurring outside the site boundary, site activities will be reviewed and satisfactory procedures implemented to rectify the problem. Specific dust control measures to be employed are described below.

Site Roads / Haulage Routes

Movement of construction trucks along site roads (particularly unpaved roads) can be a significant source of fugitive dust if control measures are not in place. The most effective means of suppressing dust emissions from unpaved roads is to apply speed restrictions. Studies show that these measures can have a control efficiency ranging from 25 to 80%[5].

- A speed restriction of 20km/hr will be applied as an effective control measure for dust for on-site vehicles using unpaved site roads;
- Access gates to the site shall be located at least 10m from sensitive receptors where possible;
- Bowsers or suitable watering equipment will be available during periods of dry weather throughout the construction period. Research has found that watering can reduce dust emissions by 50%[6]. Watering shall be conducted during sustained dry periods to ensure that unpaved areas are kept moist. The required application frequency will vary according to soil type, weather conditions and vehicular use; and
- Any hard surface roads will be swept to remove mud and aggregate materials from their surface while any unsurfaced roads shall be restricted to essential site traffic only.

Demolition:

- Soft strip inside buildings before demolition (retaining walls and windows in the rest of the building where possible, to provide a screen against dust).
- Ensure effective water suppression is used during demolition operations. Hand held sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground.
- Avoid explosive blasting, using appropriate manual or mechanical alternatives.
- Bag and remove any biological debris or damp down such material before demolition.

Land Clearing / Earth Moving

Land clearing / earth-moving works during periods of high winds and dry weather conditions can be a significant source of dust.

- During dry and windy periods, and when there is a likelihood of dust nuisance, watering shall be conducted to ensure moisture content of materials being moved is high enough to increase the stability of the soil and thus suppress dust; and
- During periods of very high winds (gales), activities likely to generate significant dust emissions should be postponed until the gale has subsided.

Storage Piles

The location and moisture content of storage piles are important factors which determine their potential for dust emissions.

- Overburden material will be protected from exposure to wind by storing the material in sheltered regions of the site. Where possible storage piles should be located downwind of sensitive receptors;

[5] UK Office of Deputy Prime Minister (2002)
[6] USEPA (1997)

- Regular watering will take place to ensure the moisture content is high enough to increase the stability of the soil and thus suppress dust. The regular watering of stockpiles has been found to have an 80% control efficiency[7]; and
- Where feasible, hoarding will be erected around site boundaries to reduce visual impact. This will also have an added benefit of preventing larger particles from impacting on nearby sensitive receptors.

Site Traffic on Public Roads

Spillage and blow-off of debris, aggregates and fine material onto public roads should be reduced to a minimum by employing the following measures:

- Vehicles delivering or collecting material with potential for dust emissions shall be enclosed or covered with tarpaulin at all times to restrict the escape of dust; and
- At the main site traffic exits, a wheel wash facility shall be installed if feasible. All trucks leaving the site must pass through the wheel wash. In addition, public roads outside the site shall be regularly inspected for cleanliness, as a minimum on a daily basis, and cleaned as necessary.

Summary of Dust Mitigation Measures

The pro-active control of fugitive dust will ensure that the prevention of significant emissions, rather than an inefficient attempt to control them once they have been released, will contribute towards the satisfactory performance of the contractor. The key features with respect to control of dust will be:

- The specification of a site policy on dust and the identification of the site management responsibilities for dust issues;
- The development of a documented system for managing site practices with regard to dust control;
- The development of a means by which the performance of the dust minimisation plan can be regularly monitored and assessed; and
- The specification of effective measures to deal with any complaints received.

[7] UK Office of Deputy Prime Minister (2002)

A15.1 NOISE INWARD IMPACT ASSESSMENT

PROPOSED RESIDENTIAL DEVELOPMENT, EAST ROAD, EAST WALL, DUBLIN 3

NOISE ASSESSMENT OF PROPOSED DEVELOPMENT SITE

Technical Report Prepared For

Linesight

Technical Report Prepared By

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Our Reference

LW/18/10126NR02

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EXECUTIVE SUMMARY

AWN Consulting has been commissioned to carry out a study in relation to the potential noise impacts incident to the proposed residential development at 1-3 East Road, East Wall, Dublin 3. This document presents the noise review of the proposed development site with respect to the inward impact of road and rail noise.

A baseline noise survey has been undertaken at the development site to determine the existing environment at the site. Based on the survey results and a noise model developed for the site, the assessment has classified the development site as having a range of noise risks associated with a ‘medium to ‘high’ risk.

Further discussion is presented in terms of the likely noise impact of both the external and internal areas of the proposed development. It has been found that the majority of the inhabitants will have access to a quiet external area that is screened by the development itself from road traffic noise.

In addition, it is expected that the majority of habitable rooms will achieve a good internal noise environment while also allowing natural ventilation via an open window. However, for those rooms overlooking the local road and rail network, it will be necessary to provide enhanced acoustic glazing to ensure that when windows are closed that the internal noise environment is good. In these rooms the noise level internally with the windows open will be higher than ideal, however, inhabitants will have the option to close the window to reduce the noise level internally, while still maintaining adequate ventilation in accordance with Part F.

CONTENTS

1.0 INTRODUCTION

AWN Consulting has been commissioned to carry out a study in relation to the potential noise impacts incident to the proposed residential development at East Road, East Wall, Dublin 3. The focus of this report is to provide input into the acoustic design of the proposed development, identify any potential noise impacts and provide measures to minimise or mitigate those impacts.

Figure 1 presents the approximate outline of the proposed development site.

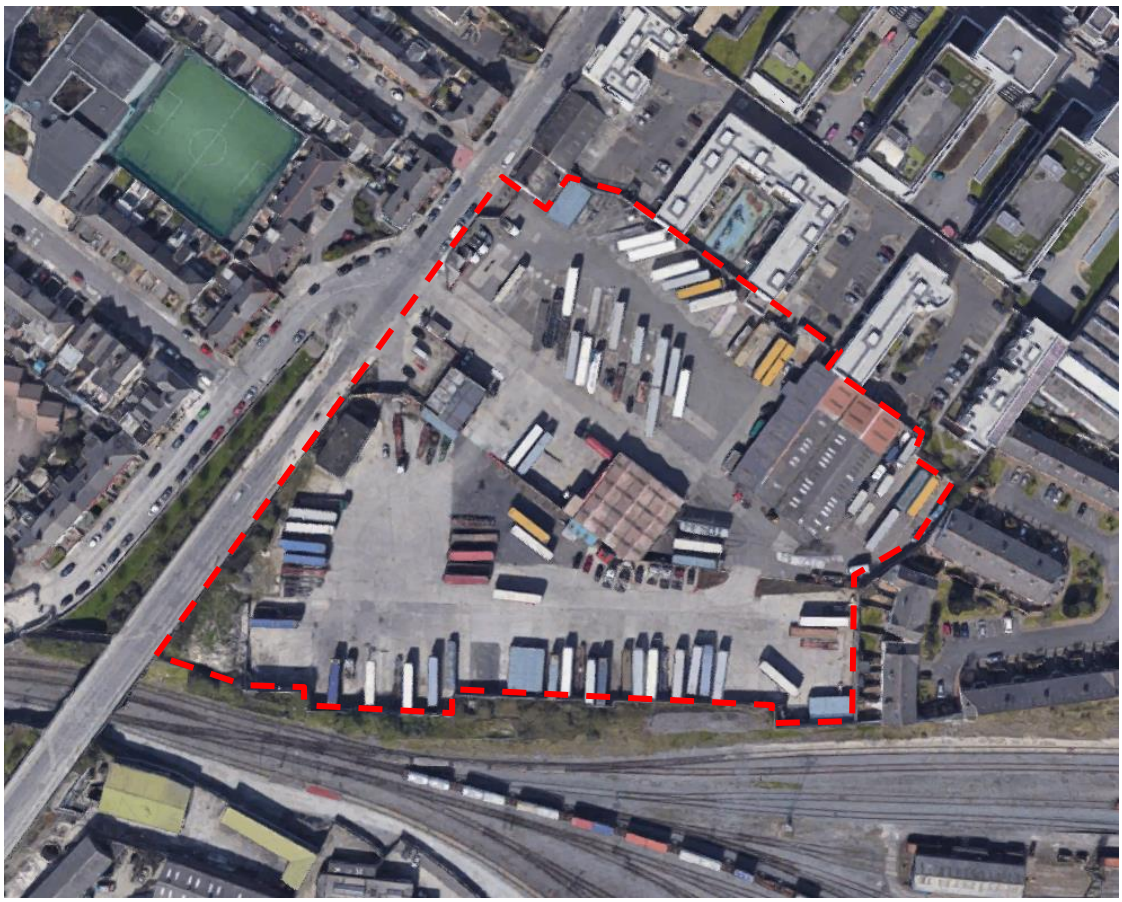


Figure 1 Location of proposed development

Appendix A presents a glossary of acoustic terminology that is used throughout this report.

2.0 DESIGN GUIDANCE

2.1 Dublin Agglomeration Noise Action Plan

Here, consideration has been given to the content of the Dublin Agglomeration Noise Action Plan 2018 – 2023 (NAP). The document states that its 'key objective' is:

> *"as with the previous two Action Plans is to avoid, prevent and reduce, where necessary, on a prioritised basis the harmful effects, including annoyance, due to long term exposure to environmental noise from road traffic and rail sources. This will be achieved by taking a strategic approach to managing environmental noise and undertaking a 'balanced approach' within the context of sustainable development."*

It is important to state the following extract from the document:

> *"The Noise Action Plan is aimed at managing Environmental Noise and excludes, for the most part, noise from domestic activities, noise created by neighbours, noise at work places or construction noise as these can be dealt with under existing legislation such as the Environmental Protection Agency Act 1992 and Health & Safety legislation. However, Dublin City Council in Volume 1 of the plan, which relates only to the Dublin City Council Area, has outlined policies and procedures related to managing noise nuisances as they wish to provide all relevant information on how it intends to manage all matters in relation to the management of environmental and nuisance noise."*

This content will be reviewed and commented upon as appropriate in this and following sections.

In relation to noise limits the NAP sates:

> *"No national limit values exist in relation to environmental noise control. This Action Plan sets out certain criteria in relation to environmental sound levels which will be applied in identification of Quiet Areas and areas that have 'Undesirable' high sound levels or 'Desirable' low sound levels. These are set out below are and are fully described in each of the individual local authority volumes. These criteria are the same as those contained in the previous two action plans."*

The NAP states the following in relation to what it considers to be "'Undesirable' high sound levels or 'Desirable' low sound levels":

Desirable Low Sound Levels	Undesirable High Sound Levels
< 50 dB(A) L_{night}	>55 dB(A) L_{night}
< 55 dB(A) L_{day}	>70 dB(A) L_{day}

Table 1 Review of Undesirable Hight and Desirable Low Sound Levels

The existing noise environment in the vicinity of the development will be commented upon in light of the above. The inward noise impact assessment presents in this chapter is based on the principles outlined in the aforementioned ProPG guidance document.

2.2 ProPG: Planning & Noise

The *Professional Guidance on Planning & Noise* (ProPG) document was published in May 2017. The document was prepared by a working group comprising members of the Association of Noise Consultants (ANC), the Institute of Acoustics (IOA) and the Chartered Institute of Environmental Health (CIEH). Although not a government document, since it's adoption it has been generally considered as a best practice guidance and has been widely adopted in the absence of equivalent Irish guidance.

The ProPG outlines a systematic risk based 2 stage approach for evaluating noise exposure on prospective sites for residential development. The two primary stages of the approach can be summarised as follows:

- Stage 1 - Comprises a high level initial noise risk assessment of the proposed site considering either measured and or predicted noise levels; and,
- Stage 2 – Involves a full detailed appraisal of the proposed development covering four "key elements" that include:
    - Element 1 - Good Acoustic Design Process;
    - Element 2 - Noise Level Guidelines;
    - Element 3 - External Amenity Area Noise Assessment
    - Element 4 - Other Relevant Issues

A key component of the evaluation process is the preparation and delivery of an Acoustic Design Statement (ADS) which is intended for submission to the planning authority. This document is intended to clearly outline the methodology and findings of the Stage 1 and Stage 2 assessments, so as the planning authority can make an informed decision on the permission. ProPG outlines the following possible recommendations in relation to the findings of the ADS:

A. Planning consent may be granted without any need for noise conditions;
B. Planning consent may be granted subject to the inclusion of suitable noise conditions;
C. Planning consent should be refused on noise grounds in order to avoid significant adverse effects ("avoid"); or,
D. Planning consent should be refused on noise grounds in order to prevent unacceptable adverse effects ("prevent").

Section 3.0 of the ProPG provides a more detailed guide on decision making to aid local authority planners on how to interpret the findings of an accompanying Acoustic Design Statement (ADS).

A summary of the ProPG approach is illustrated in Figure 2.

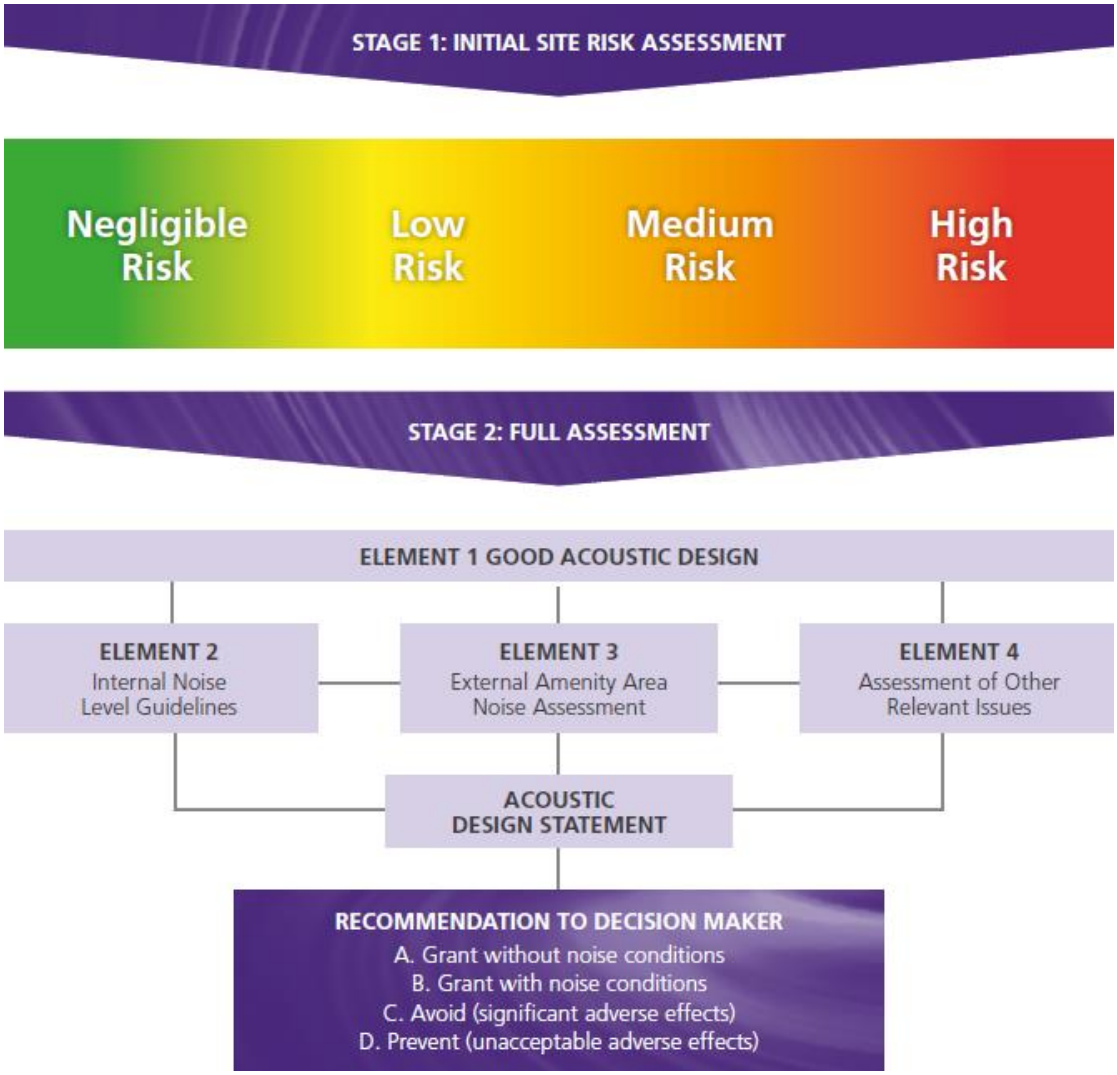


Figure 2 ProPG Approach (Source: ProPG)

2.2 British Standard BS 8233:2014

2.1.1 Internal Noise

There are no statutory guidelines or specific local guidelines relating to appropriate internal noise levels in dwellings. In this instance, reference is made to BS 8233: 2014: *Guidance on sound insulation and noise reduction for buildings.*

BS 8233 sets out recommended internal noise levels for several different building types from external noise sources such as traffic. The guidance is primarily for use by designers and hence BS 8233 may be used as the basis for an appropriate schedule of noise control measures. The recommended indoor ambient noise levels for residential dwellings are set out in Table 2.

Activity	Location	Day (07:00 to 23:00hrs) dB $L_{Aeq,16hr}$	Night (23:00 to 07:00hrs) dB $L_{Aeq,8hr}$
Resting	Living room	35	-
Dining	Dining room/area	40	-
Sleeping (daytime resting)	Bedroom	35	30

Table 2 Indoor Ambient Noise Levels for Dwellings from BS8233: 2014

BS 8233 also provides some guidance on individual noise events, it states:

> *"Regular individual noise events (for example, scheduled aircraft or passing trains) can cause sleep disturbance. A guideline value may be set in terms of SEL or L_{AFmax}, depending on the character and number of events per night. Sporadic noise events could require separate values."*

Typically, a 45 dB L_{AFmax} criterion is applied to individual noise events within bedrooms at night. This criterion is generally considered a noise level that should not typically be exceeded.

2.1.2 External Noise

BS 8233 also provides desirable noise levels for external amenity areas such as gardens, patios and balconies. It states:

> *"For traditional external areas that are used for amenity space, such as gardens and patios, it is desirable that the external noise level does not exceed 50 dB $L_{Aeq,T}$, with an upper guideline value of 55 dB $L_{Aeq,T}$ which would be acceptable in noisier environments. However, it is also recognized that these guideline values are not achievable in all circumstances where development might be desirable. In higher noise areas, such as city centres or urban areas adjoining the strategic transport network, a compromise between elevated noise levels and other factors, such as the convenience of living in these locations or making efficient use of land resources to ensure development needs can be met, might be warranted. In such a situation, development should be designed to achieve the lowest practicable levels in these external amenity spaces, but should not be prohibited."*

3.0 STAGE 1 – NOISE RISK ASSESSMENT

3.1 Methodology

The initial noise risk assessment is intended to provide an early indication of any acoustic issues that may be encountered. It calls for the categorisation of the site as a negligible, low, medium or high risk based on the pre-existing noise environment. Figure 3 presents the basis of the initial noise risk assessment, it provides appropriate risk categories for a range of continuous noise levels either measured and/or predicted on site.

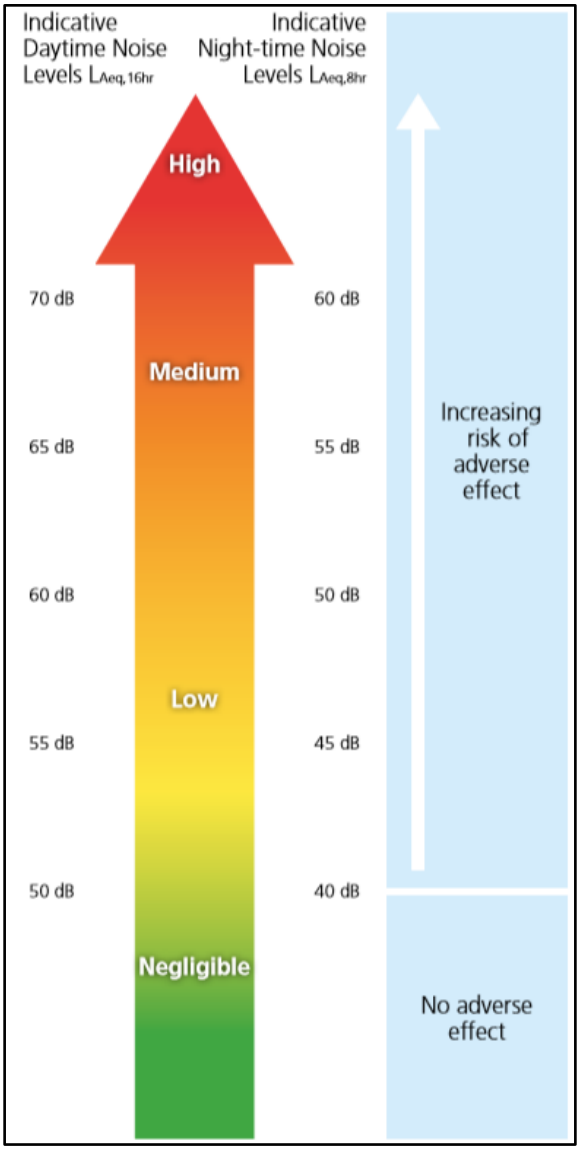


Figure 3 ProPG Stage 1 - Initial Noise Risk Assessment

It should be noted that a site should not be considered a negligible risk if more than 10 no. L_{AFmax} events exceed 60dB during the night period and the site should be considered a high risk if the L_{AFmax} events exceed 80dB more than 20 times a night.

Paragraph 2.9 of ProPG states that,

> *"The noise risk assessment may be based on measurements or prediction (or a combination of both) as appropriate and should aim to describe noise levels over a "typical worst case" 24 hour day either now or in the foreseeable future."*

In this instance it is proposed to develop a 3D computer noise model of the development site and predict the noise levels across the entire site in order to investigate the initial noise risk. The noise model will use the measured noise levels during the survey, discussed in Section 3.2, to validate the model. Furthermore, the model allows the site to be assessed taking into account the changes in topography that are required to allow development. This is to comply with the requirements of paragraph 2.8 of ProPG which states,

> *"The risk assessment should not include the impact of any new or additional mitigation measures that may subsequently be included in development proposals for the site and proposed as part of a subsequent planning application. In other words, the risk assessment should include the acoustic effect of any existing site features that will remain (e.g. retained buildings, changes in ground level) and exclude the acoustic effect of any site features that will not remain (e.g. buildings to be demolished, fences and barriers to be removed) if development proceeds."*

3.2 Baseline Noise Survey

Environmental noise surveys have been conducted in order to quantify noise emissions across the existing site. The external survey was conducted in general accordance with ISO1996-2:2017 *Acoustics - Description, Measurement and Assessment of Environmental Noise -- Determination of Environmental Noise Levels*. Specific details are set out in the following sections.

3.2.1 Methodology

An environmental noise survey was conducted at the site between the 3rd August and 8th August 2018 by AWN Consulting in order to quantify the existing noise environment. The approximate noise measurement locations were selected at the proposed site as shown in Figure 4. Measurements were taken at a height of 4m above ground level.

The survey focused on capturing the prevailing noise levels, in particular road traffic (west boundary) and road, plus rail traffic (south boundary).

Location 1 Located inside the western site boundary adjacent to East Road

Location 2 Located inside the southern site boundary adjacent to the rail line.

3.2.2 Measurement Parameters

The noise survey results are presented in terms of the following parameters:

L_{Aeq} is the equivalent continuous sound level. It is a type of average and is used to describe a fluctuating noise in terms of a single noise level over the sample period.

L_{AFMax} is the maximum sound pressure level recorded during the sample period.

SEL Sound exposure level – a measure of the A-weighted sound energy used to describe noise events such as the passing of a train or aircraft; it is the A-weighted sound pressure level if occurring over a period of 1 second, would contain the same amount of A-weighted sound energy as the event.

The "A" suffix denotes the fact that the sound levels have been "A-weighted" in order to account for the non-linear nature of human hearing. All sound levels in this report are expressed in terms of decibels (dB) relative to $2x10^{-5}$ Pa.

