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FLOOD RISK ASSESSMENT

STAIRFOOT GLASSWORKS

FLOOD RISK ASSESSMENT STAIRFOOT GLASSWORKS

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1. INTRODUCTION

1.1 Appointment and Brief

Ramboll UK Limited (Ramboll) has been instructed by Potters Ballotini Ltd (the Applicant) to prepare a Flood Risk Assessment (FRA) to support a planning application a proposed waste glass recycling and repurposing facility (the proposed development) at the former Stairfoot Brickworks in Stairfoot, Barnsley, S70 ENS (the site).

1.2 Scope and Objectives

This report considers the risks from various sources of flooding to the site and the consequent changes to the risk of flooding to downstream receptors (such as people, property, habitats, infrastructure and statutory sites) from the proposed development as a result of changes to the surface water runoff regime or alteration to watercourses or their floodplain. A comparison is made between the current situation and the proposed future development, also taking account of potential climate change.

This FRA has been carried out in accordance with the National Planning Policy Framework (NPPF)¹. It is to be used to assist the Local Planning Authority (LPA) and relevant statutory consultees when considering the flooding issues of the proposed development, as part of a planning application.

This report provides the following information:

1. A review of the flood risk to the site based upon flood data and the flood maps provided by the Environment Agency (EA) and the relevant Strategic Flood Risk Assessment (SFRA);
2. An assessment of flood risk from sources including tidal, fluvial, pluvial, groundwater and infrastructure failure to the proposed development;
3. An assessment of the compatibility of the proposed development for its location based on flood risk and its proposed usage;
4. An assessment of the impact of the proposed development in terms of surface water runoff;
5. Proposals for measures to mitigate the generation of surface water runoff as a result of the proposed development; and,
6. Proposals to mitigate residual flood risks to the development.

1.3 Proposed Development

The proposed development is a waste glass recycling and repurposing facility. The facility will operate in accordance with circular economy principles for the recycling and repurposing of mainly clean glass or cullet, particularly flat glass, diverting it back to the market for use as a raw material. The site would be operated and regulated under a environmental permit from the EA, incorporating a management system. The Proposed Development Plans can be found in Appendix 1.

¹ GOV.UK, National Planning Policy Framework (Updated 20th December 2023) <https://www.gov.uk/government/publications/national-planning-policy-framework--2> (accessed 3rd Jan 2024)

1.4 General Limitations and Reliance

In preparation of the report and performance of any other services, Ramboll has relied upon publicly available information, information provided by the client and information provided by third parties. Accordingly, the conclusions reached in this report are valid only to the extent that the information provided to Ramboll was accurate, complete and available to Ramboll within the reporting schedule.

The key sources of information used to prepare this report are footnoted within the document. Ramboll cannot accept liability for the accuracy or otherwise of any information derived from third party sources.

Ramboll's services are not intended as legal advice, nor an exhaustive review of site conditions and/or compliance. This report and accompanying documents are initial and intended solely for the use and benefit of the client for this purpose only and may not be used by or disclosed to, in whole or in part, any other person without the express written consent of Ramboll. Ramboll neither owes nor accepts any duty to any third party, unless formally agreed by Ramboll through that party entering into, at Ramboll's sole discretion, a written reliance agreement.

Unless stated otherwise, the geological information provided is for general environmental interpretation and should not be used for geotechnical and/or design purposes.

2. SITE DESCRIPTION

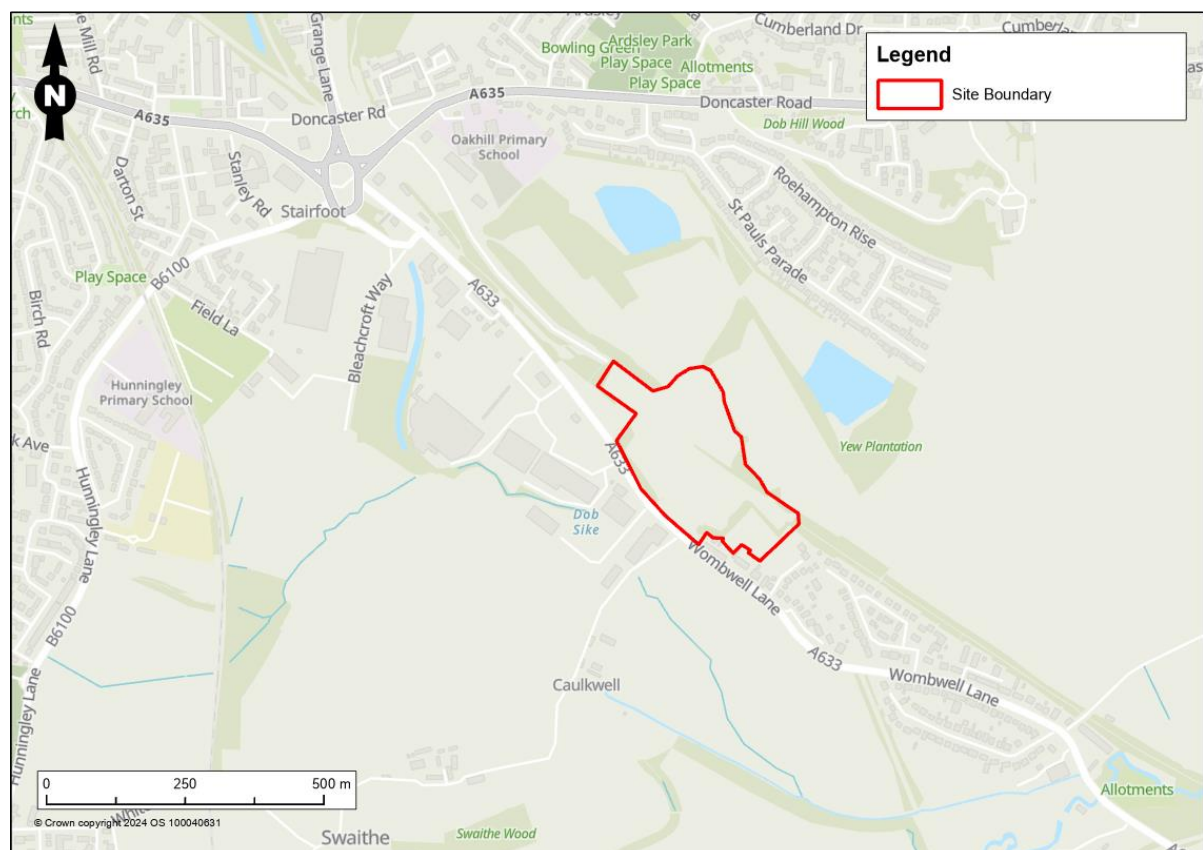
The following information was derived from information obtained from publicly available information sources or reported by the client. Ramboll has undertaken site visits in September and November 2023 to inform this FRA. This included a general site walkover and site attendance during site investigations and subsequent groundwater sampling.

2.1 Application Site Description

The site is located off the A633 Wombwell Road on the former Stairfoot Brickworks approximately 3.6 km southeast of Barnsley Town Centre. The site is in an area generally characterised by big-box retail and light industry type units, abutted with green open space and residential areas. The site is brownfield and whilst was used for industrial type activities previously, the site is currently considered vacant.

The site is centred on National Grid Reference (NGR) E 437914, N 405003. Site location is presented below in Figure 2.1.