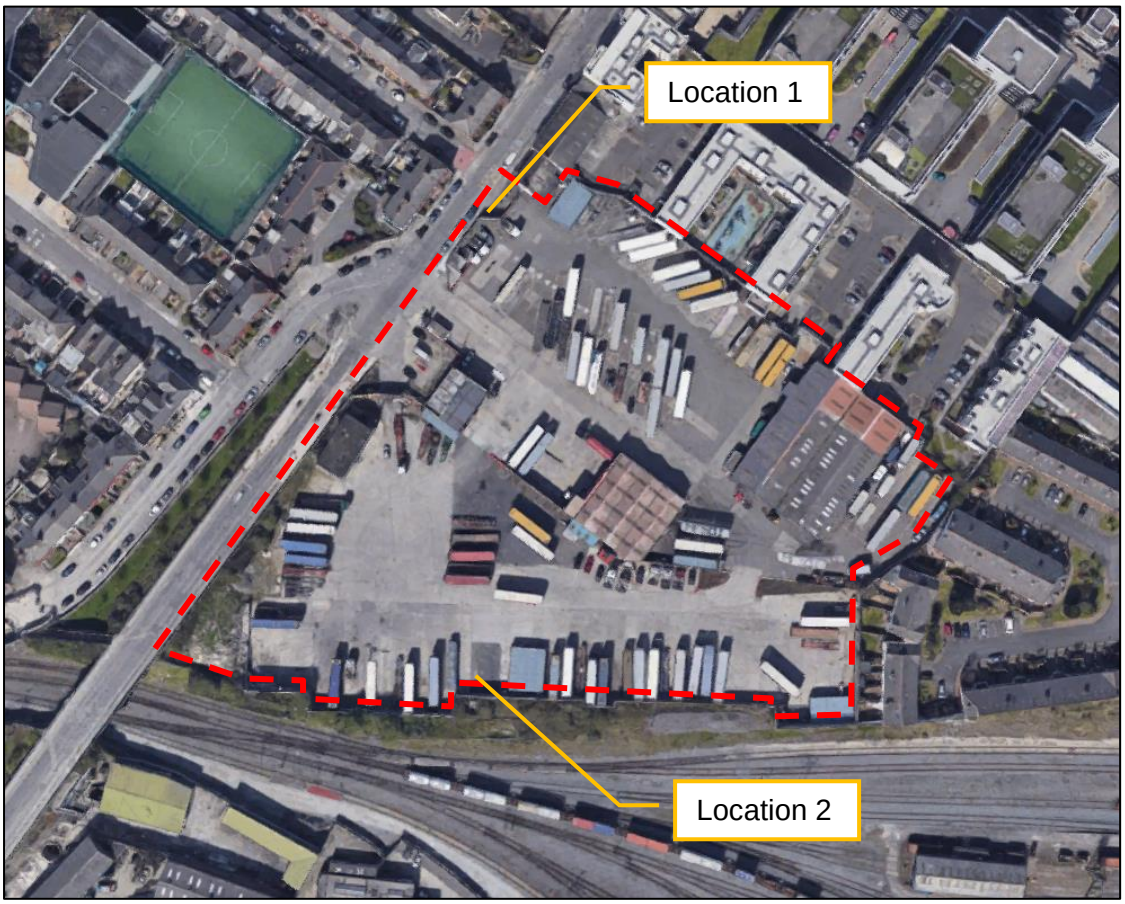


Figure 4 Noise Monitoring Locations

3.2.3 Survey Results – Location 1

Table 3 presents a summary of noise levels measured during the noise survey at Location 1.

Period	Item	dB $L_{Aeq,T}$
Day (07:00 to 19:00hrs)	Average	64
	Max	65
	Min	62
Evening (19:00 to 23:00hrs)	Average	62
	Max	63
	Min	62
Night (23:00 to 07:00hrs)	Average	61
	Max	63
	Min	58

Table 3 Review of Noise Levels

Noise sources noted during the survey were road traffic on the East Road and pedestrian and cyclist activity on the footpath. Passing HGVs and birdsong also contributed to measured noise levels.

In addition, the night-time L_{AFmax} levels have been reviewed. Figure 5 presents a histogram of the measured levels indicating that the L_{AFmax} levels are typically in the range of 73 to 85dB $L_{AFmax,}$ with a handful of single instances of higher maximum noise levels.

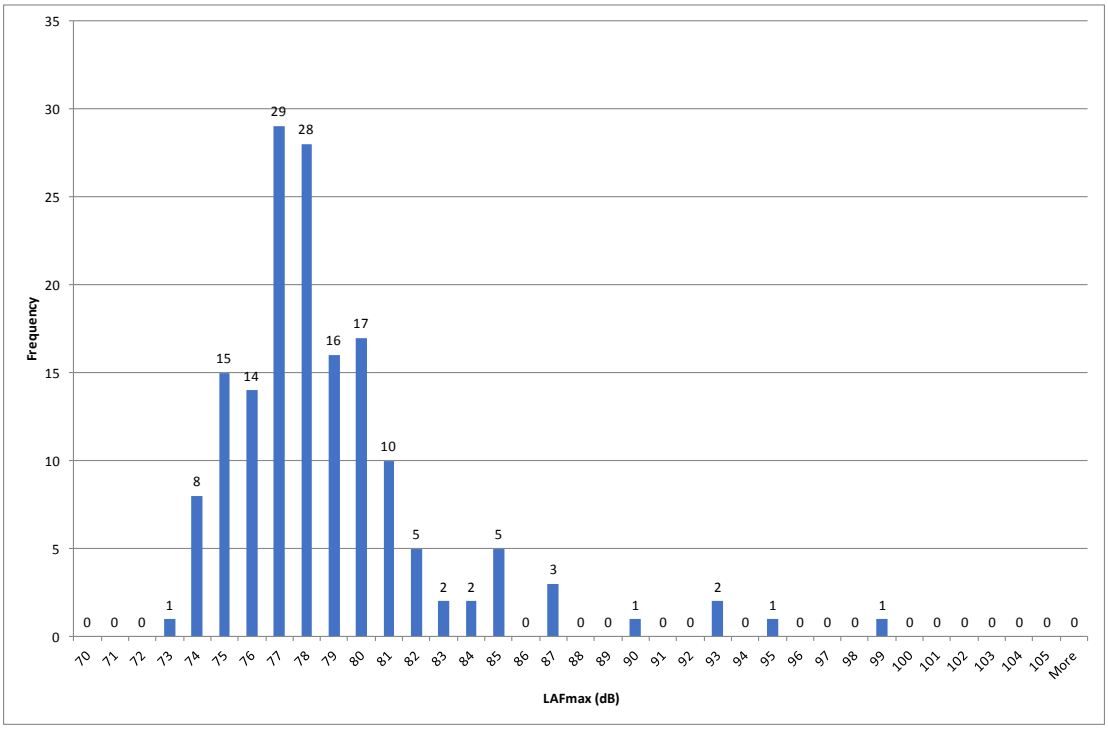


Figure 5 Summary of Night Time L_{AFmax} Levels

3.2.4 Survey Results – Location 2

This location was chosen in order to capture any rail movements that occurred along the adjacent rail line. The summary of the survey is presented in the table below.

Activity	Duration	Distance	SEL (dB)
Train movement	~52s	~18m	88

Table 4 Calculated SELs

It was noted on review that the sounding of the train horn accompanied each train movement.

3.2.5 Baseline Noise Review Conclusions

With reference to the Noise Risk Assessment outlined in ProPG the noise levels for relevant periods have been derived in order to classify the proposed development site. The table below summarises the measured noise levels at the measurement location situated approximately at the proposed building facades as per the preliminary site layout.

Period	Measured Noise Level (dB, $L_{Aeq,T}$)	"Risk Category"
Daytime	64	Medium
Night time	61	High

Table 5 Categorising Proposed Site

3.3 Noise Model of Site – Traffic Noise

A 3D noise model has been prepared in order to predict the impact of traffic noise across the proposed site. The following section outlines the proposed methodology for predicting incident noise levels on the most exposed facades in the proposed development.

3.3.1 Methodology

Proprietary noise calculation software will be used for the purposes of establishing the prevailing noise levels on the proposed site. The selected software, Brüel & Kjær Type 7810 *Predictor*, calculates noise levels in accordance with the *Calculation of Road Traffic Noise (CRTN - ISBN 0 11 550847 3)* issued by the UK Department of Transport in 1988. This the standard recognised for the prediction of road traffic noise by Transport Infrastructure Ireland (TII).

The following information will be included in the model:

- Site layout drawings of proposed development, and;
- OS mapping of surrounding environment.

3.3.2 Model Validation

Noise levels recorded during the baseline noise survey were used to calibrate the traffic noise model to within 1 dB of the measured values. This is regarded as very strong correlation in respect of predicted noise levels.

3.3.3 Noise Model Output

To assess the initial noise risk assessment across the development site the noise model has been used to prepare noise contour maps for both daytime and night-time periods at a height representative of first floor residential levels of the proposed development (4m above ground). The model has been prepared presuming existing walls and buildings are cleared. These maps are presented in Figures 6 and 7.

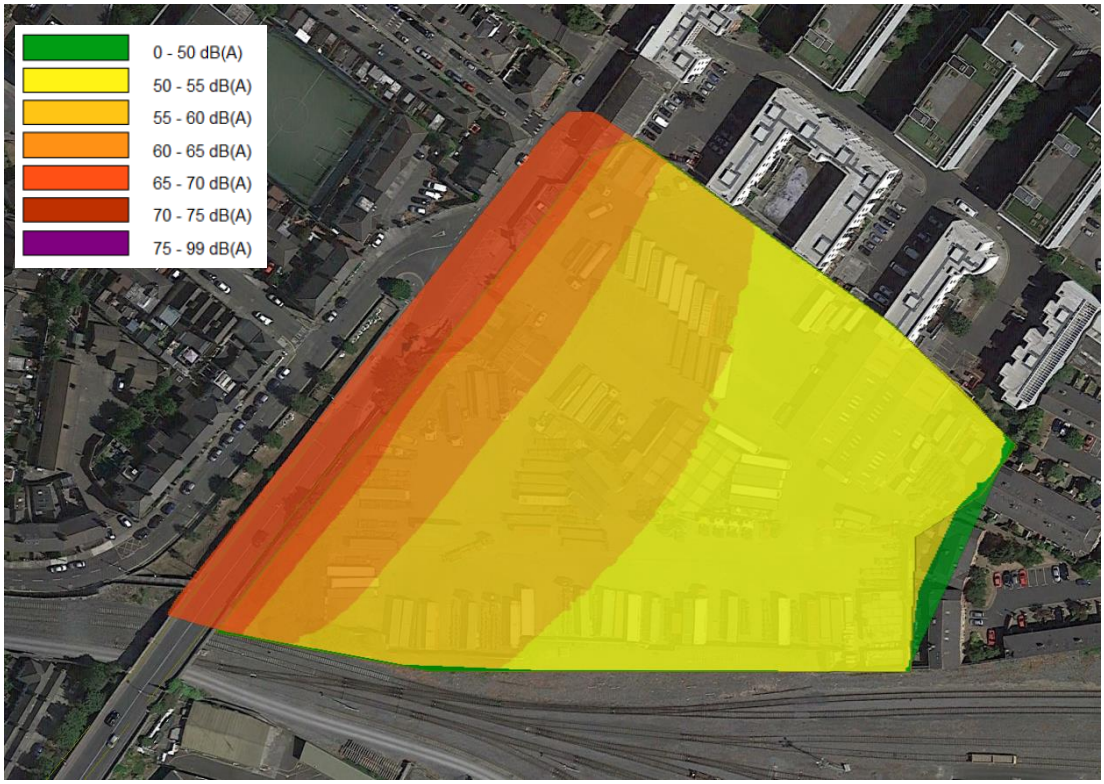


Figure 6 Daytime Noise Levels at 4m Above Ground

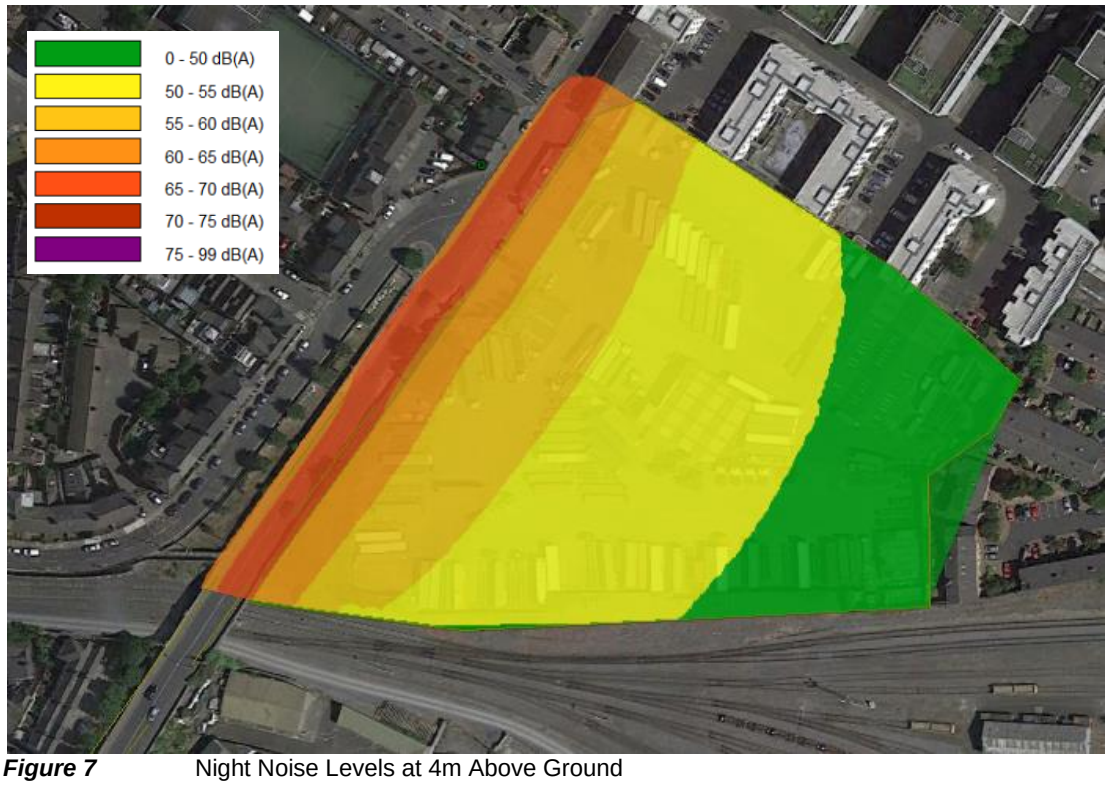


Figure 7 Night Noise Levels at 4m Above Ground

3.4 Rail Traffic

With the calculated SEL of a train movement and the knowledge of the number of movements on the line during a day and night time period the expected levels of train noise at the facades of the proposed buildings have been predicted. The expected level has been predicted to the closest façade on the proposed site.

As a worst-case scenario, it is assumed that the daily activity occurs over a peak hour period during the night time period (23:00hrs to 07:00hrs), since train movements were observed between 06:00 – 07:00hrs. The review of this analysis is presented in Table 6.

Activity	Location	Period	No. Of Movements	Predicted Noise Level at Closest Façade
Train Movements	Block D2 (southern façade)	Peak Hour	4	58 dB $L_{Aeq,1hr}$
		Night		49 dB $L_{Aeq,8hr}$

Table 6 Predicted Train Noise Levels

The above calculation assumes screening is afforded to the first floor only of the buildings from train movements. Therefore, the approach adopted here is considered to be representative of the worst-case scenario.

During review of train movements, it was observed that the train horn was sounded on arrival/departure. The predicted sound pressure level at the nearest façade is of the order of 83dB(A) L_{AFmax}. With reference to BS 8233 night time noise criteria for L_{AFmax} levels for events is 45dB. Mitigation is required in order to meet this criterion. This is discussed in the following sections.

3.5 Plant Noise

There are two heat pumps proposed to serve the development. The manufacturers data has been provided for the units:

Octave Band Sound Power Level (dB), frequency (Hz)							
125	250	500	1000	2000	4000	8000	dB(A)
97.5	85.2	81.1	79.2	76.3	71.4	68.2	86.1

Table 7 Sound Power Data for Heat Pumps

The predicted contribution of these units is taken into account when considering the cumulative noise level experienced at a given façade.

3.6 Noise Risk Assessment Conclusion

Giving consideration to the measured and predicted noise levels presented in the previous sections the initial site noise risk assessment has concluded that the level of risk across the site varies from medium to high noise risk.

Additionally, the Stage 1 Noise Risk Assessment requires analyses of the L_{AFmax} noise levels. In the case of this survey the L_{AFmax} noise levels were typically in the range of 73 to 85dB L_{AFMax} during the night, with occasional instances of higher levels. The number of L_{AFMax} events above 80dB is greater than 20, indicating that the site can be considered High Risk in terms of L_{AFmax} events.

ProPG states the following with respect to medium and high risks:

Medium Risk — *As noise levels increase, the site is likely to be less suitable from a noise perspective and any subsequent application may be refused unless a good acoustic design process is followed and is demonstrated in an ADS which confirms how the adverse impacts of noise will be mitigated and minimised, and which clearly demonstrate that a significant adverse noise impact will be avoided in the finished development.*

High Risk — *High noise levels indicate that there is an increased risk that development may be refused on noise grounds. This risk may be reduced by following a good acoustic design process that is demonstrated in a detailed ADS. Applicants are strongly advised to seek expert advice.*

Given the above it can be concluded that the development site may be categorised as *Medium to High Risk* and as such an Acoustic Design Strategy will be required to demonstrate that suitable care and attention has been applied in mitigating and minimising noise impact to such an extent that an adverse noise impact will be avoided in the final development.

It should be noted that ProPG states the following with regard to how the initial site noise risk is to be used,

> *"2.12 It is important that* ***the assessment of noise risk at a proposed residential development site is not the basis for the eventual recommendation to the decision maker****. The recommended approach is intended to give the developer, the noise practitioner, and the decision maker an early indication of the likely initial suitability of the site for new residential development from a noise perspective and the extent of the acoustic issues that would be faced. Thus, a site considered to be high risk will be recognised as presenting more acoustic challenges than a site considered as low risk. A site considered as negligible risk is likely to be acceptable from a noise perspective and need not normally be delayed on noise grounds. A potentially problematical site will be flagged at the earliest possible stage, with an increasing risk indicating the increasing importance of good acoustic design."*

Therefore, following the guidance contained in ProPG does not preclude residential development on sites that are identified as having medium or high-risk noise levels. It merely identifies the fact that a more considered approach will be required to ensure the developments on the higher risk sites are suitable designed to mitigate the noise levels. The primary goal of the approach outlined in ProPG is to ensure that the best possible acoustic outcome is achieved for a particular site.

3.7 Proposed Development

The traffic noise model was updated to incorporate the proposed buildings in order to determine noise levels across the site taking into account the screening effect of the new buildings and to determine specific noise levels at the most exposed residential facades Figures 8 and 9 display the calculated noise contours across the site at a height of 4m for day and night-time periods respectively.

Figure 8 Predicted Noise Contour Across the Developed Site – Daytime

The results of the assessment indicate that during daytime periods, noise levels are highest along the western boundary of the site at the units / apartments facing the East Road. The predicted noise levels at the most exposed facades are between 63 and 68dB $L_{Aeq,16hr}$ along this section of the development.

Along the southern boundary levels at the façades overlooking the rail line predicted noise levels 37 to 47dB $L_{Aeq,16hr}$ depending on the façade orientation.

For the majority of the site the predicted noise levels range from 27[1] to 49dB $L_{Aeq,16hr}$ depending on the proximity and orientation of the section of the façade to the East Road and screening provided by proposed buildings.

[1] Lower predicted noise levels refer to traffic noise contribution. Actual noise levels may be higher due to contribution from surrounding noise sources.

Figure 9 Predicted Noise Contour Across the Developed Site – Night

The results of the assessment indicate that during night time periods, noise levels are highest along the western boundary of the site at the units / apartments facing the East Road. The predicted noise levels at the most exposed facades are between 59 and 65dB $L_{Aeq,8hr}$ along this section of the development.

Along the southern boundary levels at the façades overlooking the rail line predicted noise levels 22[2] to 47dB $L_{Aeq,16hr}$ depending on the façade orientation.

For the majority of the site the predicted noise levels range from 35 to 45dB $L_{Aeq,16hr}$ depending on the proximity of the section of the façade to the East Road and screening provided by proposed buildings.

3.8 Cumulative Noise Levels

To assess the predicted impact along the southern boundary a cumulative level has been calculated to account for traffic noise, rail noise and plant noise. As a worst case rail noise has been predicted for a peak hour during the night time period and it has been assumed the plant item operated day and night. The table below presents the predicted cumulative noise levels at the most exposed facades of blocks D2, C2, C1 and B2.

Location	Period	Traffic Noise (dB $L_{Aeq,T}$)	Rail Noise (dB $L_{Aeq,T}$)	Plant Noise (dB $L_{Aeq,T}$)	Predicted Noise Level at Closest Façade
Block D2	Day	47	-	56	57 dB $L_{Aeq,16hr}$
	Night	44	58	56	60 dB $L_{Aeq,8hr}$
Block C2	Day	37	-	53	53 dB $L_{Aeq,16hr}$
	Night	34	58	53	59 dB $L_{Aeq,8hr}$

Table 8 Predicted Cumulative Noise Levels

[2] Lower predicted noise levels refer to traffic noise contribution. Actual noise levels may be higher due to contribution from surrounding noise sources.

3.8.1 Daytime Levels

Predicted noise levels incident to the façade of the proposed dwellings facing the rail line are between 53 and 57 dB $L_{Aeq,16hr}$ at first floor levels during daytime periods.

3.8.2 Night-time Levels

Predicted noise levels incident to the façade of the proposed dwellings facing the rail line are between 59 and 60 dB $L_{Aeq,16hr}$ at first floor levels during daytime periods.

4.0 STAGE 2 – FULL ACOUSTIC ASSESSMENT

4.1 Element 1 – Good Acoustic Design (GAD) Process

4.1.1 ProPG Guidance

In practice, good acoustic design should deliver the optimum acoustic design for a particular site without adversely affecting residential amenity or the quality of life or occupants or compromising other sustainable design objectives. It is important to note that ProPG specifically states that good acoustic design is not equivalent to overdesign or "*gold plating"* of all new development but that it seeks to deliver the optimum acoustic environment for a given site.

Section 2.23 of the ProPG outlines the following checklist for Good Acoustic Design:

- Check the feasibility of relocating, or reducing noise levels from relevant sources;
- Consider options for planning the site or building layout;
- Consider the orientation of proposed building(s);
- Select construction types and methods for meeting building performance requirements;
- Examine the effects of noise control measures on ventilation, fire regulation, health and safety, cost, CDM (construction, design and management) etc;
- Assess the viability of alternative solutions; and,
- Assess external amenity area noise.

In the context of the proposed development, each of the considerations listed above have been addressed in the following subsections.

4.1.2 Application of GAD Process to Proposed Application

Relocation or Reduction of Noise from Source

The surrounding road network is located outside the redline boundary of the site and therefore it is beyond the scope of this development to introduce any noise mitigation at source.

Planning, Layout and Orientation

Review of the preliminary site layout shows that the blocks are positioned parallel to the East Road, therefore the façades facing the road (west) are exposed to noise from the road.

On the other hand, the facades and amenity spaces to the rear of the blocks are screened from the road by the buildings themselves. At a further distance, gardens and community spaces are located further from the influence of road traffic noise.

Select Construction Types for meeting Building Regulations

Masonry constructions will be used in constructing the external walls of the development. The masonry construction type offers high levels of sound insulation performance. However, as is typically the case the glazed elements and any required ventilation paths to achieve compliance with Part F of the Building Regulations will be the weakest elements in the façade in terms of sound insulation performance.

Consideration will therefore be given to the provision of upgraded glazing and acoustic ventilators. Note that it will not be possible to achieve the desirable internal acoustic environments with windows open. Instead the proposal here will be to provide dwelling units with glazed elements and ventilators that have good acoustic insulation properties so that when the windows are closed the noise levels internally are good. Inhabitants will be able to open the windows if they wish, however, doing so will increase the internal noise level. This approach to mitigation is supported in ProPG where it states the following (note my emphasis has been added in bold),

"2.22 *Using fixed unopenable glazing for sound insulation purposes is generally unsatisfactory and should be avoided;* ***occupants generally prefer the ability to have control over the internal environment using openable windows, even if the acoustic conditions would be considered unsatisfactory when open****. Solely relying on sound insulation of the building envelope to achieve acceptable acoustic conditions in new residential development, when other methods could reduce the need for this approach, is not regarded as good acoustic design. Any reliance upon building envelope insulation with closed windows should be justified in supporting documents* "

Note 5 Designing the site layout and the dwellings so that the internal target levels can be achieved with open windows in as many properties as possible demonstrates good acoustic design. Where it is not possible to meet internal target levels with windows open, internal noise levels can be assessed with windows closed, however any façade openings used to provide whole dwelling ventilation (e.g. trickle ventilators) should be assessed in the "open" position and, in this scenario, the internal L_{Aeq} target levels should not normally be exceeded

2.34 *Where the LPA accepts that there is a justification that the internal target noise levels can only be practically achieved with windows closed,* ***which may be the case in urban areas and at sites adjacent to transportation noise sources****, special care must be taken to design the accommodation so that it provides good standards of acoustics, ventilation and thermal comfort without unduly compromising other aspects of the living environment. In such circumstances, internal noise levels can be assessed with windows closed but with any façade openings used to provide "whole dwelling ventilation" in accordance with Building Regulations Approved Document F (e.g. trickle ventilators) in the open position (see Supplementary Document 2). Furthermore, in this scenario the internal L_{Aeq} target noise levels should not generally be exceeded*."

It is very important to note that it is impractical to achieve the good internal noise levels with windows open across the vast majority of development sites in urban or suburban locations. Such sites would need to be classified as having a negligible risk in accordance with the ProPG noise risk assessment approach. For this reason, there are no guidance documents either at a local level or an international level that AWN is aware of which would support the approach of achieving the ideal internal noise levels only in the open window scenario. It is therefore considered entirely correct and justifiable to provide building facades with a moderate degree of sound insulation such that with windows closed but vents opened a good internal acoustic environment is achieved.

Impact of noise control measures on fire, health and safety etc

The good acoustic design measures that have been implemented on site, e.g. locating properties away from the road, placing outdoor space on the quiet side of buildings, are considered to be cost neutral and do not have any significant impact on other issues.

Assess Viability of Alternative Solutions

This will be explored as the project progresses and the noise model will be used to assess the acoustic benefit of any alternative solutions.

Assess External Amenity Area Noise

ProPG provides the following advice with regards to external noise levels for amenity areas in the development:

> *"The acoustic environment of external amenity areas that are an intrinsic part of the overall design should always be assessed and noise levels should ideally not be above the range 50 – 55 dB $L_{Aeq,16hr}$."*

Noise levels across amenity areas is addressed in Section 4.3 below.

4.2 Element 2 – Internal Noise Levels

Internal Noise Criteria

Element 2 of the ProPG document sets out recommended internal noise targets derived from BS 8233 (2014). The recommended indoor ambient noise levels are set out in Table 8.2 and are based on annual average data.

In addition to these absolute internal noise levels ProPG provides guidance on flexibility of these internal noise level targets. For instance, in cases where the development is considered necessary or desirable, and noise levels exceed the external WHO guidelines, then a relaxation of the internal L_{Aeq} values by up to 5dB can still provide reasonable internal conditions.

Façade Noise Levels

Noise levels have been predicted across the development site during day and night-time periods. Table 9 presents the predicted noise levels for the various facades of the buildings on site that have been assumed for this assessment.

Ref	Period	$L_{Aeq,T}$ dB
RED	Day	60 - 70
	Night	55 - 65
ORANGE	Day	55 - 60
	Night	50 - 55
GREEN	Day	≤45
	Night	≤40

Table 9 Summary of Predicted Façade Noise Levels

Figure 10 Predicted Cumulative Façade Levels

Discussion on Open/Closed Windows

The level of sound reduction offered by a partially open window is typically applied as 15dB[3] to 18dB.

Considering the design goals outlined in Table 2 and sound reduction across an open window of 15dB, the free-field noise levels that would be required to ensure that internal noise levels do not exceed 'good' or 'reasonable' internal noise levels have been summarised in Table 10.

[3] Section 2.33 of ProPG, additional information can be found in the DEFRA NANR116: *'Open/Closed Window Research' Sound Insulation Through Ventilated Domestic Windows'*

Level Desired	Day 07:00 to 23:00hrs	Night 23:00 to 07:00hrs
Good (i.e. at or below the internal noise levels)	50 – 55dB $L_{Aeq,16hr}$	45dB $L_{Aeq,8hr}$
Reasonable (i.e. 5 dB above the internal noise levels)	55 – 60dB $L_{Aeq,16hr}$	50dB $L_{Aeq,8hr}$

Table 10 External Noise Levels Required to Achieve Internal Noise Levels

For sensitive rooms that face on to the East Road a reasonable internal noise level will not be achieved with windows open (red highlighted facades). Facades of buildings along the southern boundary should achieve reasonable internal levels for the majority of the time since the 'red' categorisation is dictated by plant noise and rail noise which is more intrusive at night time only. For those on orange and green highlight facades reasonable levels will be achieved with windows open.

Mechanical ventilation is proposed for the development therefore there is no requirement to have windows open to achieve background ventilation requirements. An appropriate acoustic specification for windows shall be provided in this instance to ensure the rooms achieve good internal noise levels.

Recommend Façade Treatment

The British Standard BS EN 12354-3: 2000: *Building acoustics – Estimation of acoustic performance of buildings from the performance of elements – Part 3: Airborne sound insulation against outdoor sound* provides a calculation methodology for determining the sound insulation performance of the external envelope of a building. The method is based on an elemental analysis of the building envelope and can take into account both the direct and flanking transmission paths.

The Standard allows the acoustic performance of the building to be assessed taking into account the following:

- Construction type of each element (i.e. windows, walls, etc.);
- Area of each element;
- Shape of the façade, and;
- Characteristics of the receiving room.

The principals outlined in BS EN 12354-3 are also referred to in BS8233 and Annex G of BS8233 provide a calculation method to determine the internal noise level within a building using the composite sound insulation performance calculated using the methods outlined in BS EN 12354-3. The methodology outlined in Annex G of BS8233 has been adopted here to determine the required performance of the building facades. This approach corrects the noise levels to account for the frequency content of the source in question. In this instance, rail and road traffic noise, depending on the buildings in question.

Glazing

As is the case in most buildings, the glazed elements of the building envelope are typically the weakest element from a sound insulation perspective. In this instance the facades will be provided with glazing that achieves the minimum sound insulation performance as set out in Table 11.

Glazing Specification	Octave Band Centre Frequency (Hz)						R_w
	125	250	500	1k	2k	4k	
Red	21	31	39	41	41	52	40
Orange/Green	22	20	26	34	46	39	32

Table 11 Sound Insulation Performance Requirements for Glazing, SRI (dB)

The glazing performance requirement for the various facades can be confirmed by reviewing the mark up presented in Figure 10.

The overall R_w outlined above are provided for information purposes only. The over-riding requirement is the Octave Band sound insulation performance values which may also be achieved using alternative glazing configurations. Any selected system will be required to provide the same level of sound insulation performance set out in Table 8 or greater.

It is important to note that the acoustic performance specifications detailed herein are minimum requirements which apply to the overall glazing system. In the context of the acoustic performance specification the 'glazing system' is understood to include any and all of the component parts that form part of the glazing element of the façade, i.e. glass, frames, seals, openable elements etc.

It is advised that the window supplier provides laboratory tests confirming the sound insulation performance, (to British Standard 2750 Part 3:1980 and British Standard 5821, or British Standard EN ISO 140 Part 3 1995 and British Standard EN ISO 717, 1997). It is important to note that the acoustic performance specifications detailed herein are minimum requirements which apply to the overall glazing system when installed on site.

Wall Construction

In general, all wall constructions (i.e. block work or concrete and spandrel elements) offer a high degree of sound insulation, much greater than that offered by the glazing systems. Therefore, noise intrusion via the wall construction will be minimal. The calculated internal noise levels across the building façade have assumed a minimum sound reduction index of 50 dB R_w for this construction.

Internal Noise Levels

Taking into account the external façade levels and the specified acoustic performance to the building envelope, the internal noise levels have been calculated.

All locations are predicted to achieve good internal noise levels with windows closed. For locations highlighted orange and green in Figure 10, the good to reasonable internal noise levels are achieved with both windows open and closed.

Summary

Considering the constraints of the site, in so far as possible and without limiting the extent of the development area, the principles of Good Acoustic Design have been applied to the development.

In terms of viable alternatives to acoustic treatment of façade elements, currently it is not considered likely that there will be further options for mitigation outside of proprietary acoustic glazing and ventilation. This will be developed further as the design progresses.

4.3 Element 3 – External Amenity Areas

For this development the good acoustic design principals employed have ensured that the private external spaces are positioned to benefit from the screening effect of the development buildings. Figure 11 illustrates that for the current layout the vast majority of the private outdoor amenity area achieves a noise level ≤55dB $L_{Aeq,16hr}$.

Figure 11 Noise Levels Across Private External Amenity Areas

Rail noise is expected to be intermittent and in the night time early morning, i.e. outside of times when it is expected that amenity spaces will be used.

Balconies overlooking the East Road and rail line will experience elevated noise levels. In an urban setting elevated noise levels on balconies is compensated for by provision of dedicated sheltered community amenity space as is the case in this instance.

5.0 CONCLUSION

A site noise risk assessment has been carried out on the proposed residential development at East Road, Dublin 3 The assessment has classified the development site as having a range of noise risks associated ranging from medium to high risk. This was determined through a combination of measurements of noise levels on site and through the development of a 3D noise model of the site and surrounds.

Further discussion is presented in terms of the likely noise impact of both the external and internal areas of the proposed development. It has been found that the majority of the inhabitants will have access to a quiet external area that is screened by the development itself from road traffic noise and other noise sources.

In addition, it is expected that most habitable rooms will achieve a good internal noise environment while also allowing natural ventilation via an open window. However, for those rooms overlooking the local road network and rail line, it will be necessary to provide enhanced acoustic glazing to ensure that when windows are closed that the internal noise environment is good. In these rooms the noise level internally with the windows open will be higher than ideal, however, inhabitants will have the option to close the window to reduce the noise level internally, while also achieving adequate ventilation in accordance with Part F.

Further specific mitigation measures will be developed as the design progresses.

APPENDIX A
GLOSSARY OF ACOUSTIC TERMINOLOGY

Ambient noise — The totally encompassing sound in a given situation at a given time, usually composed of sound from many sources, near and far.

Background noise — The steady existing noise level present without contribution from any intermittent sources. The A-weighted sound pressure level of the residual noise at the assessment position that is exceeded for 90 per cent of a given time interval, T ($L_{AF90,T}$).

dB — Decibel - The scale in which sound pressure level is expressed. It is defined as 20 times the logarithm of the ratio between the RMS pressure of the sound field and the reference pressure of 20 micro-pascals (20 μPa).

dB(A) — An 'A-weighted decibel' - a measure of the overall noise level of sound across the audible frequency range (20 Hz – 20 kHz) with A-frequency weighting (i.e. 'A'–weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies.

$D_{n,e,w}$ — Weighted element-normalized level difference. This is the value of sound insulation performance of a ventilator measured under laboratory conditions. It is a weighted single figure index that is derived from values of sound insulation across a defined frequency spectrum. Technical literature for acoustic ventilators typically presents sound insulation data in terms of the $D_{n,e,w}$ parameter.

Hertz (Hz) — The unit of sound frequency in cycles per second.

$L_{Aeq,T}$ — This is the equivalent continuous sound level. It is a type of average and is used to describe a fluctuating noise in terms of a single noise level over the sample period (T).The closer the L_{Aeq} value is to either the L_{AF10} or L_{AF90} value indicates the relative impact of the intermittent sources and their contribution. The relative spread between the values determines the impact of intermittent sources such as traffic on the background.

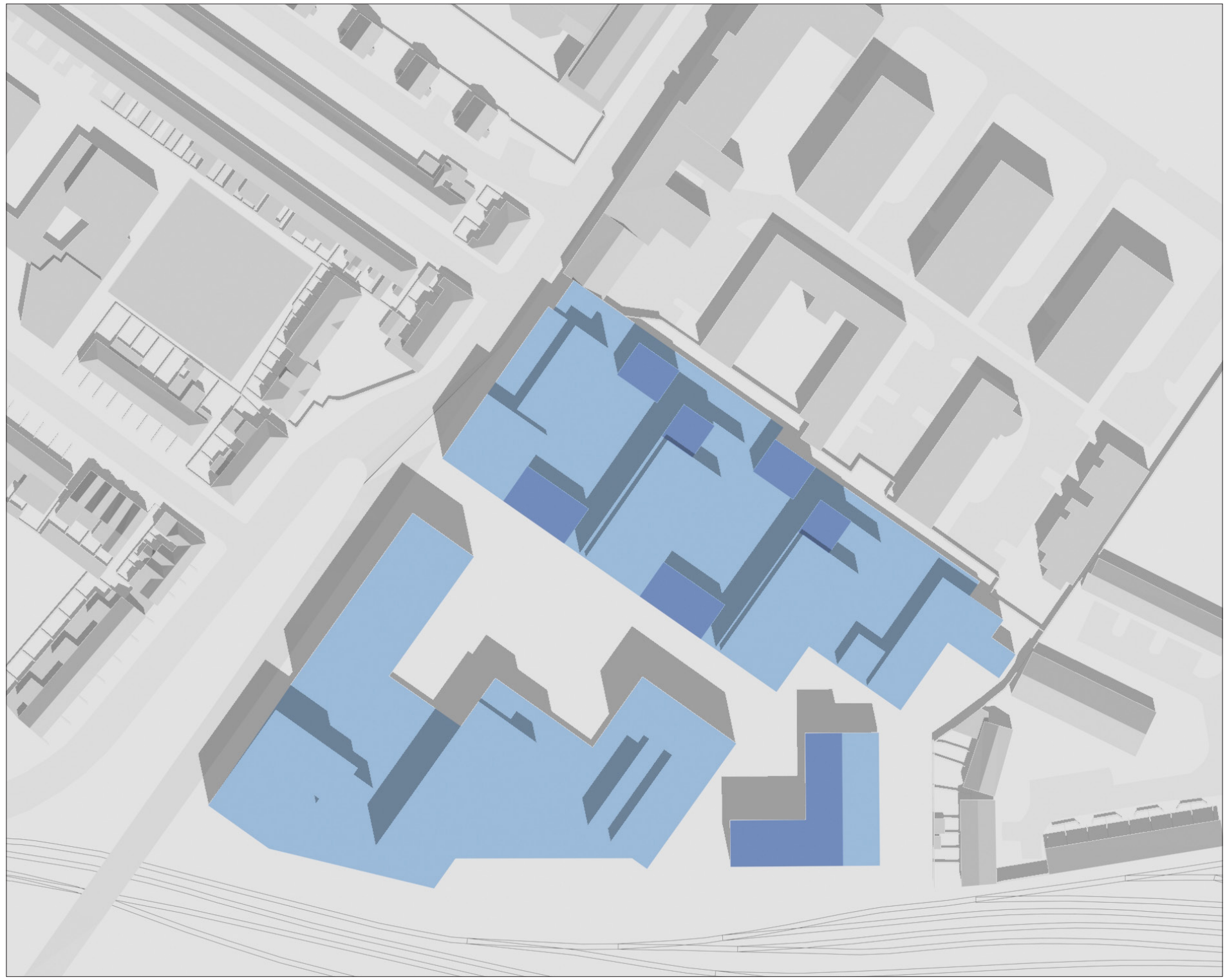
L_{AFN} — The A-weighted noise level exceeded for N% of the sampling interval. Measured using the "Fast" time weighting.

L_{AF90} — Refers to those A-weighted noise levels in the lower 90 percentile of the sampling interval; it is the level which is exceeded for 90% of the measurement period. It will therefore exclude the intermittent features of traffic and is used to estimate a background level. Measured using the "Fast" time weighting.

L_{AF10} — Refers to those A-weighted noise levels in the upper 10 percentile of the sampling interval; it is the level which is exceeded for 10% of the measurement period. It is typically representative of traffic noise levels. Measured using the "Fast" time weighting.

L_{AFmax}	is the instantaneous fast time weighted maximum sound level measured during the sample period.
Octave band	A frequency interval, the upper limit of which is twice that of the lower limit. For example, the 1,000Hz octave band contains acoustical energy between 707Hz and 1,414Hz. The centre frequencies used for the designation of octave bands are defined in ISO and ANSI standards.

A16.1 SHADOW DIAGRAMS



Preliminary Shadow Diagrams

of

the emerging design of the Proposed Development

at

East Road, Dublin 1

12 June 2018

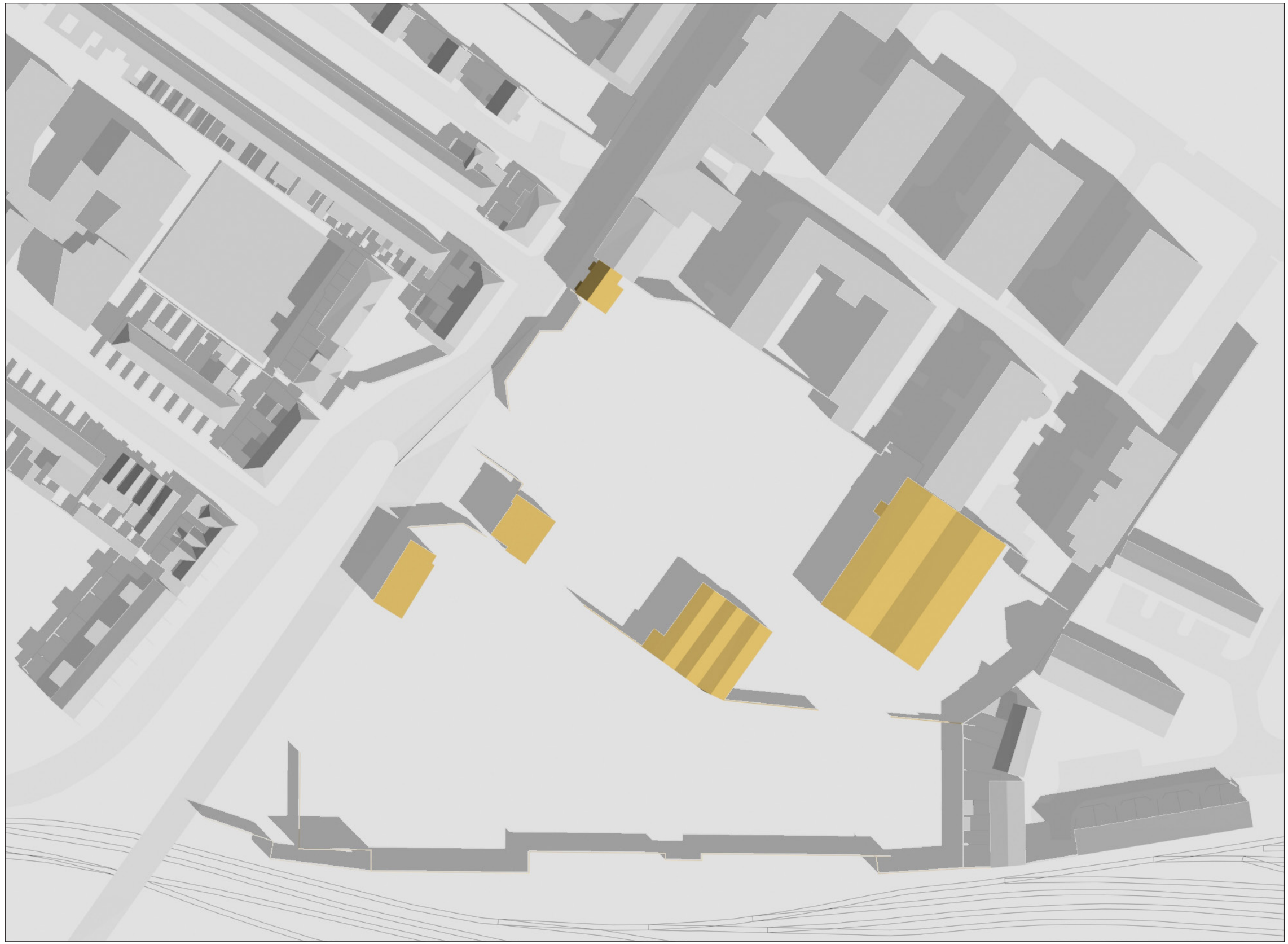
ARC Architectural Consultants Limited

30 Dalkey Park, Dalkey
County Dublin

T 01 235 0525
F 01 284 8618
e info@arc.ie

RECEIVING
ENVIRONMENT

OSI Licence No. AR 0087018



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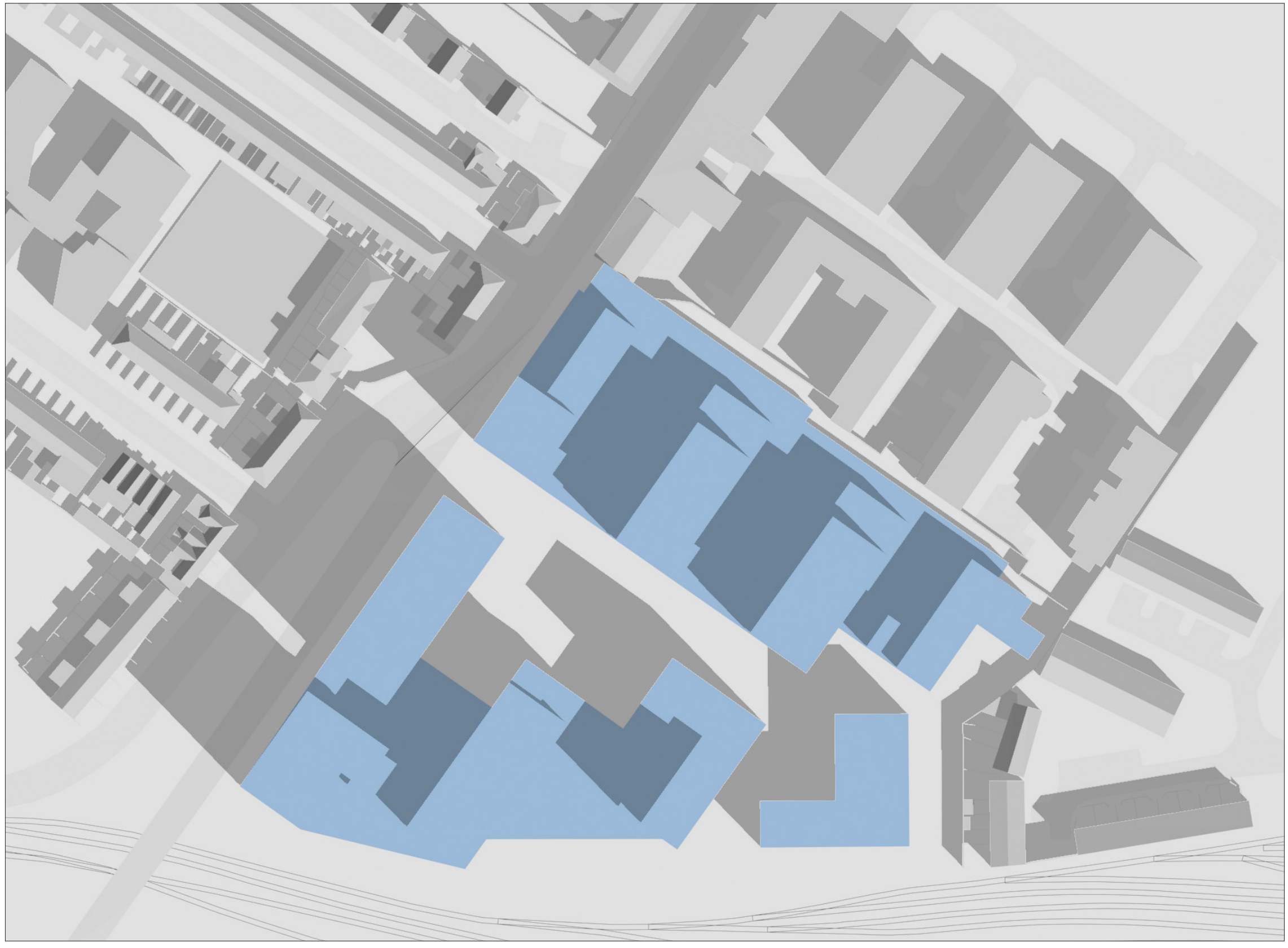
PRELIMINARY SHADOW STUDY
EMERGING DESIGN OF PROPOSED DEVELOPMENT
AT EAST ROAD, DUBLIN 1
12 JUNE 2018

DATE : MARCH 21ST - EQUINOX
SUNRISE : 6.25 AM
SUNSET : 6.40 PM

TIME :
10.00 AM

PROPOSED
DEVELOPMENT
Option 1

OSI Licence No. AR 0087018



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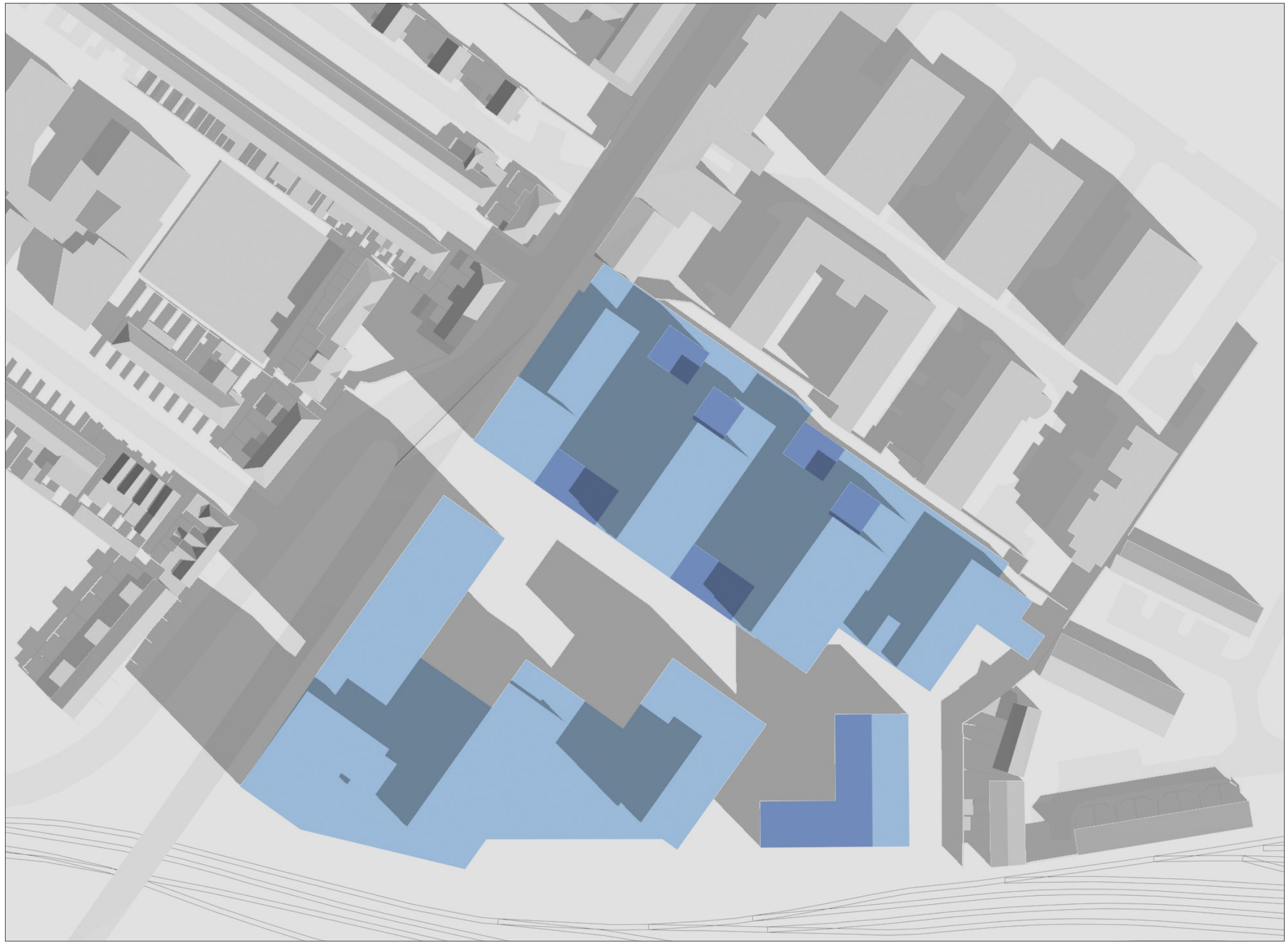

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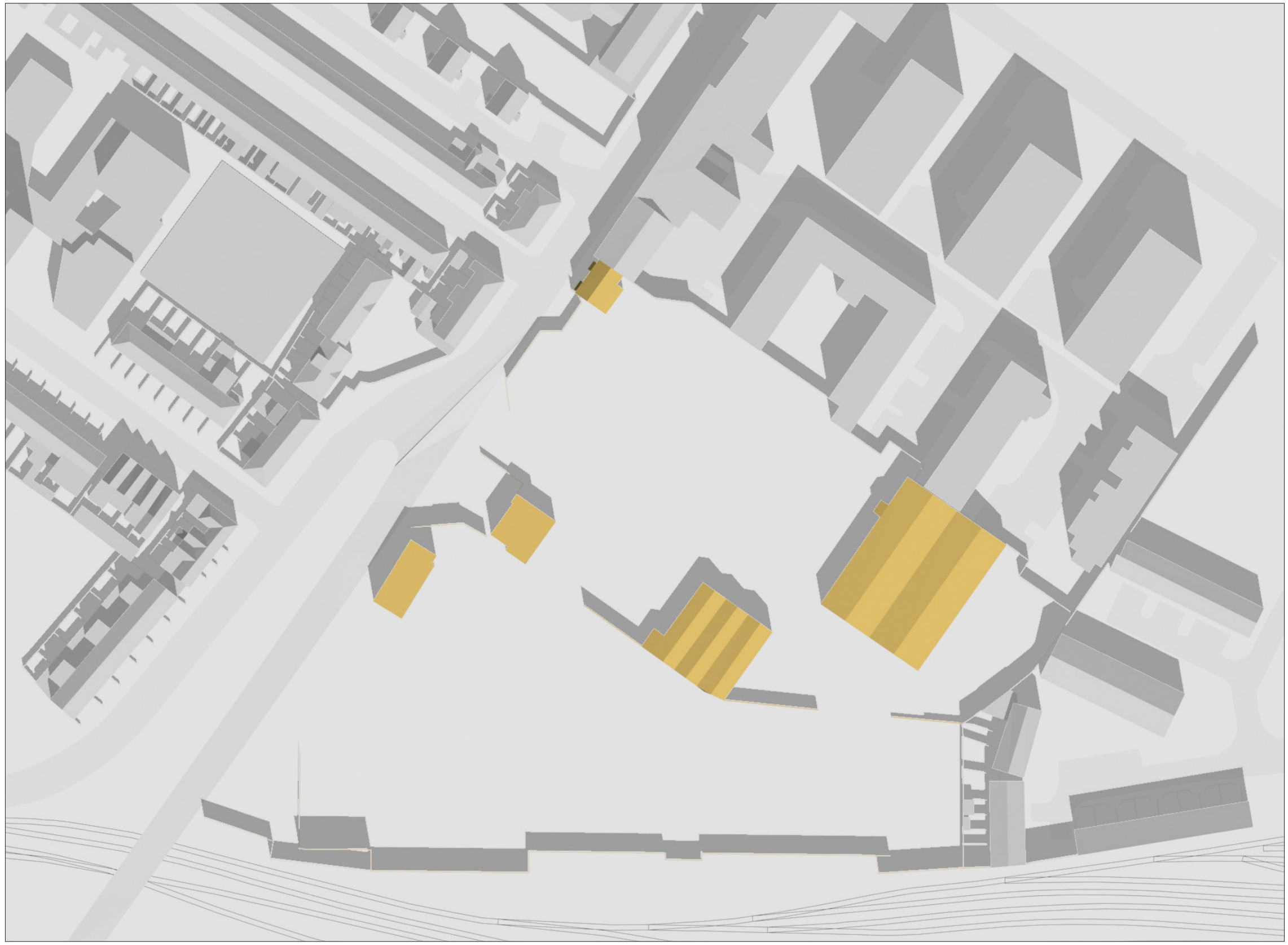

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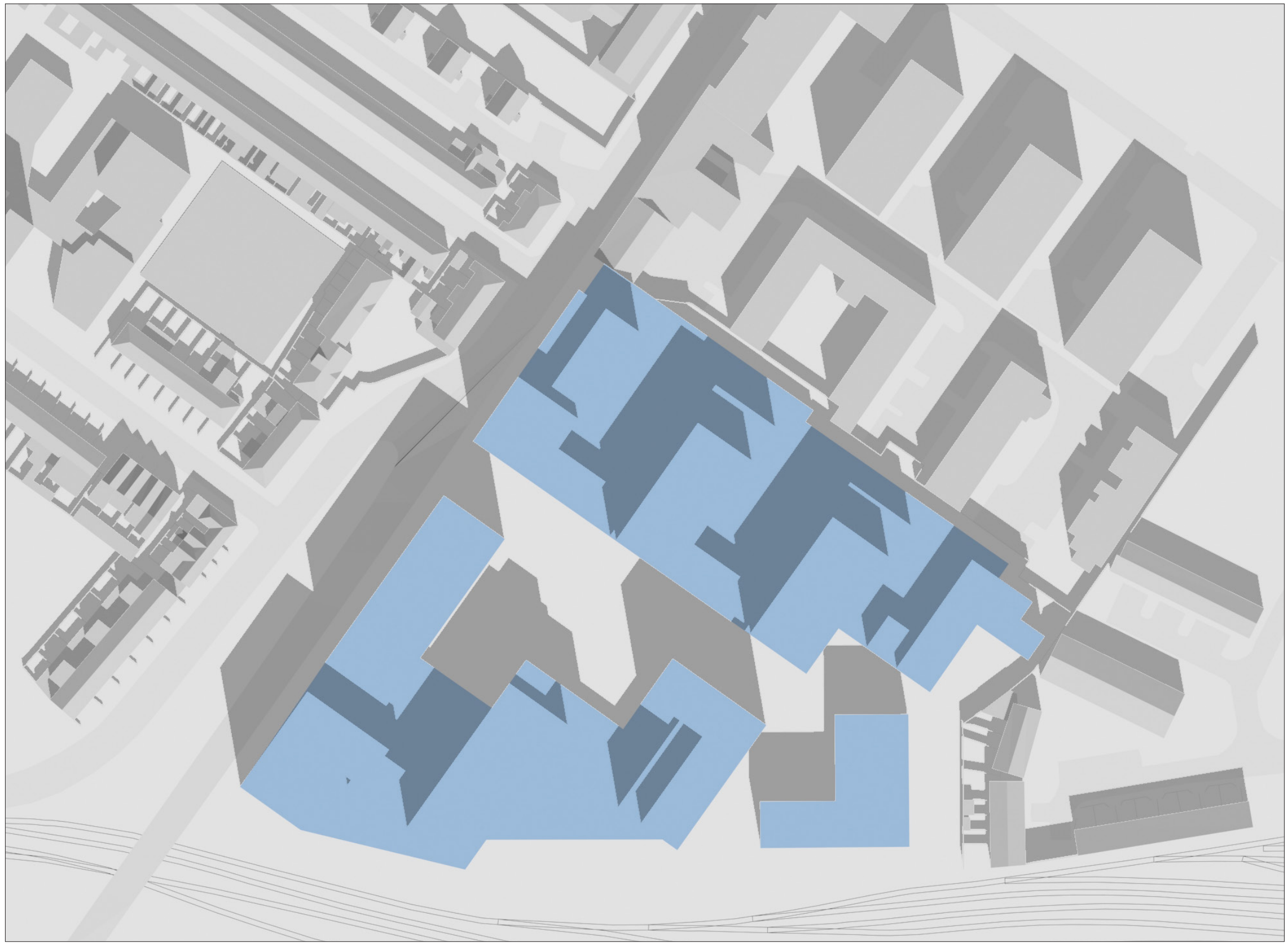

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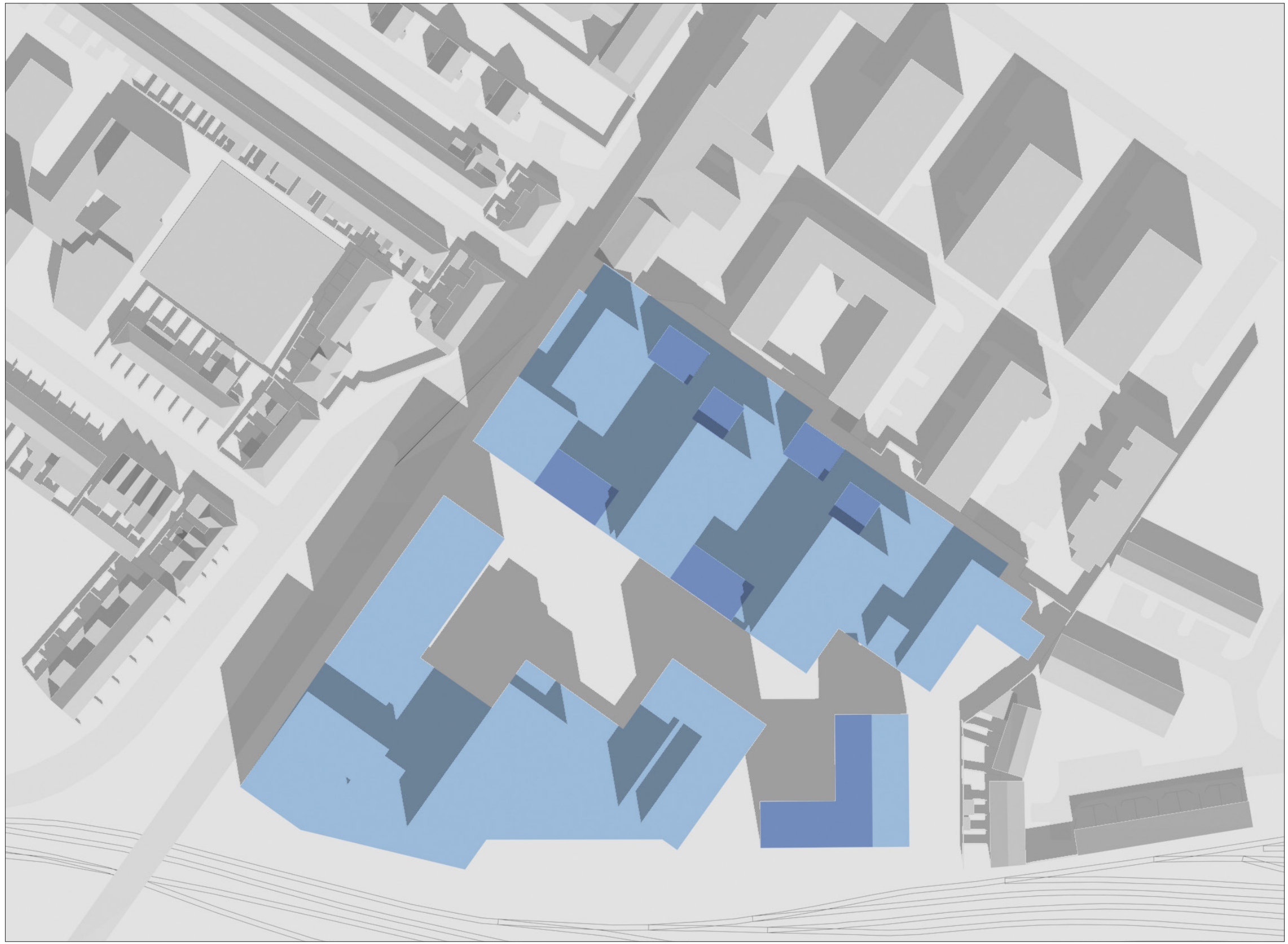
12.00 PM

PROPOSED
DEVELOPMENT
Option 2



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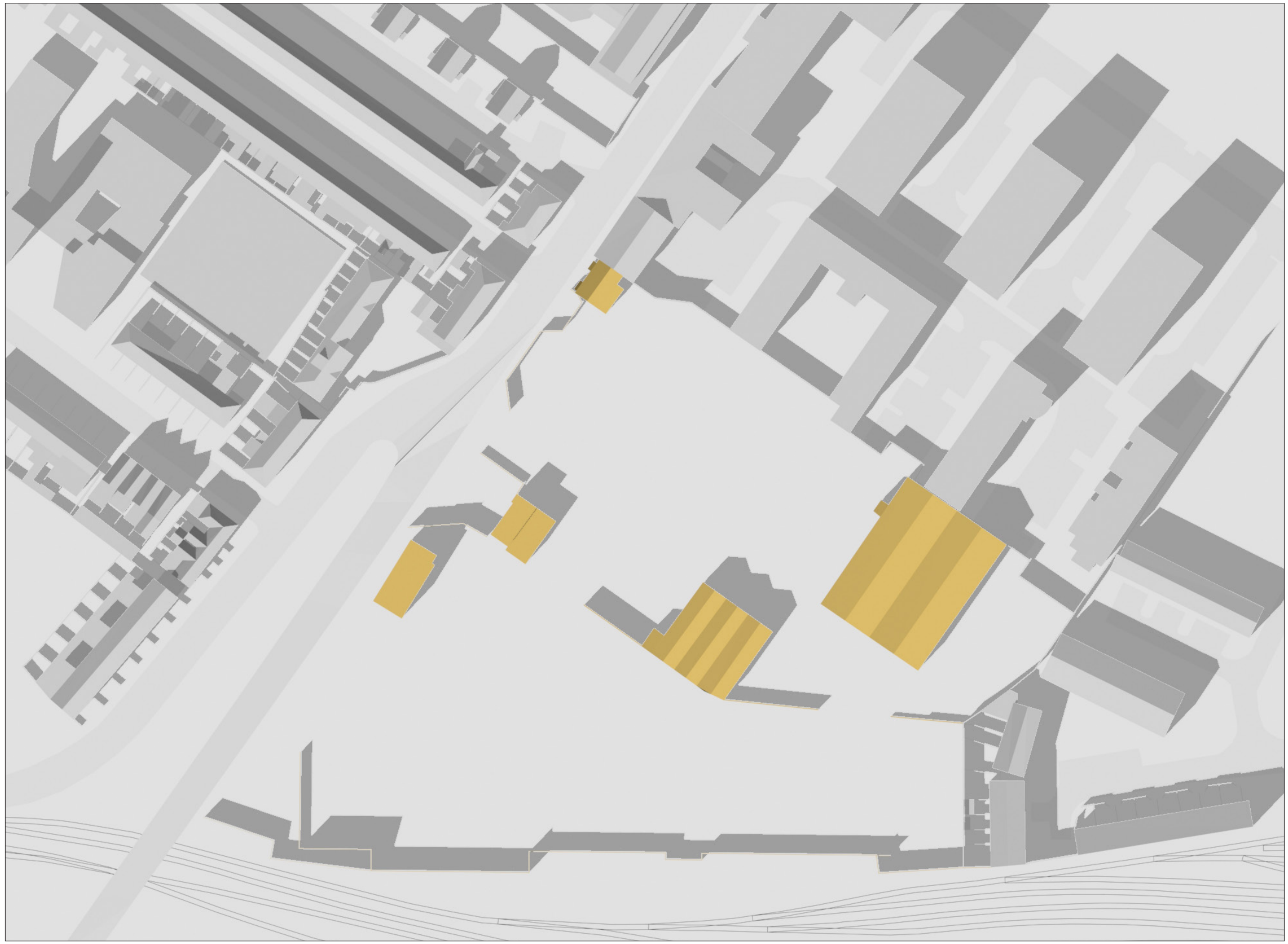

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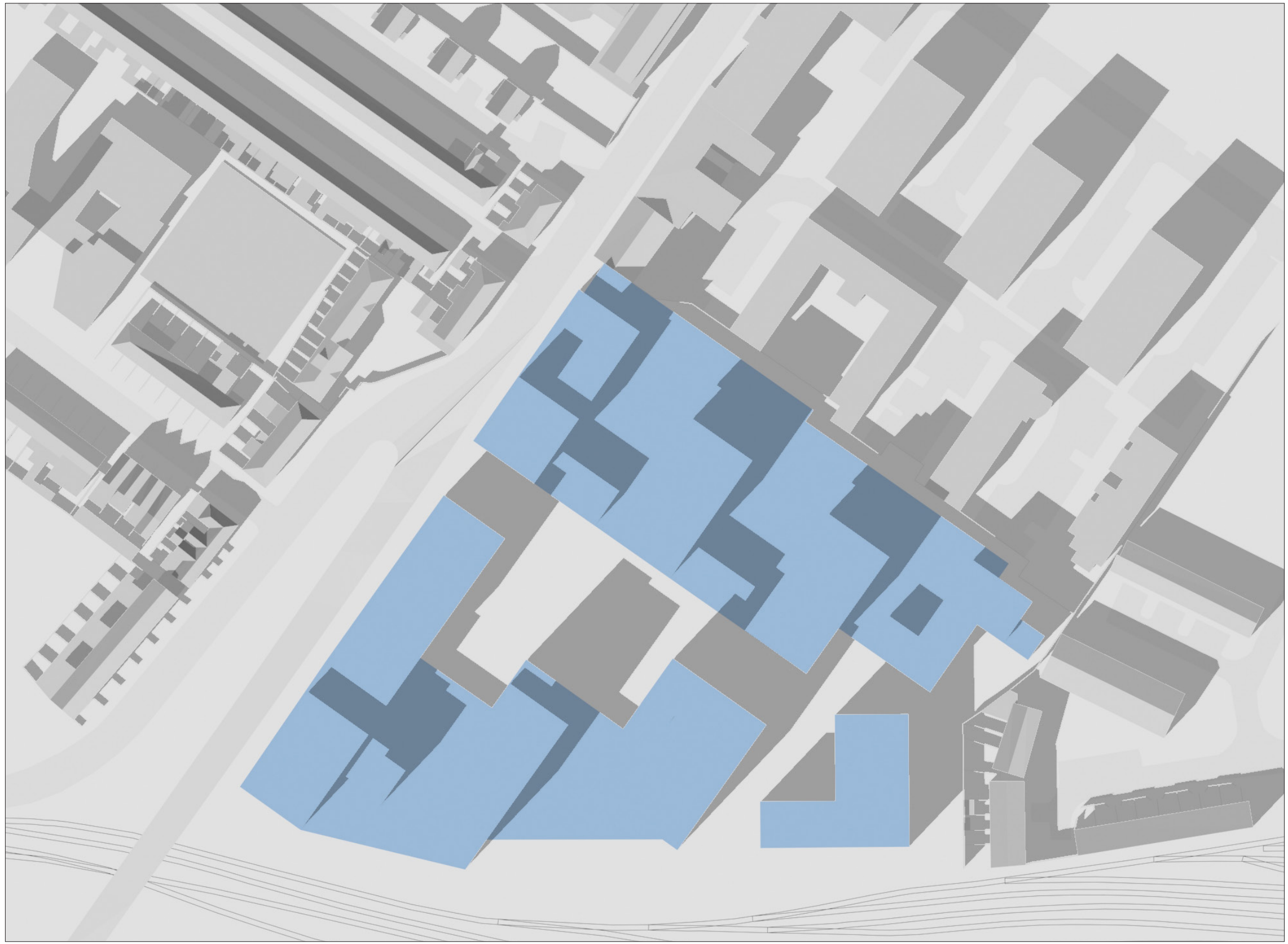

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PROPOSED
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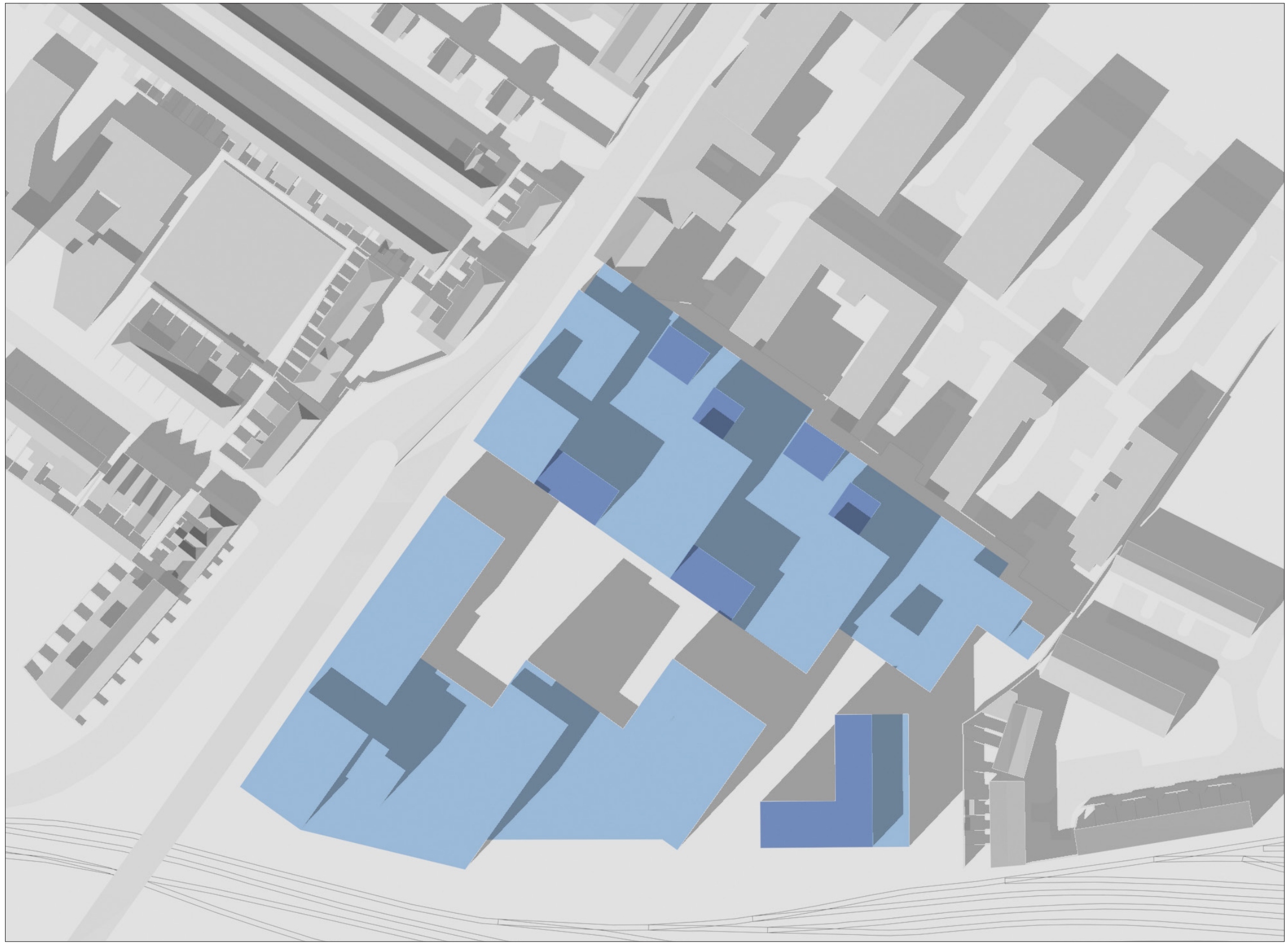
Option 2



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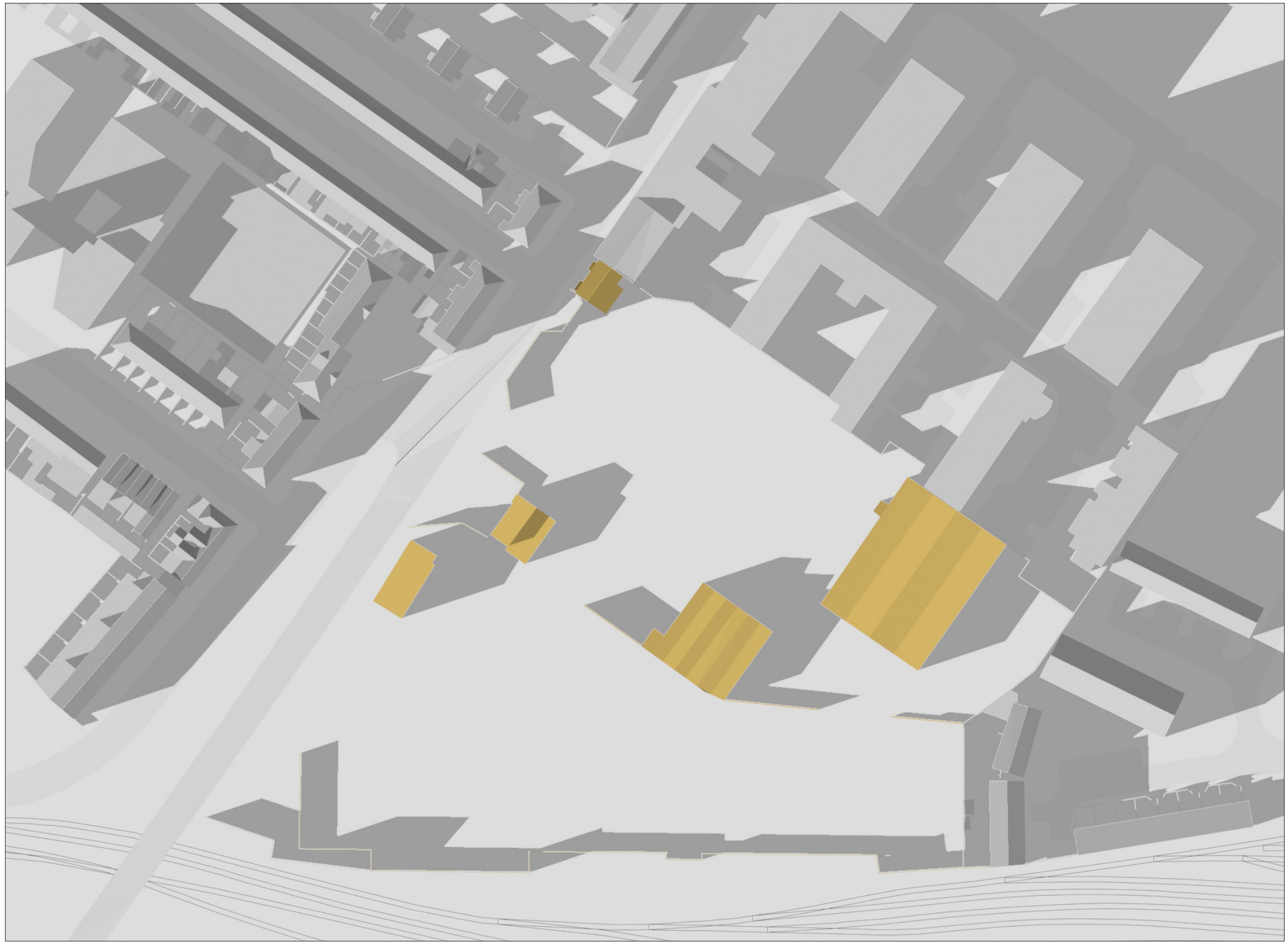

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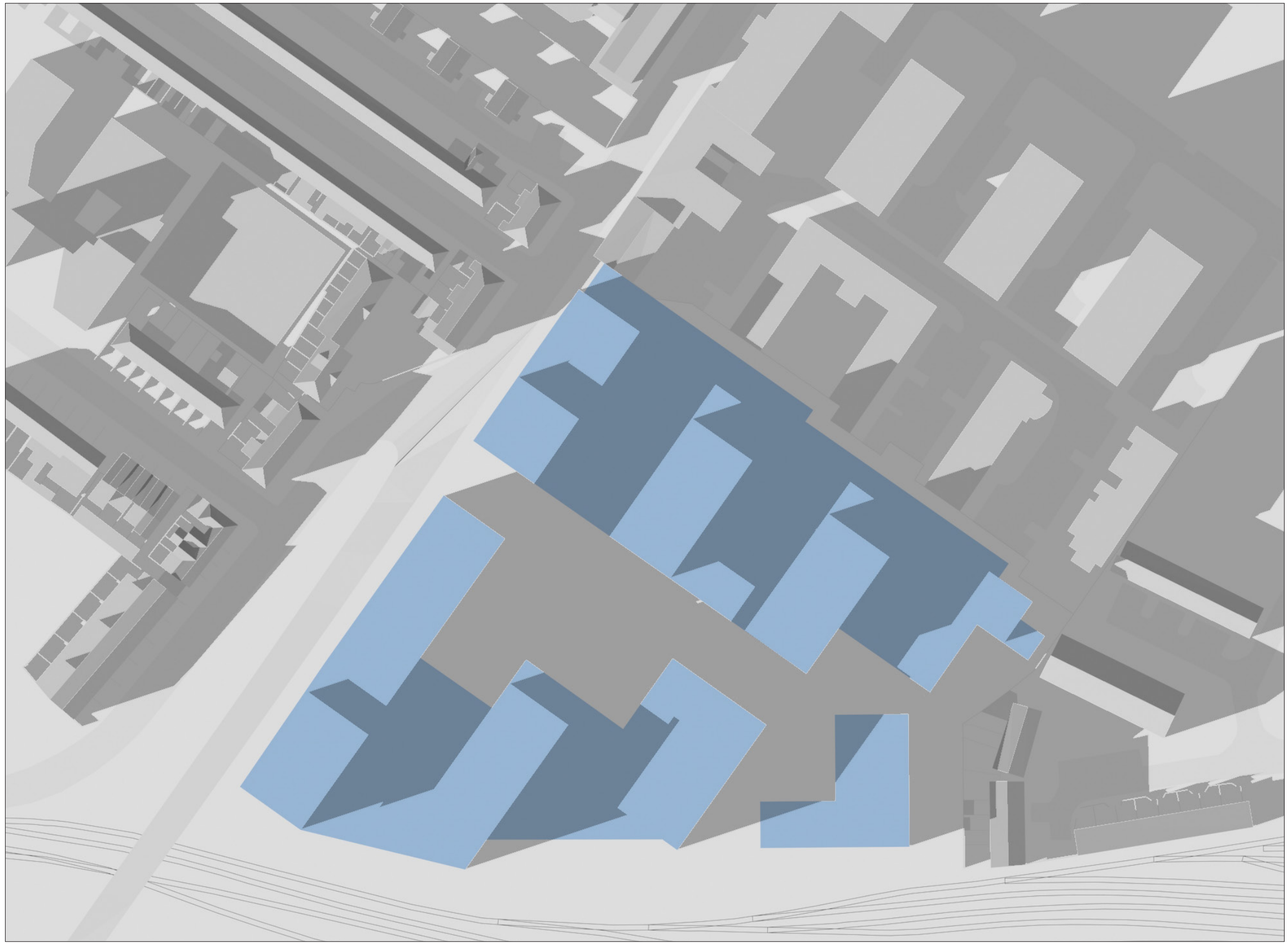
PRELIMINARY SHADOW STUDY
EMERGING DESIGN OF PROPOSED DEVELOPMENT
AT EAST ROAD, DUBLIN 1
12 JUNE 2018

DATE : MARCH 21ST - EQUINOX
SUNRISE : 6.25 AM
SUNSET : 6.40 PM

TIME :
5.00 PM

PROPOSED
DEVELOPMENT
Option 1



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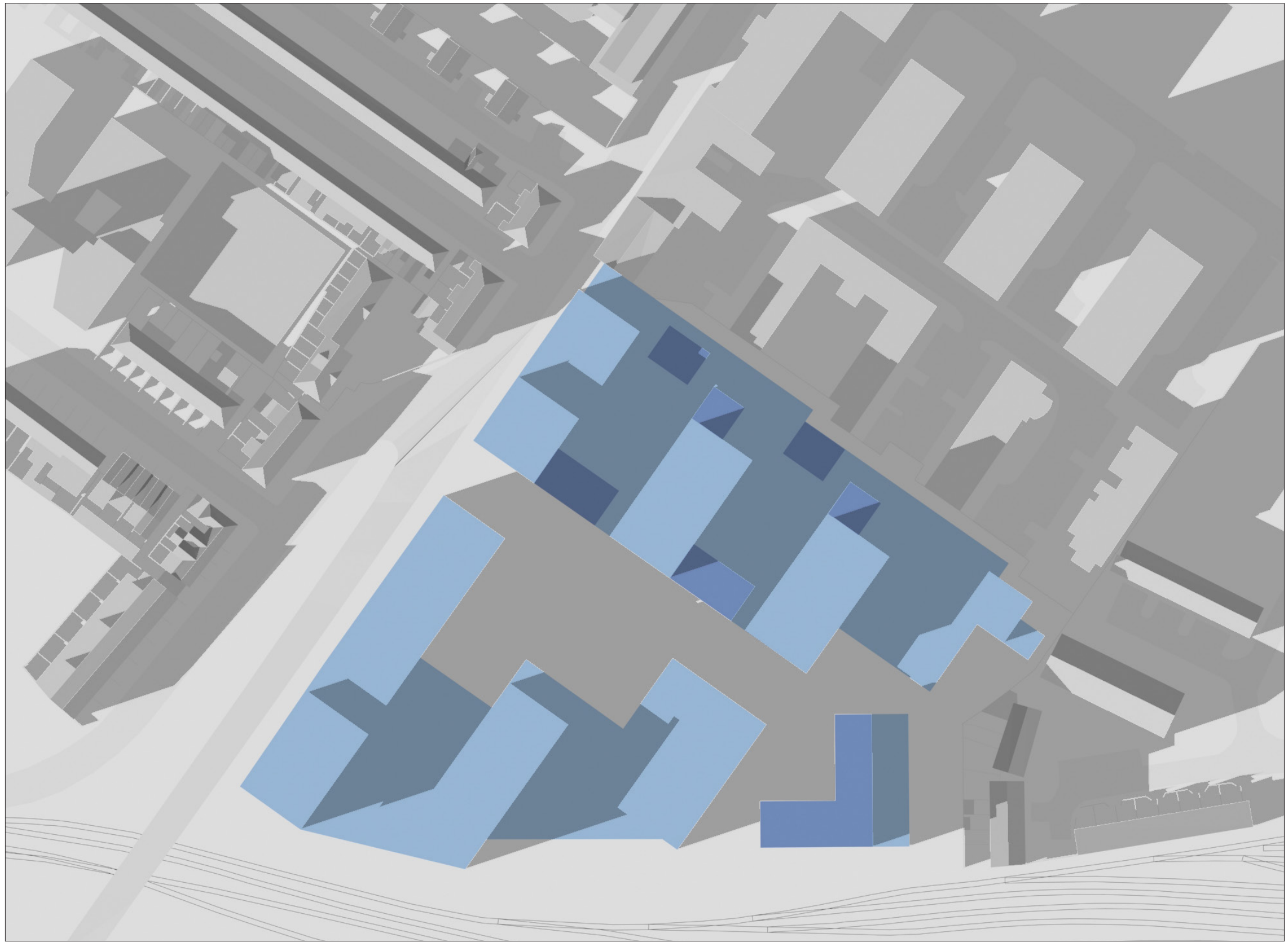
SUNSET : 6.40 PM

TIME :
5.00 PM

PROPOSED
DEVELOPMENT
Option 2

OSI Licence No. AR 0087018



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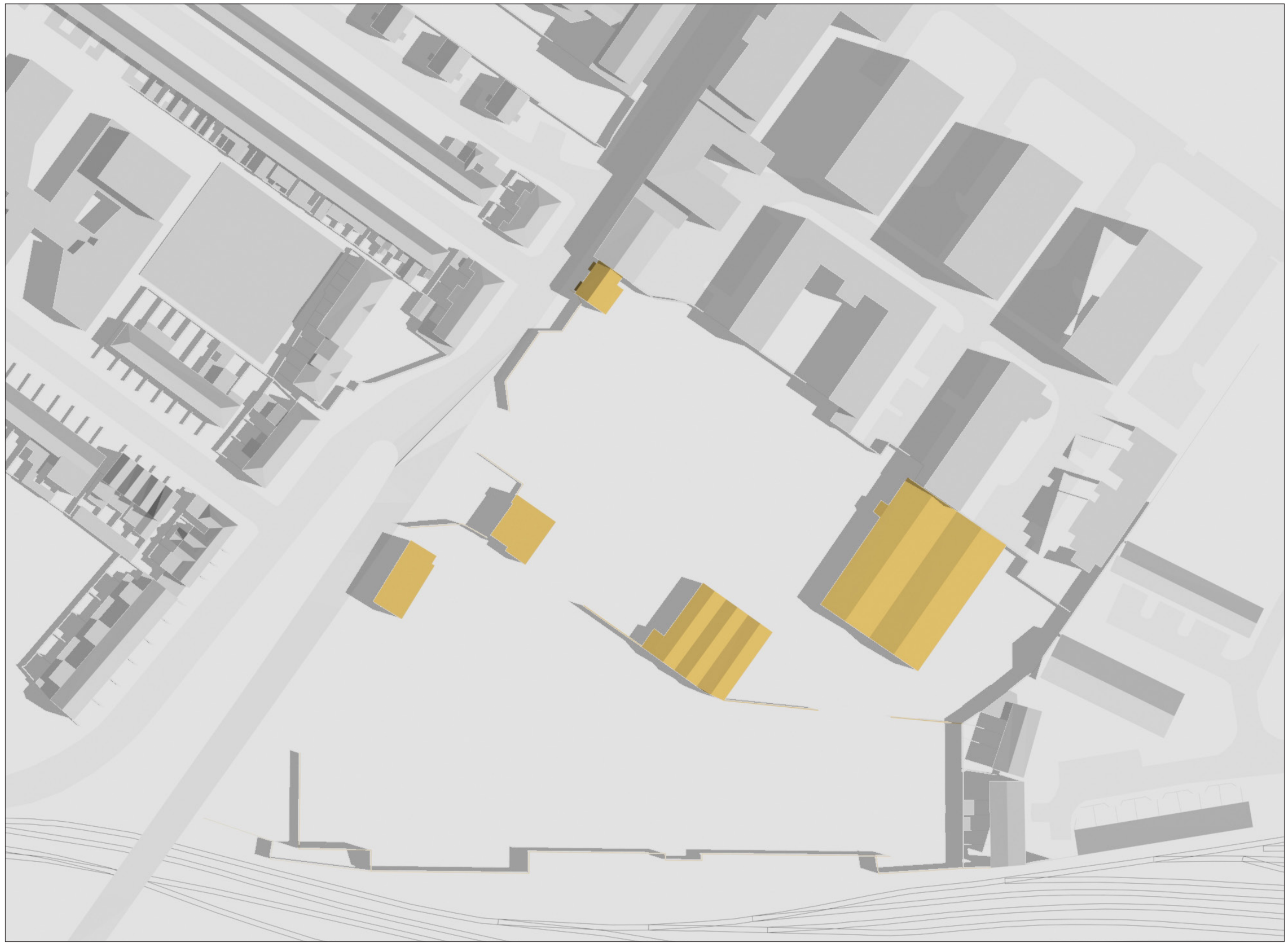

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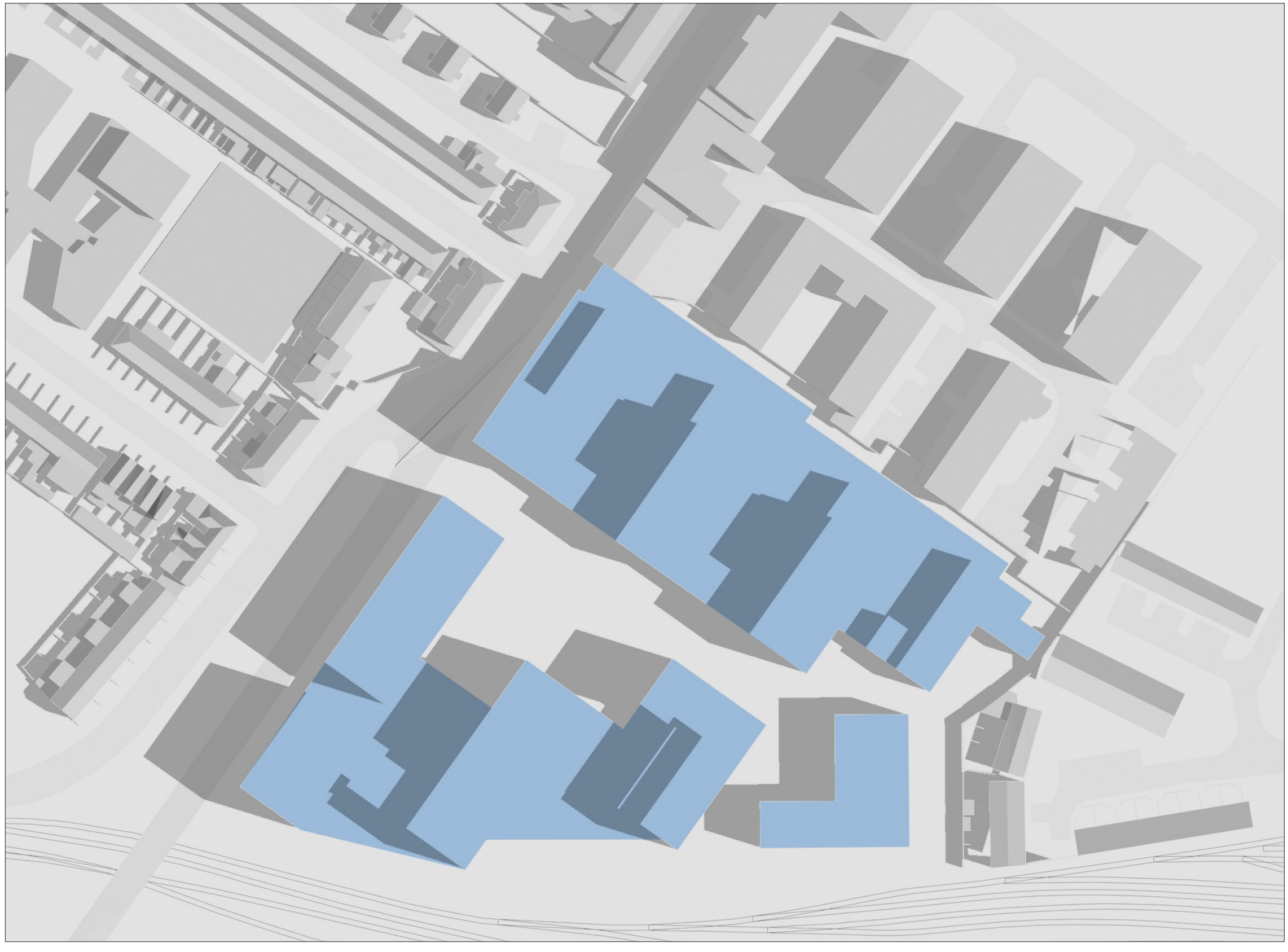
PRELIMINARY SHADOW STUDY
EMERGING DESIGN OF PROPOSED DEVELOPMENT
AT EAST ROAD, DUBLIN 1
12 JUNE 2018

DATE : JUNE 21ST - SUMMER SOLSTICE
SUNRISE : 4.56 AM
SUNSET : 9.56 PM

TIME :
9.00 AM

PROPOSED
DEVELOPMENT
Option 1

OSI Licence No. AR 0087018



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PRELIMINARY SHADOW STUDY
EMERGING DESIGN OF PROPOSED DEVELOPMENT
AT EAST ROAD, DUBLIN 1
12 JUNE 2018

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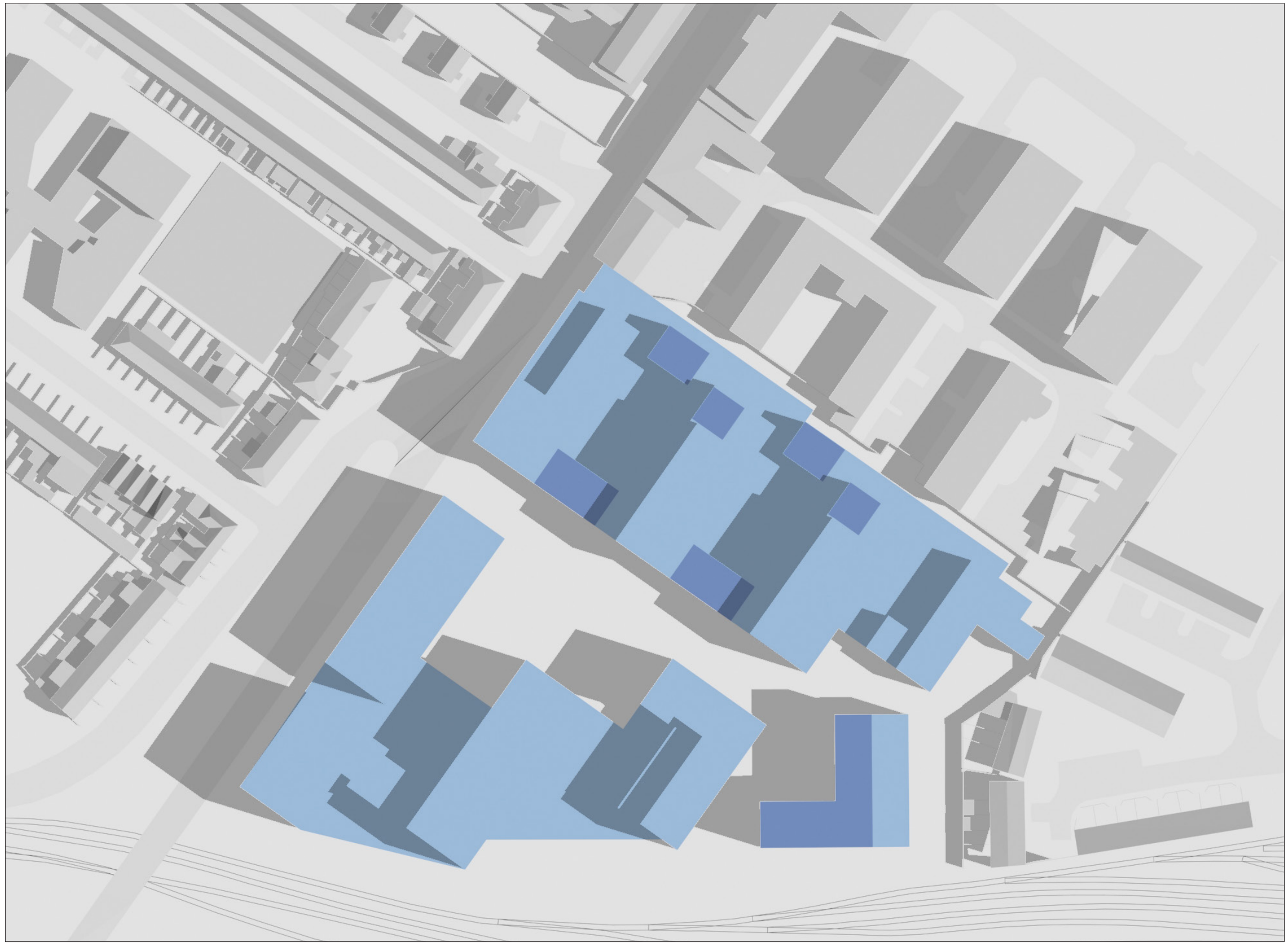
SUNRISE : 4.56 AM
SUNSET : 9.56 PM

TIME :
9.00 AM

PROPOSED
DEVELOPMENT
Option 2

OSI Licence No. AR 0087018



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AT EAST ROAD, DUBLIN 1
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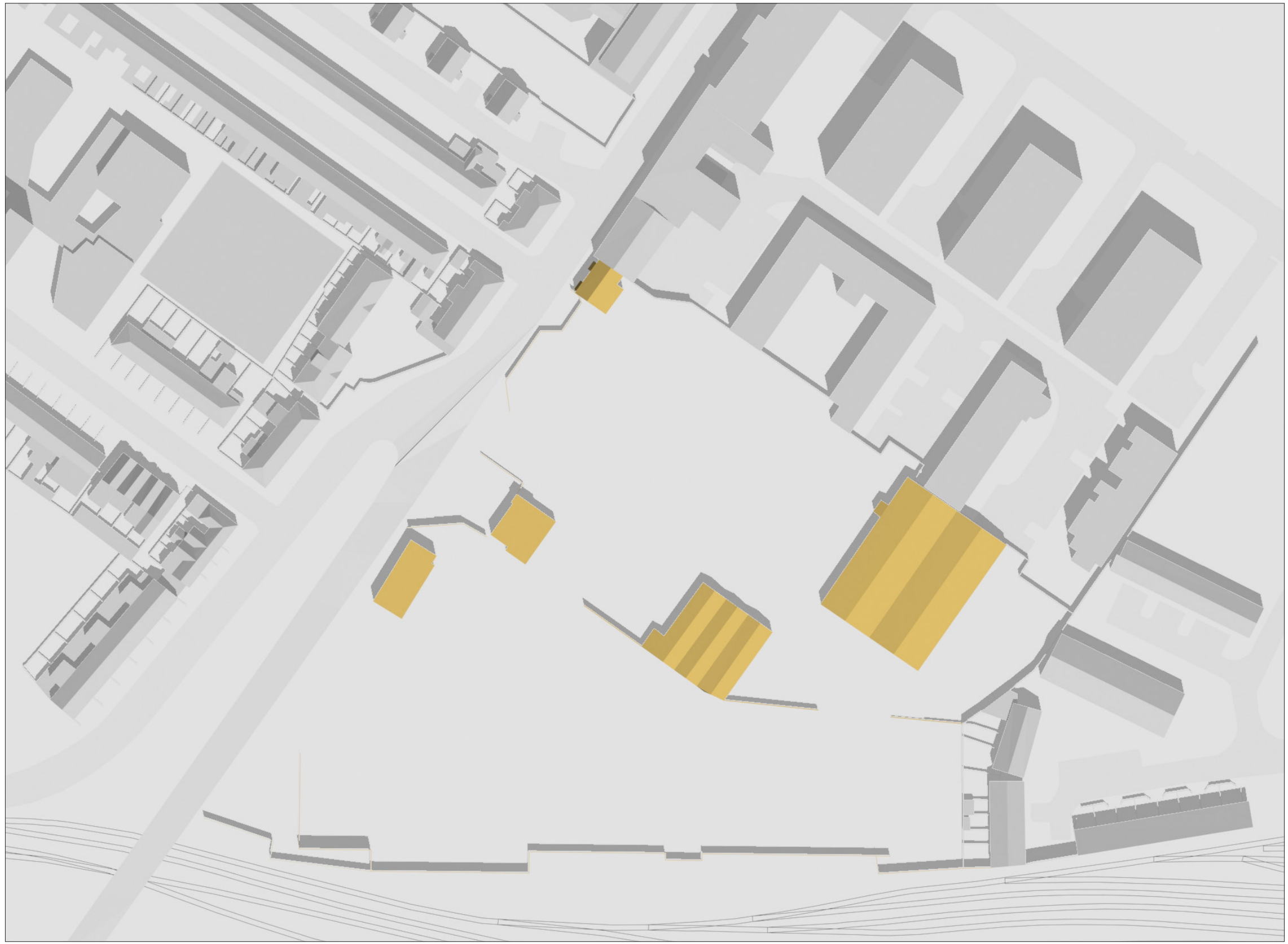

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AT EAST ROAD, DUBLIN 1
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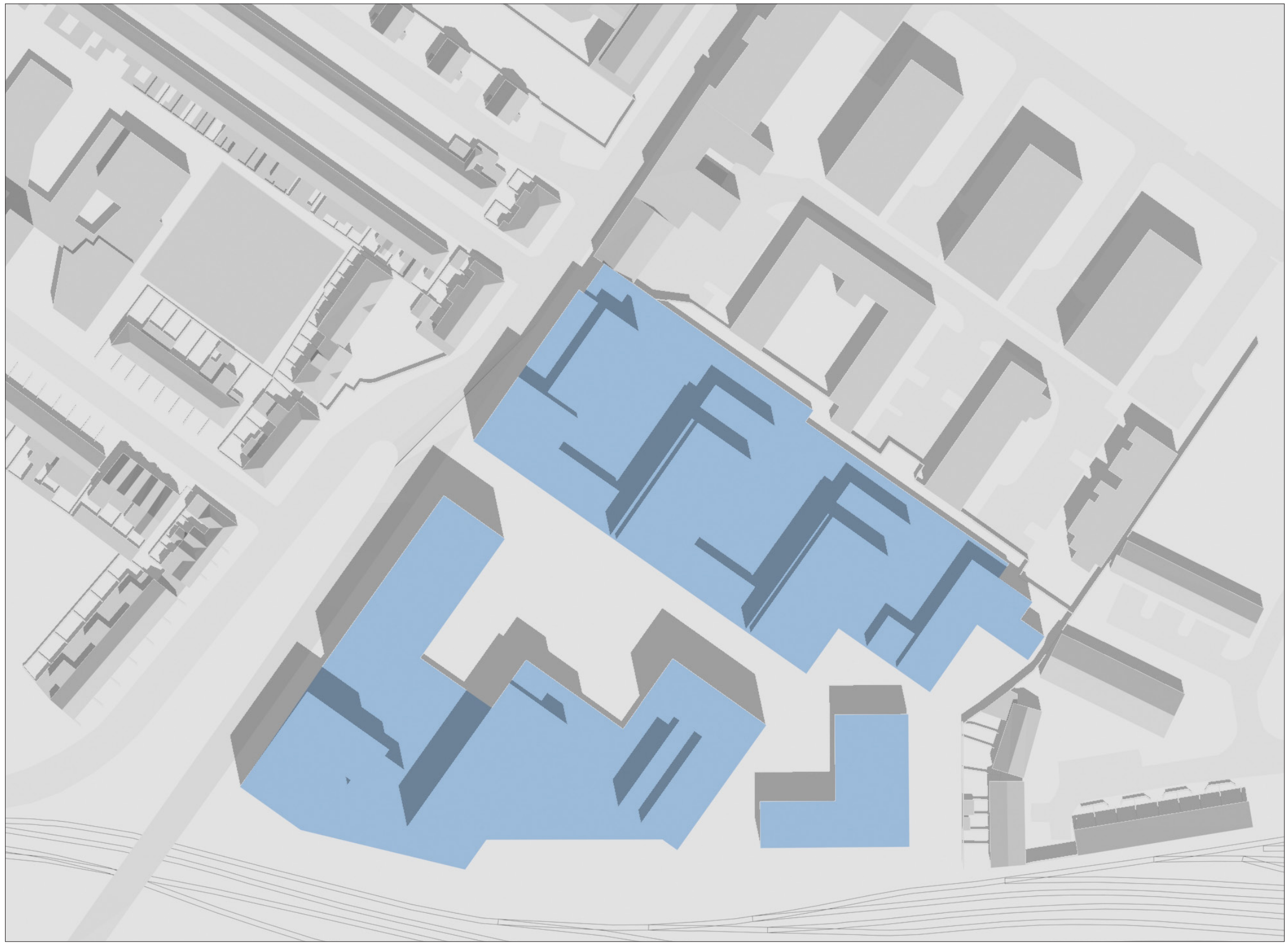

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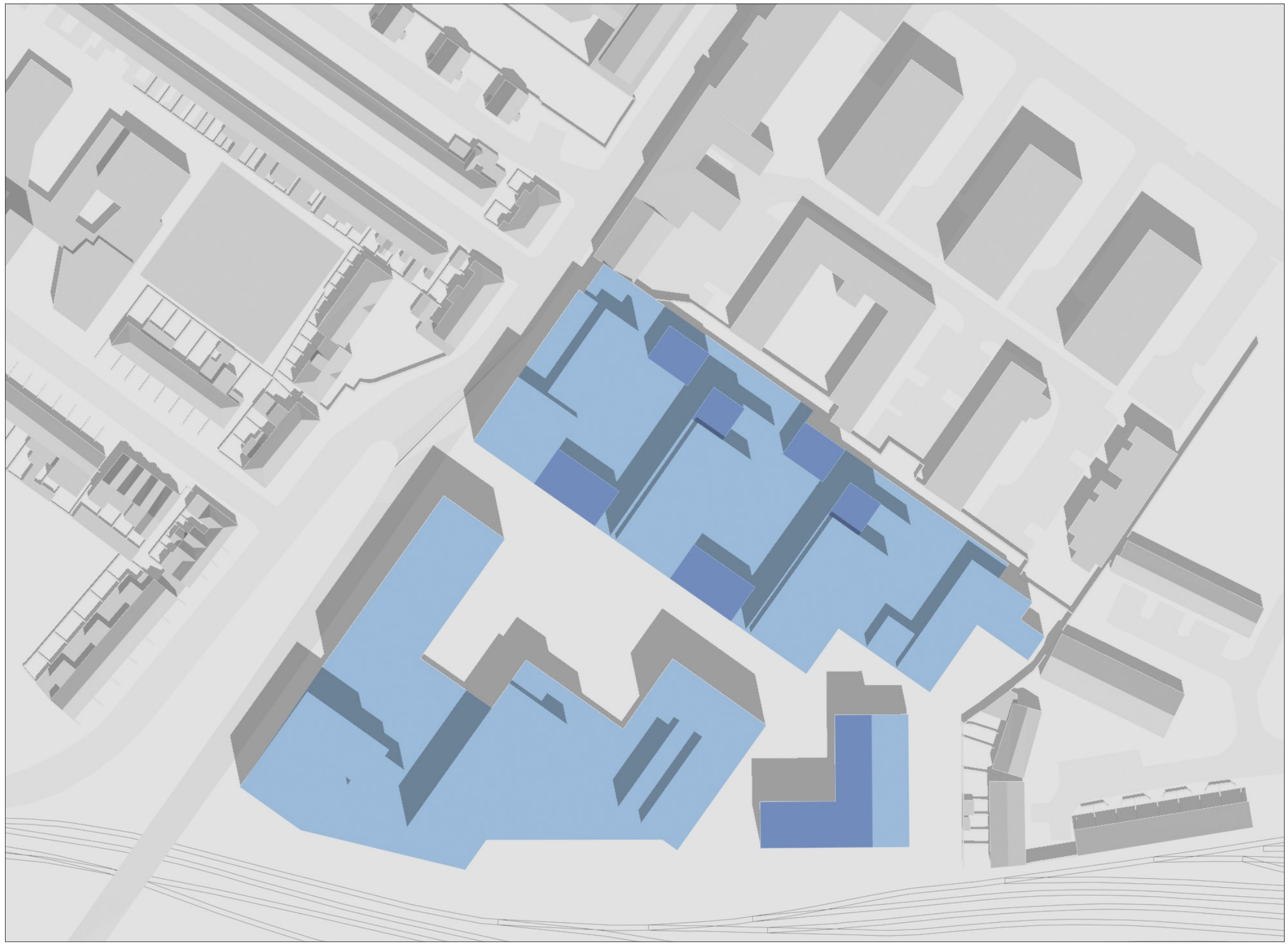

PROPOSED
DEVELOPMENT
Option 2

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PRELIMINARY SHADOW STUDY
EMERGING DESIGN OF PROPOSED DEVELOPMENT
AT EAST ROAD, DUBLIN 1
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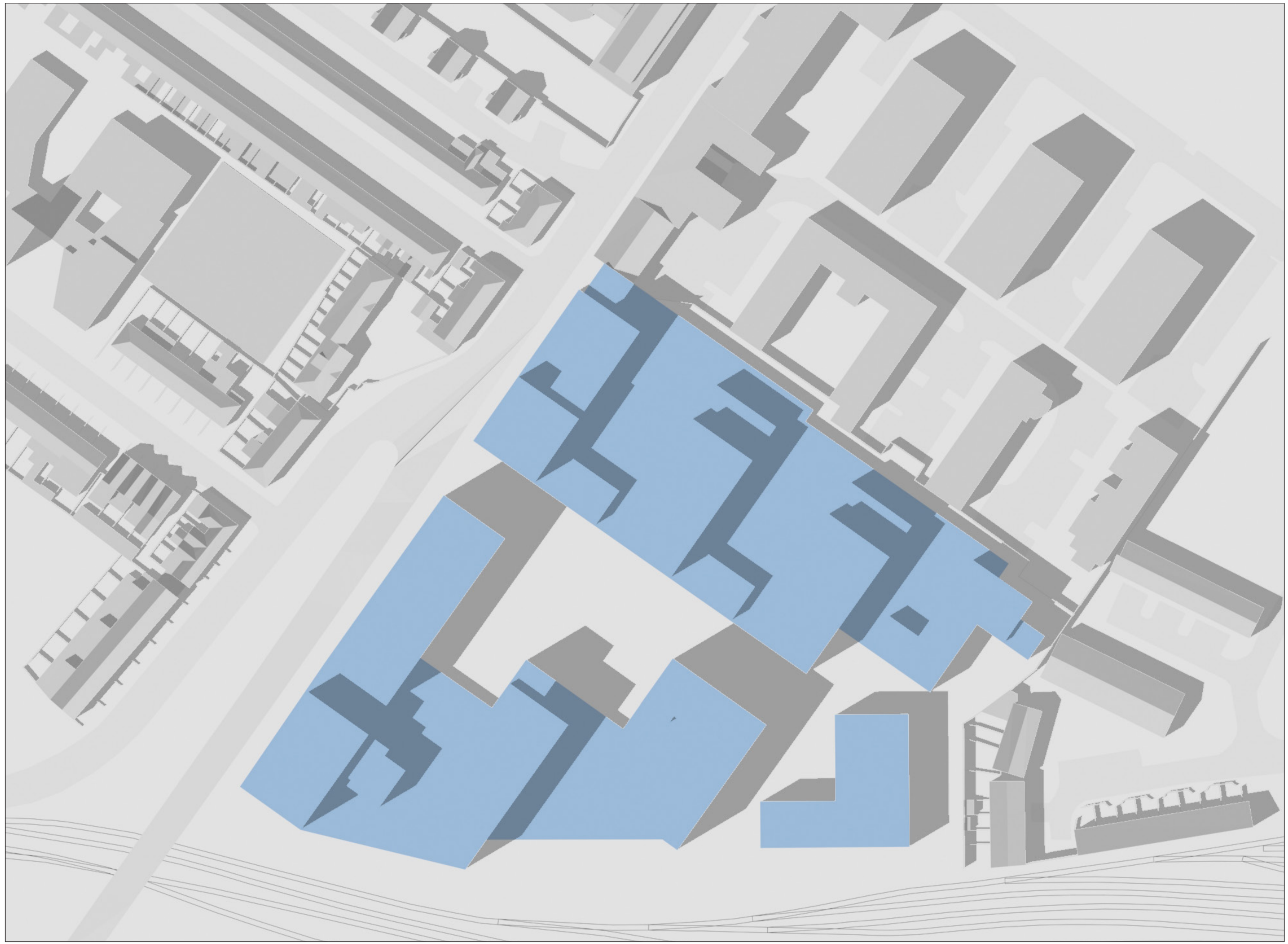

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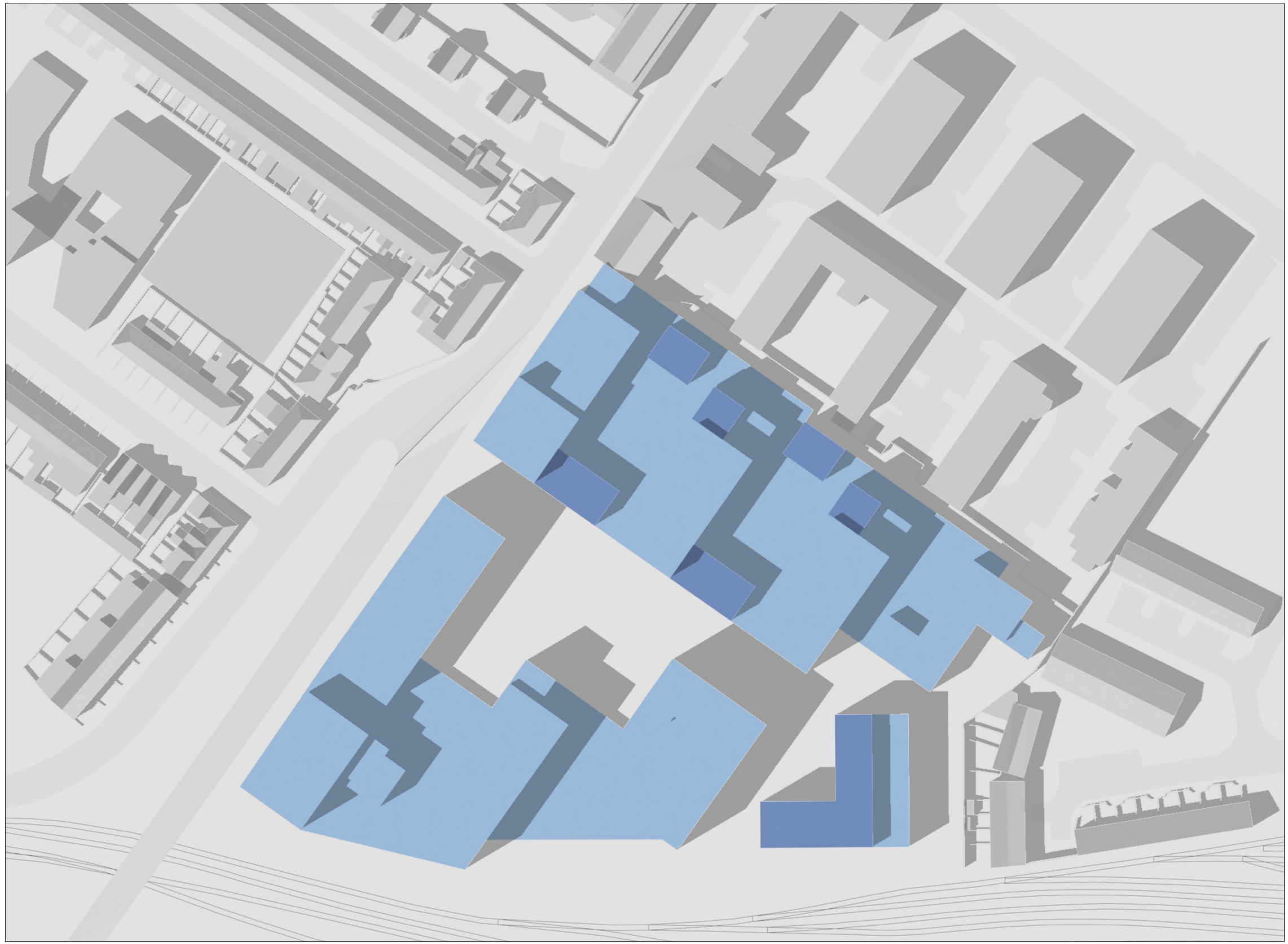

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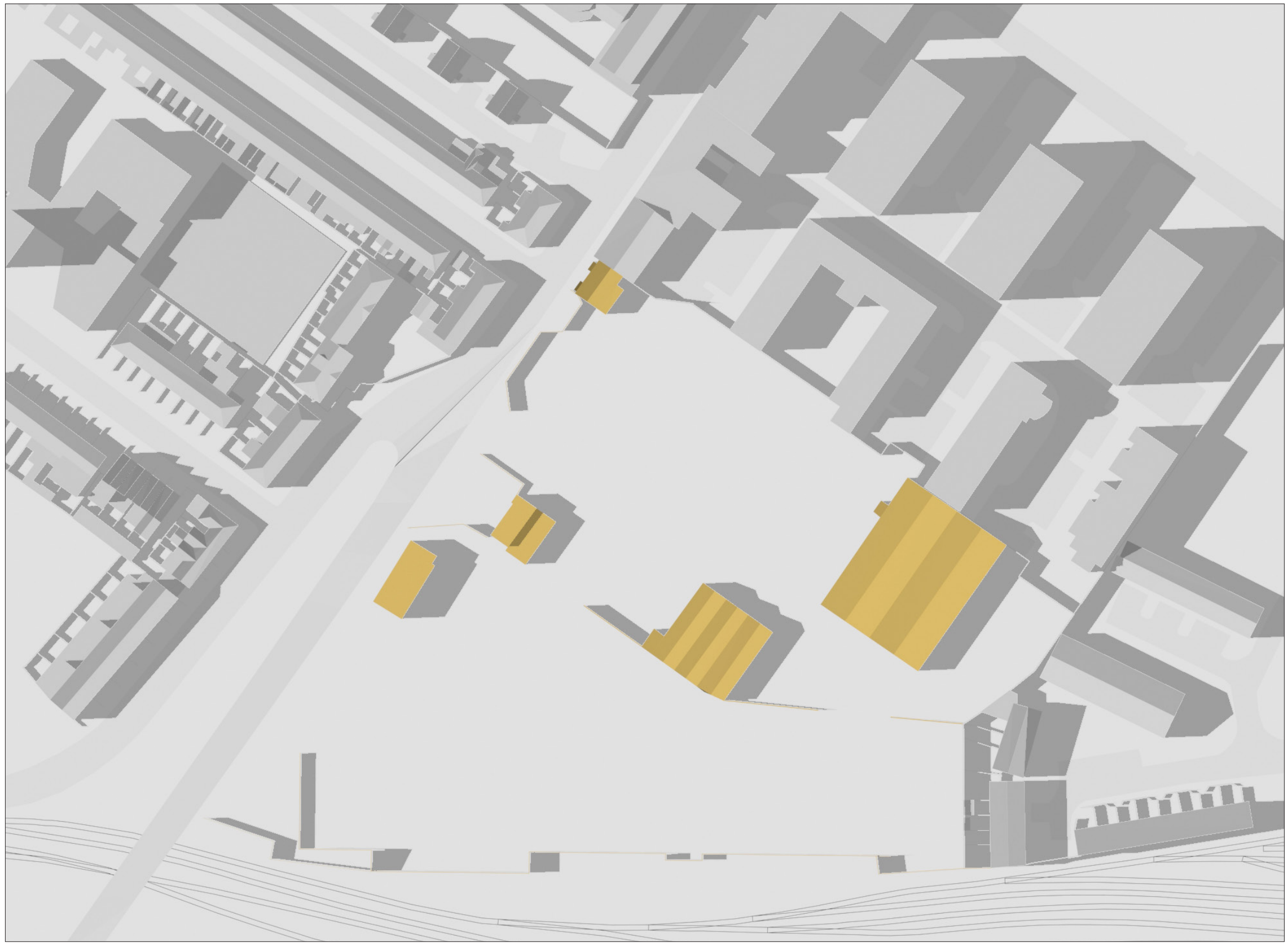

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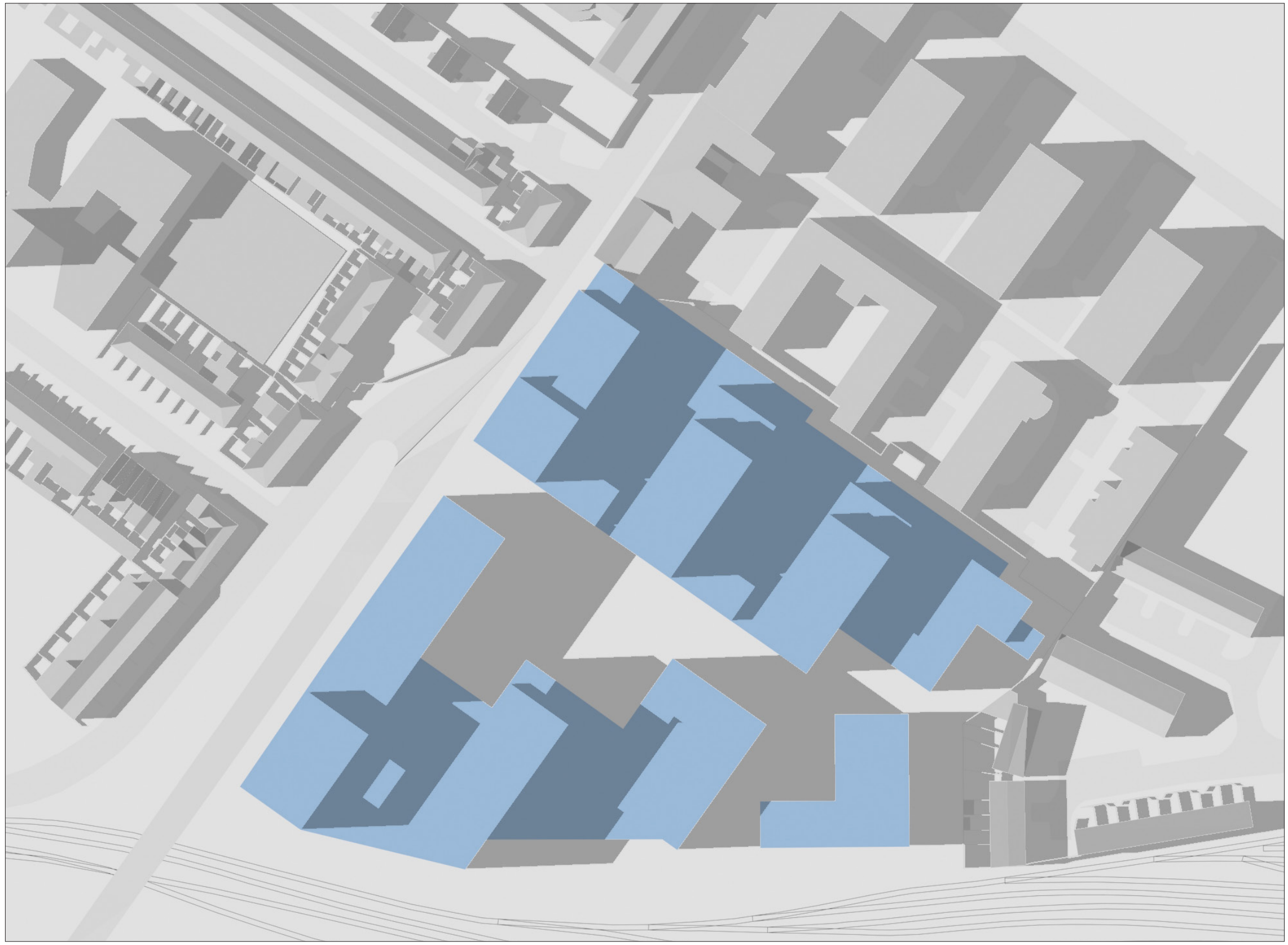

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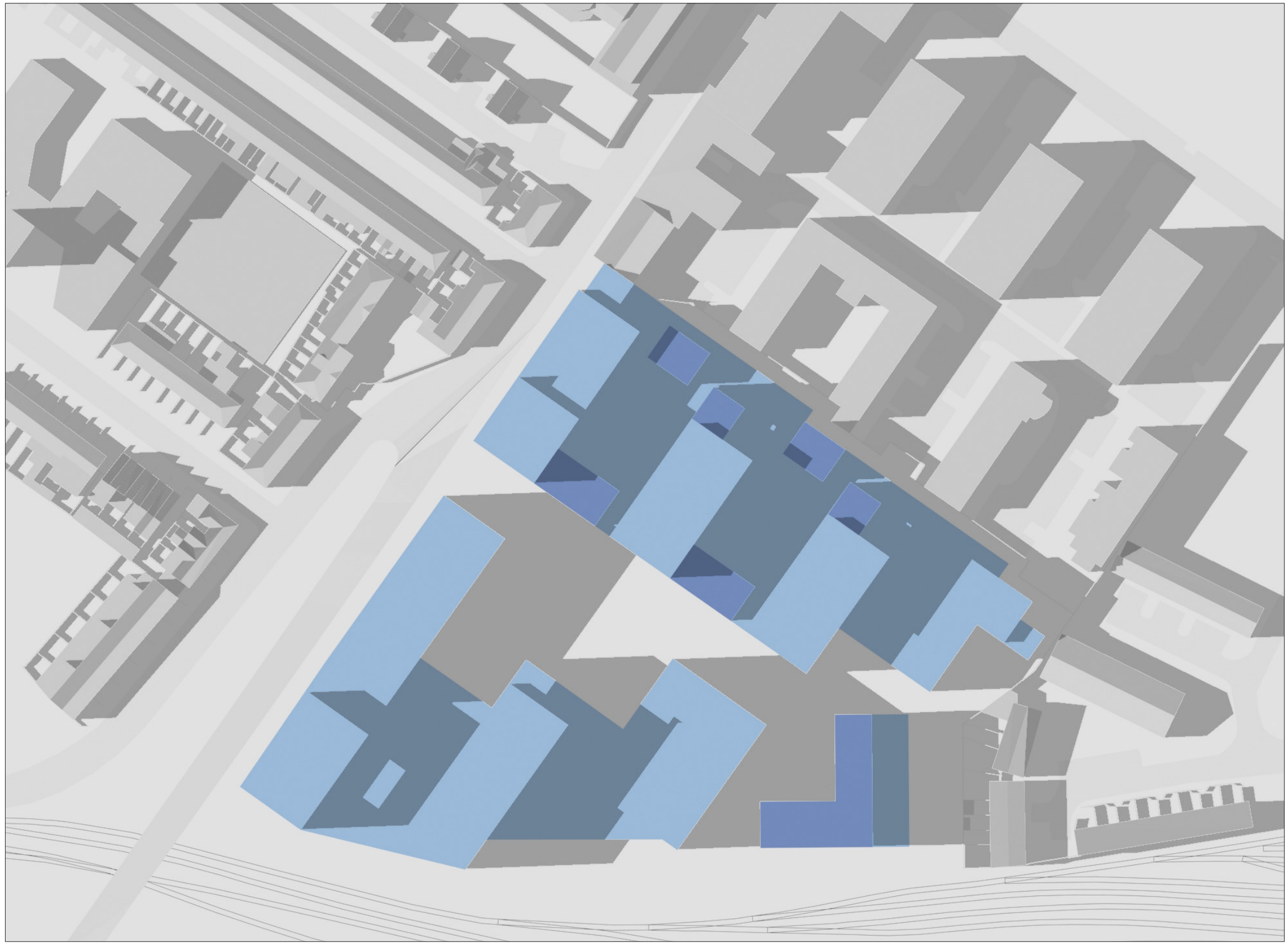

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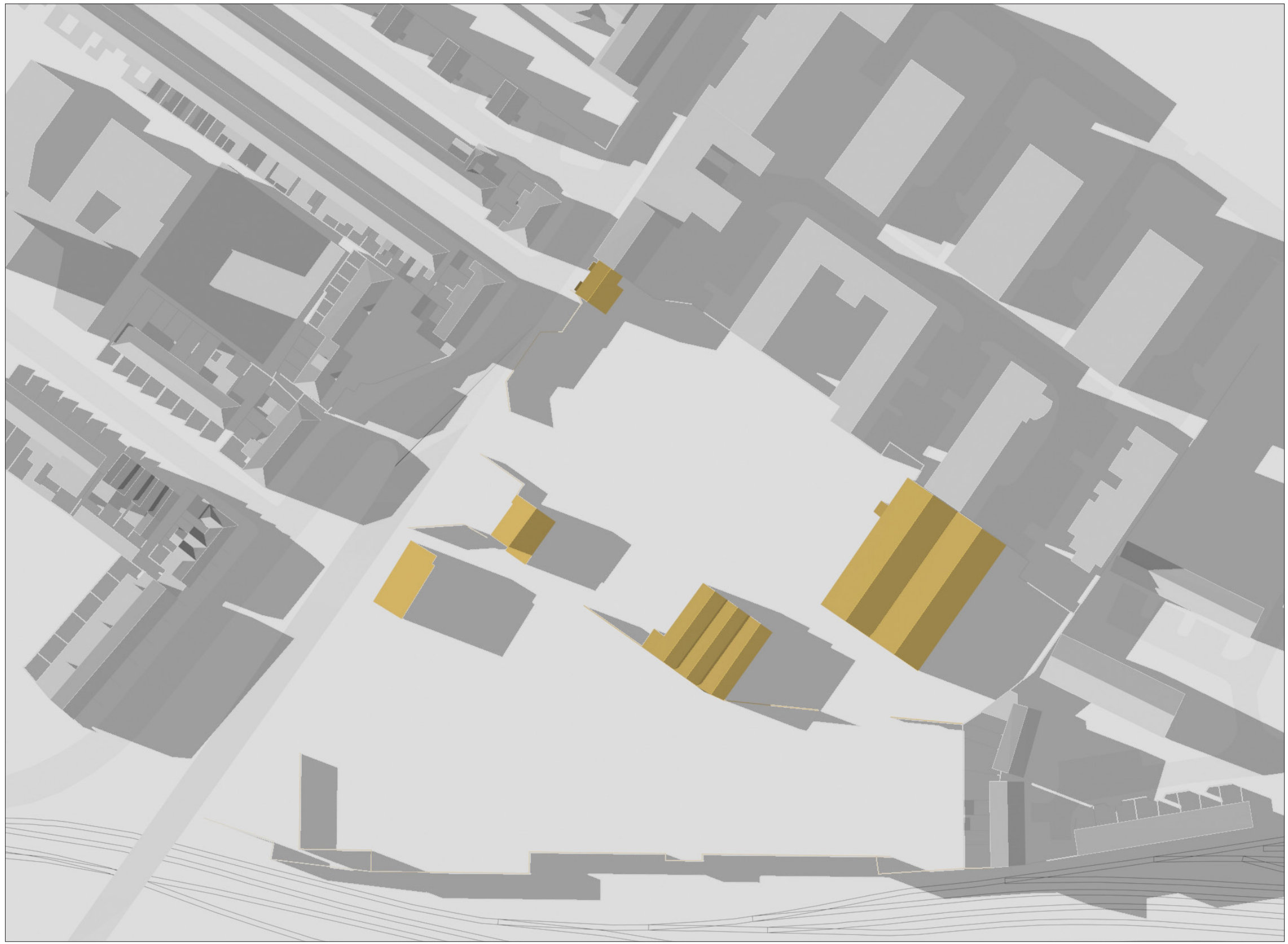

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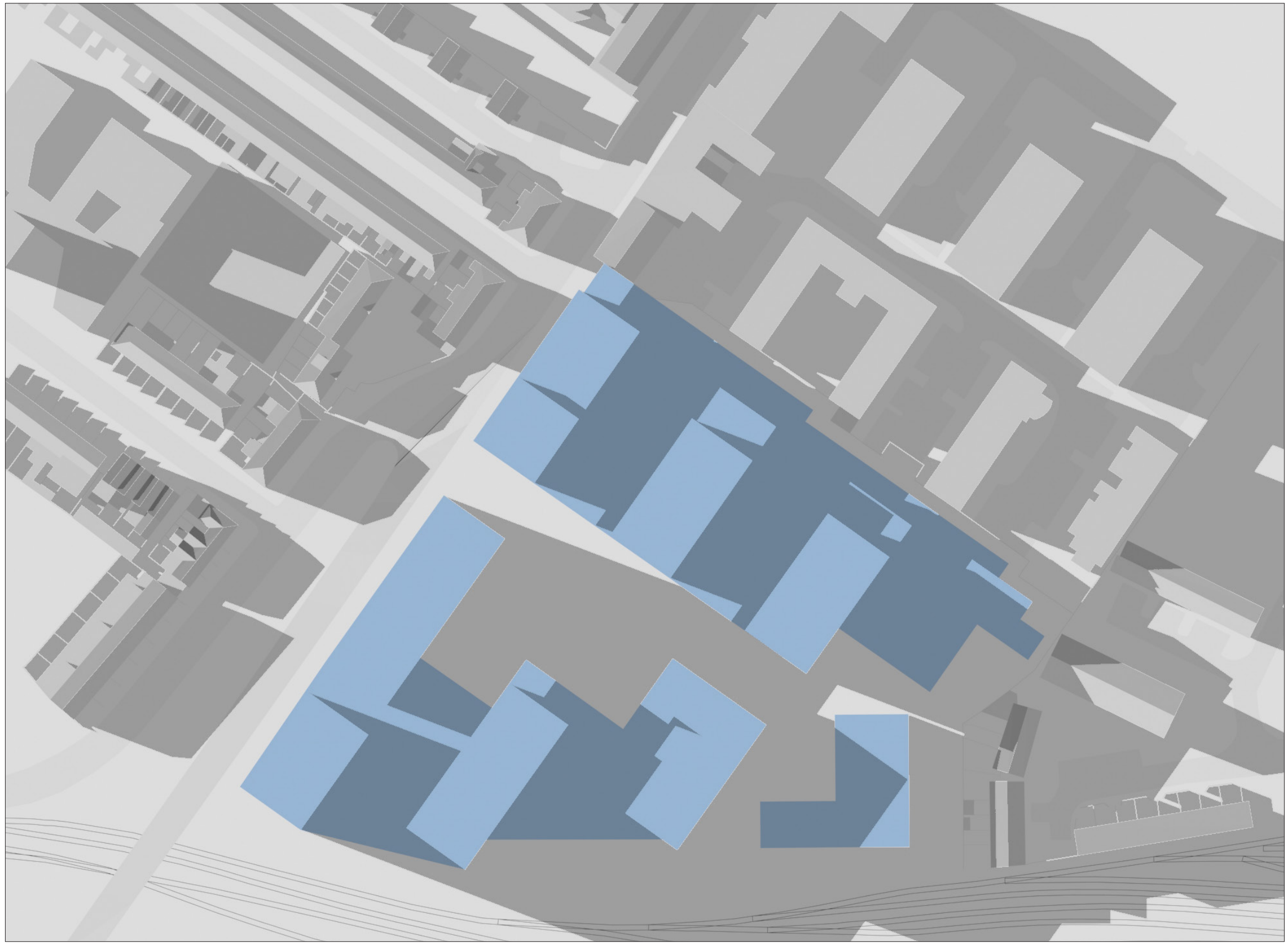

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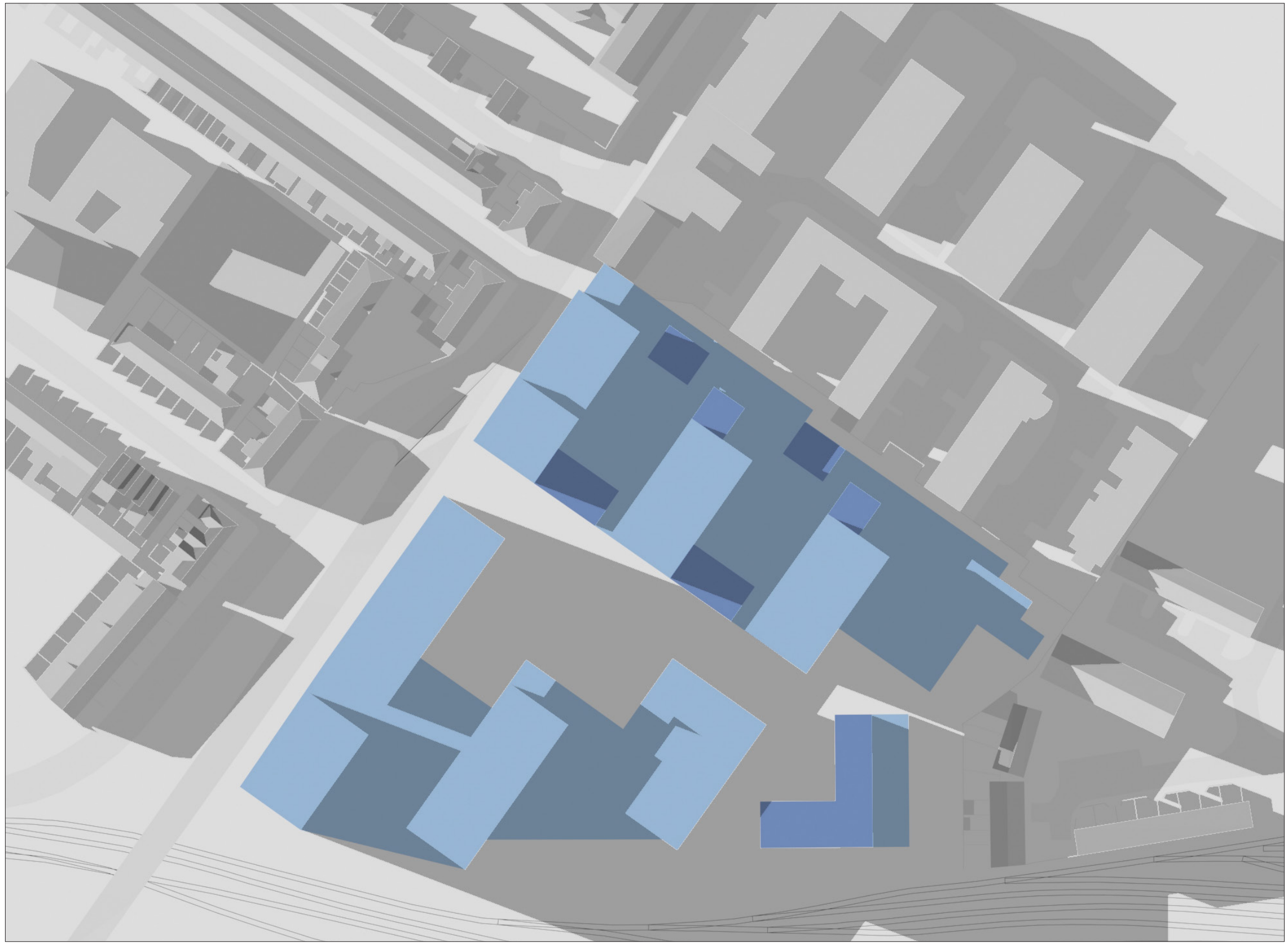

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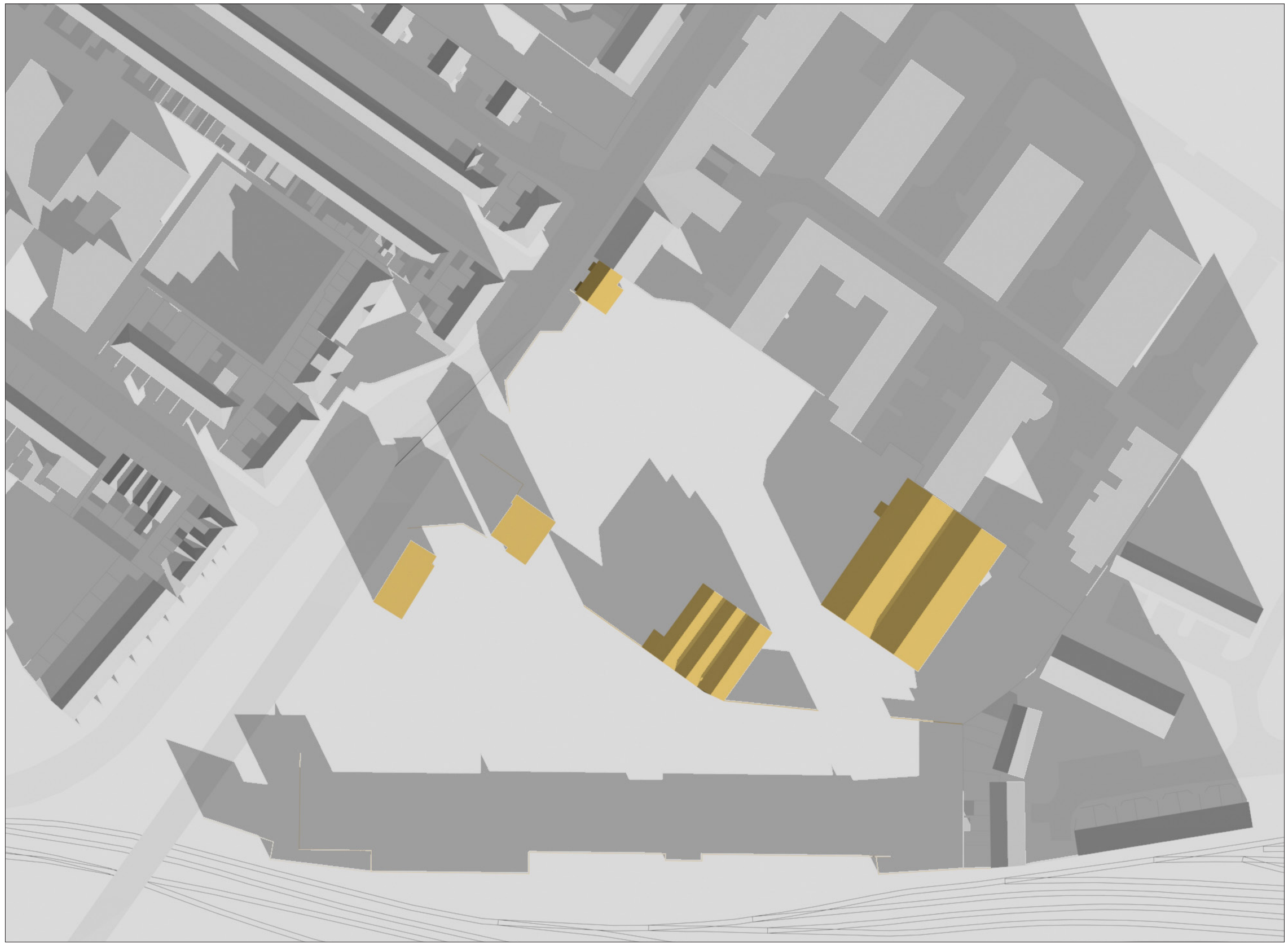

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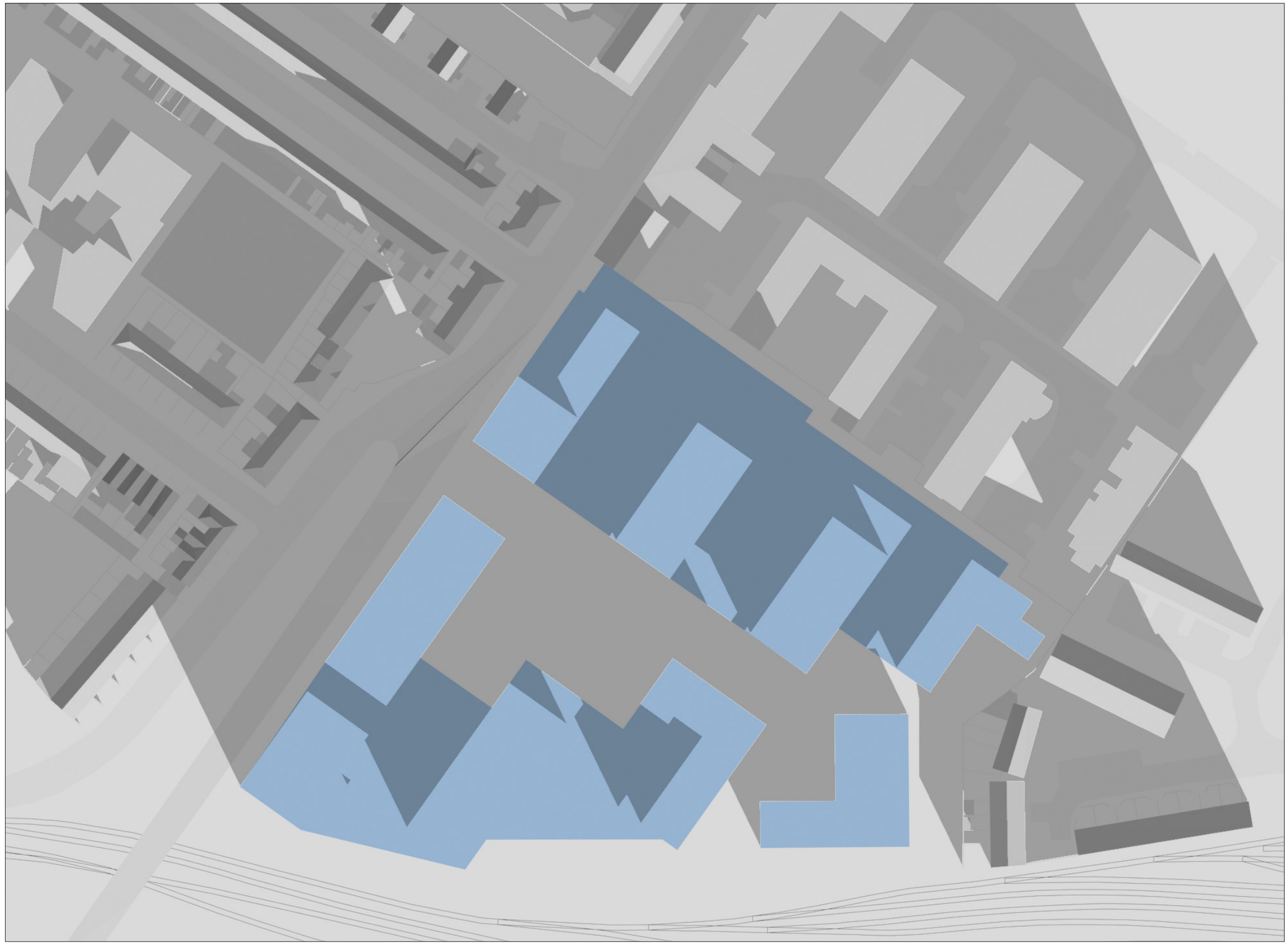
PRELIMINARY SHADOW STUDY
EMERGING DESIGN OF PROPOSED DEVELOPMENT
AT EAST ROAD, DUBLIN 1
12 JUNE 2018

DATE : DECEMBER 21ST - WINTER SOLSTICE
SUNRISE : 8.38 AM
SUNSET : 4.08 PM

TIME :
10.30 AM

PROPOSED
DEVELOPMENT
Option 1

OSI Licence No. AR 0087018



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PRELIMINARY SHADOW STUDY
EMERGING DESIGN OF PROPOSED DEVELOPMENT
AT EAST ROAD, DUBLIN 1
12 JUNE 2018

DATE : DECEMBER 21ST - WINTER SOLSTICE
SUNRISE : 8.38 AM
SUNSET : 4.08 PM

TIME :
10.30 AM

PROPOSED
DEVELOPMENT
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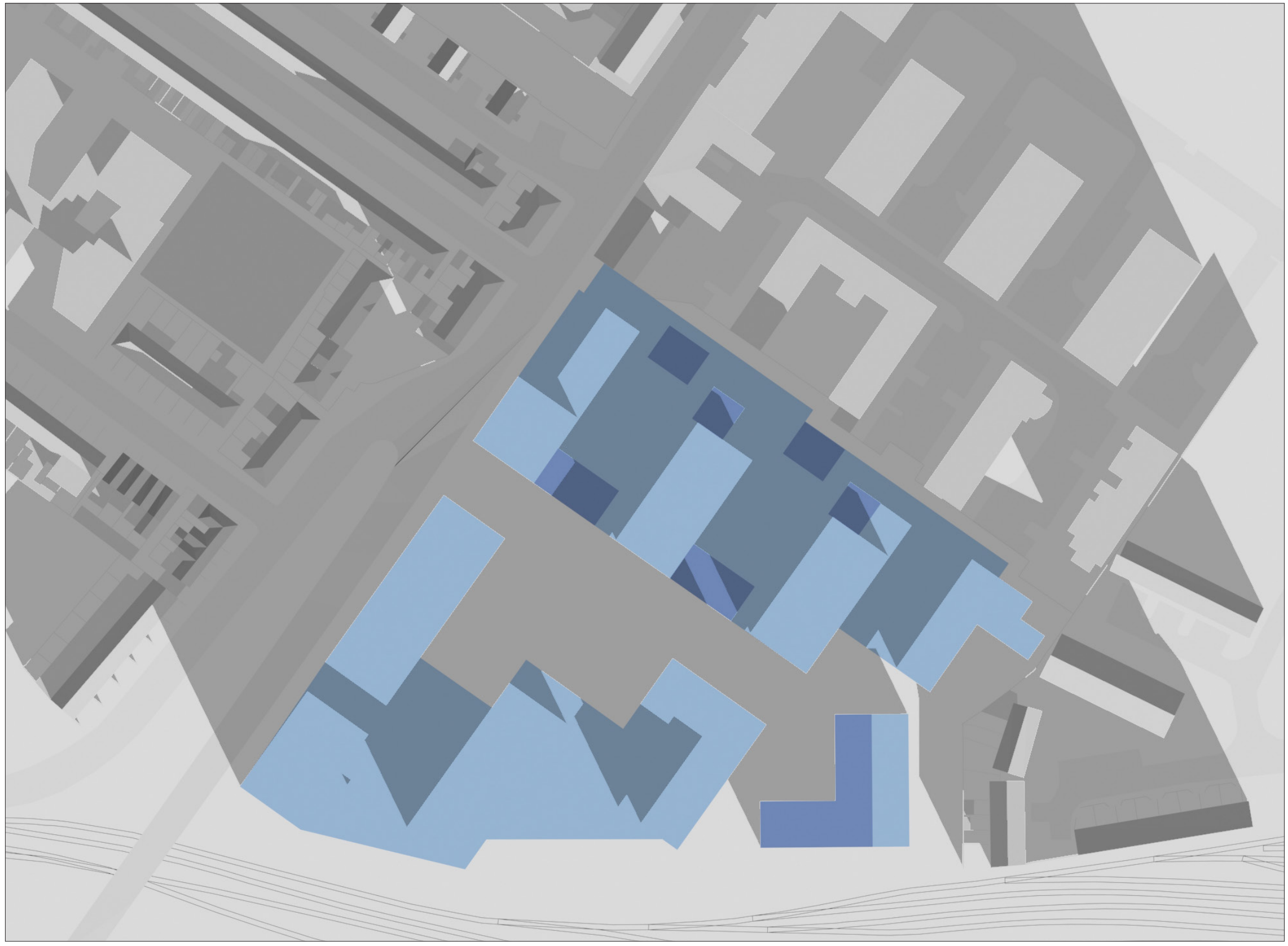

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TIME :
10.30 AM

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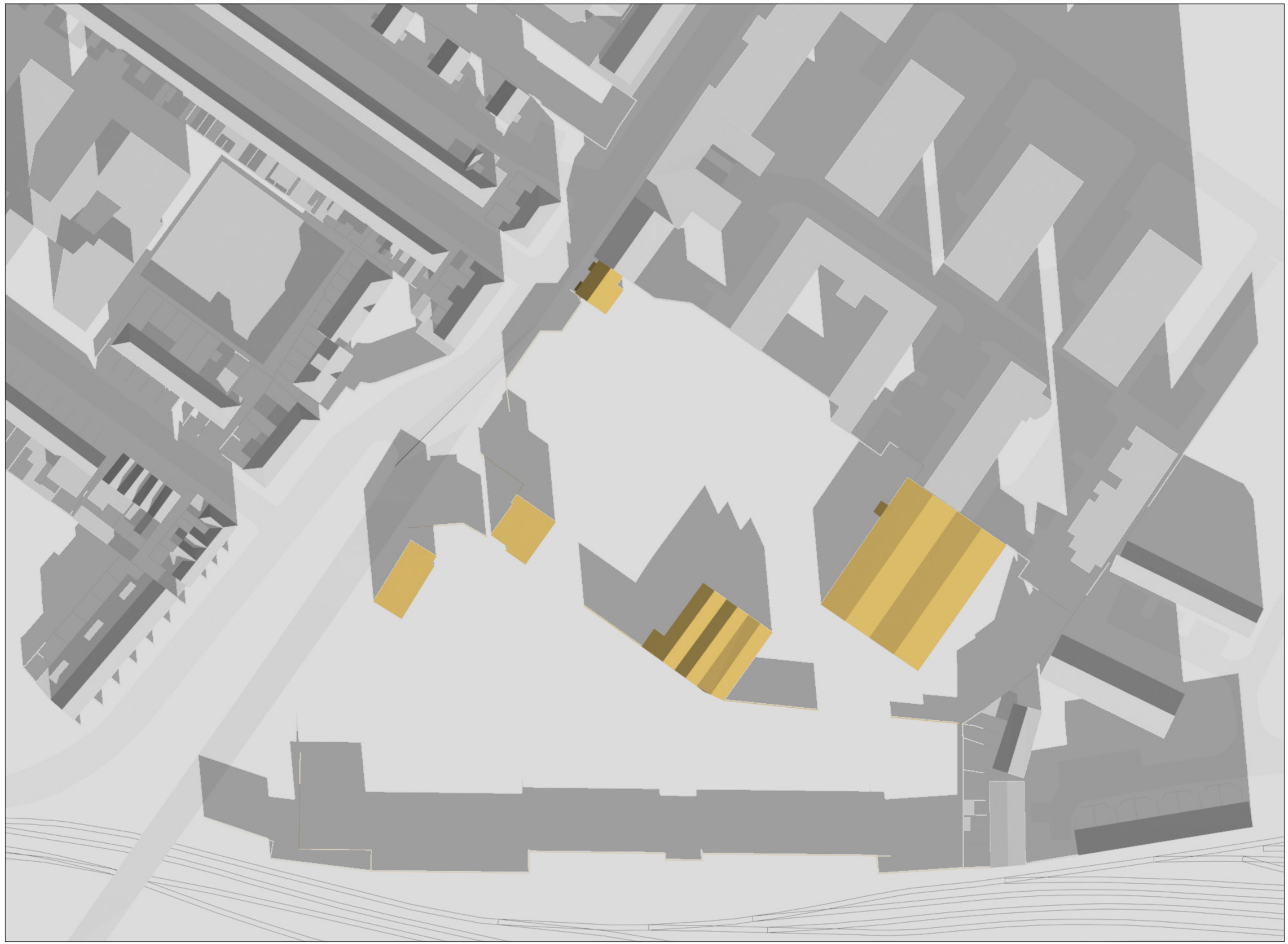
ENVIRONMENT



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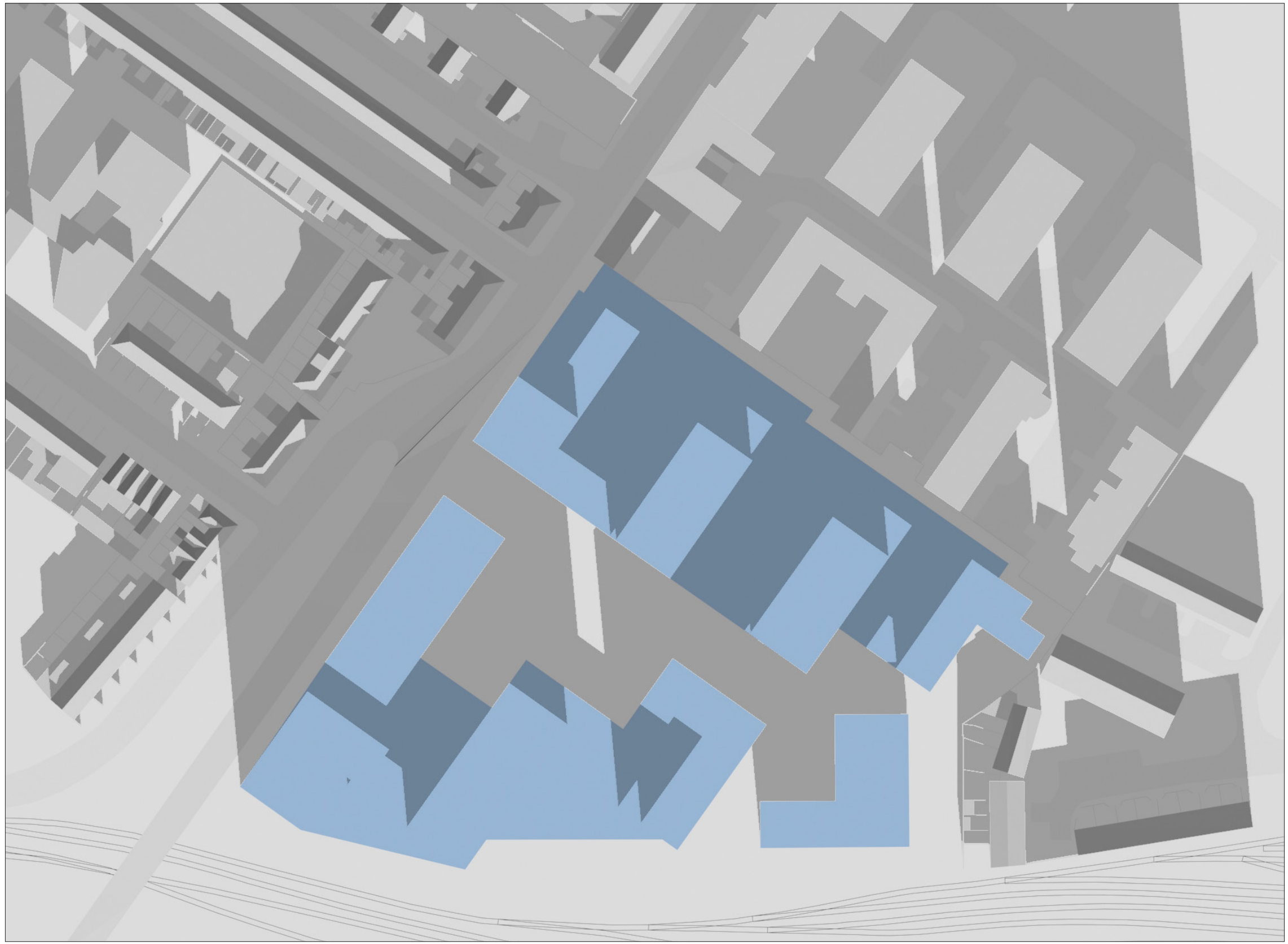

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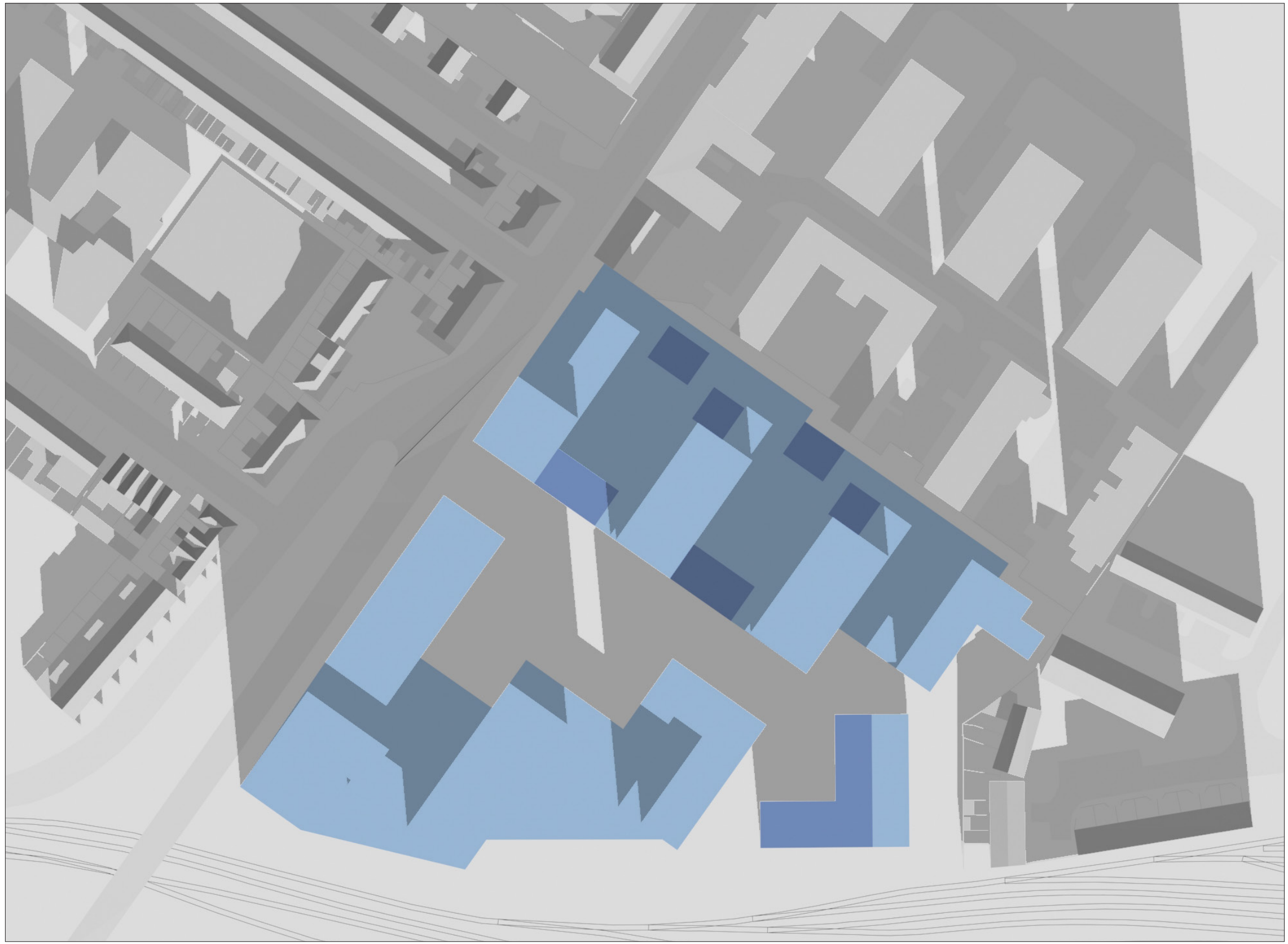
PROPOSED
DEVELOPMENT
Option 2

OSI Licence No. AR 0087018



N

PRELIMINARY SHADOW STUDY
EMERGING DESIGN OF PROPOSED DEVELOPMENT
AT EAST ROAD, DUBLIN 1
12 JUNE 2018

DATE : DECEMBER 21ST - WINTER SOLSTICE
SUNRISE : 8.38 AM
SUNSET : 4.08 PM

TIME :
12.00 PM

RECEIVING
ENVIRONMENT

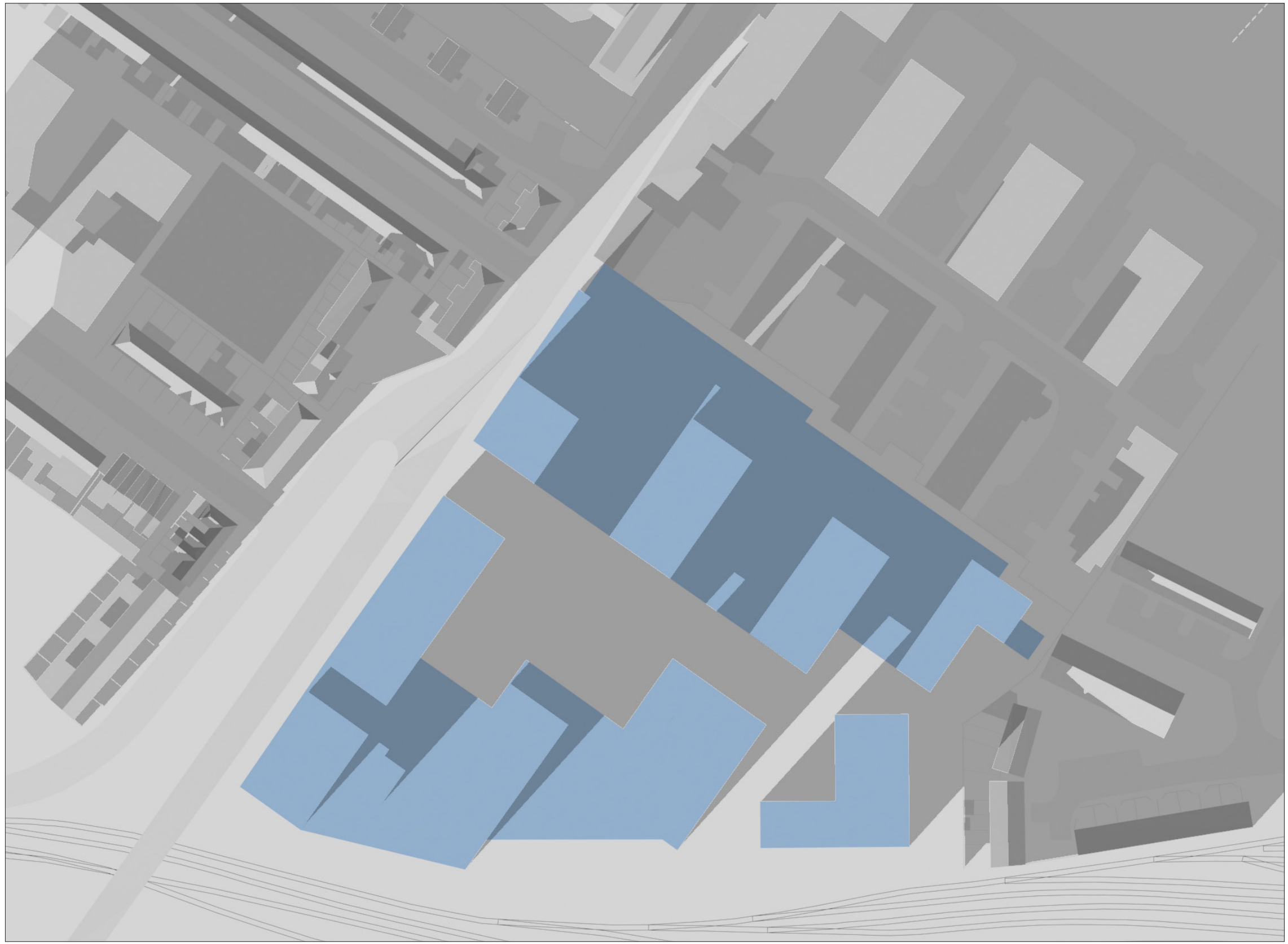
N

PRELIMINARY SHADOW STUDY
EMERGING DESIGN OF PROPOSED DEVELOPMENT
AT EAST ROAD, DUBLIN 1
12 JUNE 2018

DATE : DECEMBER 21ST - WINTER SOLSTICE
SUNRISE : 8.38 AM
SUNSET : 4.08 PM

TIME :
3.30 PM

PROPOSED
DEVELOPMENT
Option 1



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PRELIMINARY SHADOW STUDY
EMERGING DESIGN OF PROPOSED DEVELOPMENT
AT EAST ROAD, DUBLIN 1
12 JUNE 2018

DATE : DECEMBER 21ST - WINTER SOLSTICE
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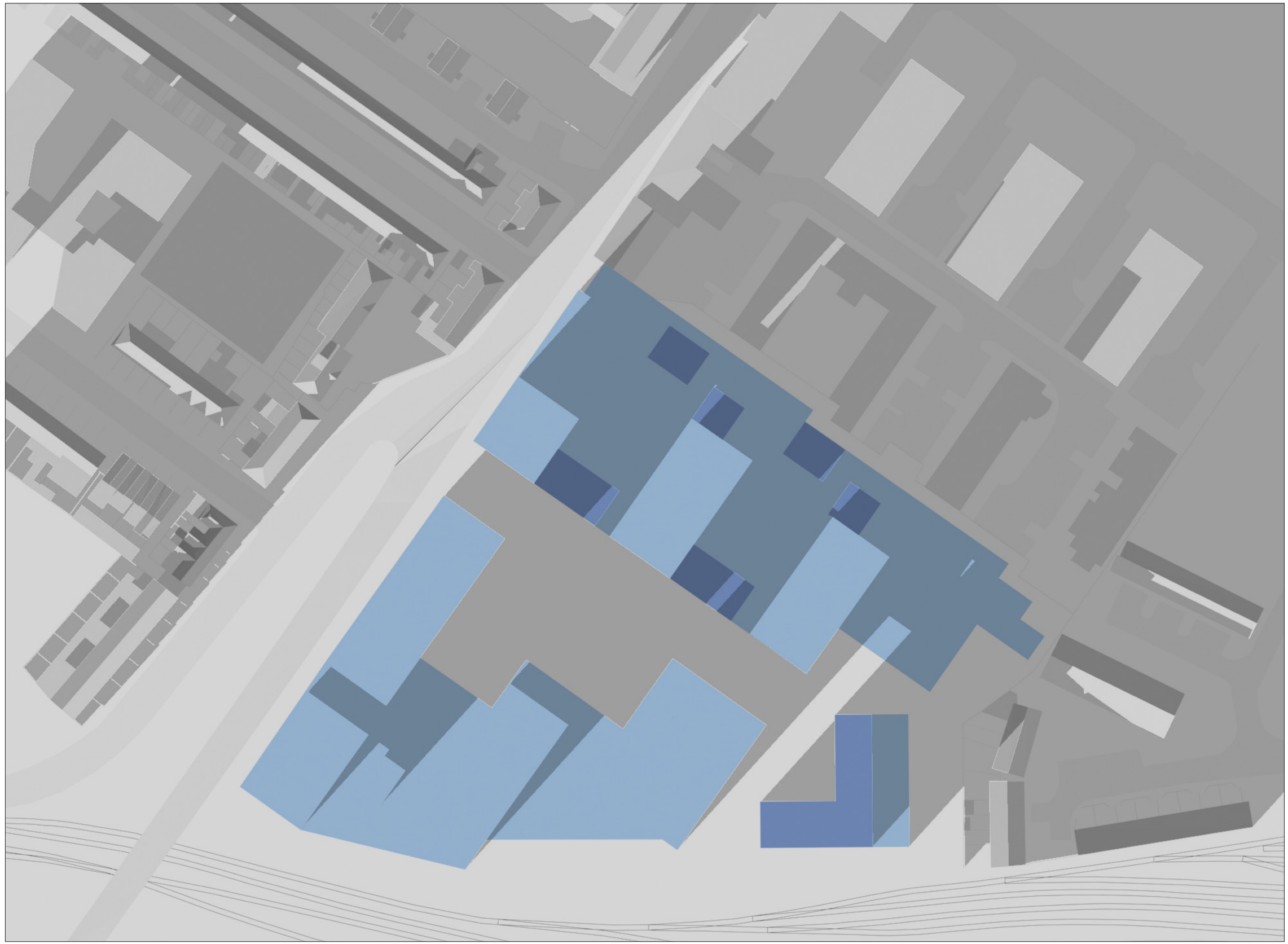
3.30 PM

PROPOSED
DEVELOPMENT
Option 2



N

PRELIMINARY SHADOW STUDY
EMERGING DESIGN OF PROPOSED DEVELOPMENT
AT EAST ROAD, DUBLIN 1
12 JUNE 2018

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