Figure 2.1: Site Location



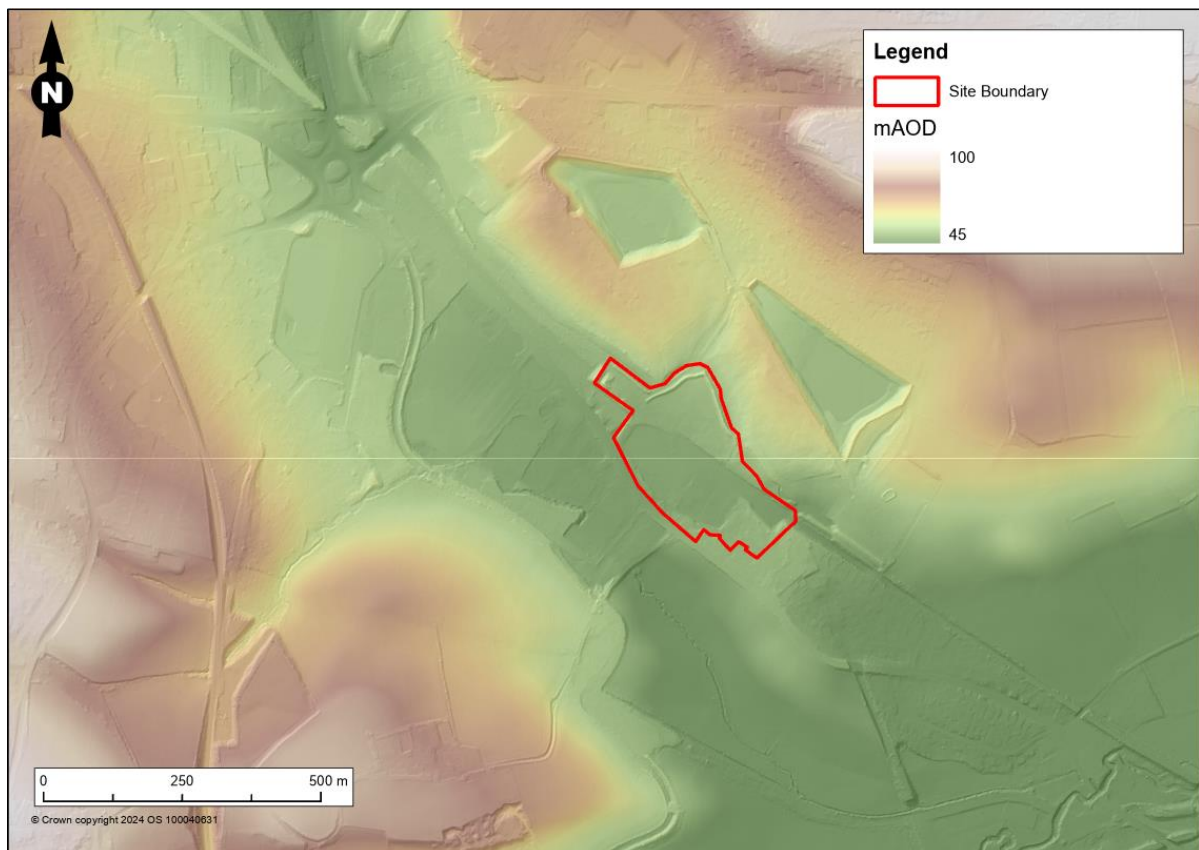
2.2 Existing Topography

The site and surrounding area topography has been established using available LiDAR (Light Detection and Ranging) aerial topographic data (acquired from the EA). Elevations on-site range from 50m Above Ordnance Datum (AOD) along the northern site boundary to 48mAOD in the south-western corner of the site. Off-site elevations increase to the north and further southwest, whilst they decrease to the southeast of the site.

It should be noted that there is an area of higher topography in the southeast corner of the site. Ground elevations across this area generally lie at 51 mAOD. The topography of the site and its surrounds are presented in Figure 2.2.

A topographic survey was conducted by Linear Surveys in September 2022². This results from this survey match that of the 1m LiDAR, and indicate the same values of elevation. The survey is included in Appendix 2.

Figure 2.2: Site Topography



2.3 Existing Drainage Regime

An Asset Location Search provided by Yorkshire Water [Ref:C12C4 Date:14th December 2023] indicates the presence of a combined sewer that drains water from the Southside of the site largely to a pumping station South of the proposed development, cutting through Wombwell lane. This 150mm vitrified clay sewer flows from southeast to northwest with a connection at roughly the south entrance. Additionally, North of the site, there is a large 300mm Vitrified Clay Surface Water pipe. It can be assumed that this bisects the site before eventually depositing water into the Dob Sike stream on the other side of Wombwell lane. However further clarification would be

² Topographic Survey – Doc ID: 10 - SFB_SEPT22_COMPOSITE MODEL A3 DWG SHEET (1).pdf

needed to confirm this. It can be assumed that if any piped drainage flooding were to occur in Wombwell, any runoff would be directed away from the site boundary.

There is a network of existing drainage pipes within the site itself, all of which has been identified to be private drainage. More information on this can be found in the Drainage Strategy undertaken by Ramboll³ and has been addressed fully in that report, however, the majority of these appear to be related to former buildings and other structures now demolished. Some of the existing pipes are perforated and act as land drainage.

³ Drainage Strategy – Ramboll: Ref: REH2023N00908-RAM-RP-0002, Date: 19th January 2024.

3. REVIEW OF BASELINE DATA

3.1 Geological Setting

According to British Geological Survey (BGS) 1:50,000 geological mapping⁴, no superficial deposits were recorded at the site. However, the site is underlain by sedimentary bedrock geology comprising of Pennine Middle Coal Measures Formation - Mudstone, siltstone and sandstone.

The BGS Borehole GeoIndex⁵ indicates that there are no available borehole records within the site location. Two boreholes which are situated northwest of the site, and are shown to be located within the same band of geological strata. These boreholes have been used as an indication of the geology in the area.

Borehole 1 (SE30NE9) is located approximately 260m northwest of the site, with Borehole 2 (SE30NE15) being located approximately 290m northwest. Both boreholes exceed 100m in depth and are both shown to be initially underlain by made ground. Beneath the made ground, is a variety of different coal-based strata that occasionally interchange between mudstone, shale and ironstone.

As well as information gathered from the BGS, Ramboll conducted a Ground Investigation Report⁶ in order to determine what ground conditions were like on site. Although the conclusion from the BGS and Ramboll's report are not too dissimilar, with both indicating that the site is initially underlain by Made Ground before transitioning to coal-based strata, a full report of conditions, along with investigation locations and groundwater levels can be found in the report.

Throughout the duration of both boreholes, water was not struck at any depth offsite. Other boreholes in the area mimic these conditions and also show that water was not struck during the entirety of the borehole. Groundwater was found at multiple depths during onsite investigations conducted by Ramboll. Full details of this can be found in Table 3.7 in the Generic Quantitative Risk Assessment.

3.2 Hydrological Setting

The Dob Sike is located approximately 130 m southwest of the site and flows in a general southeast direction. Additionally, North of the site, there is a large 300mm Vitrified Clay Surface Water pipe. It can be assumed that this bisects the site before eventually depositing water into the Dob Sike stream on the other side of Wombwell lane.

The Dob Sike appears to be culverted at multiple locations, with the upstream extents of the watercourse being culverted beneath the B6100 approximately 950 m west of the site, and the southern extremity of the water course being culverted under Wombwell Lane and Caulk Lane approximately 140 m southwest of the site.

From here, the Dob Sike continues flowing in a south-easterly direction, until it joins the River Dove after being culverted once more under the A633, Barnsley Road, approximately 820 m southeast of the site.

The River Dove flows into the River Dearne approximately 4.1 km east of the site. Under EA classification, both these rivers are classified as Main Rivers. The hydrological setting of the development is shown below in Figure 3.1.

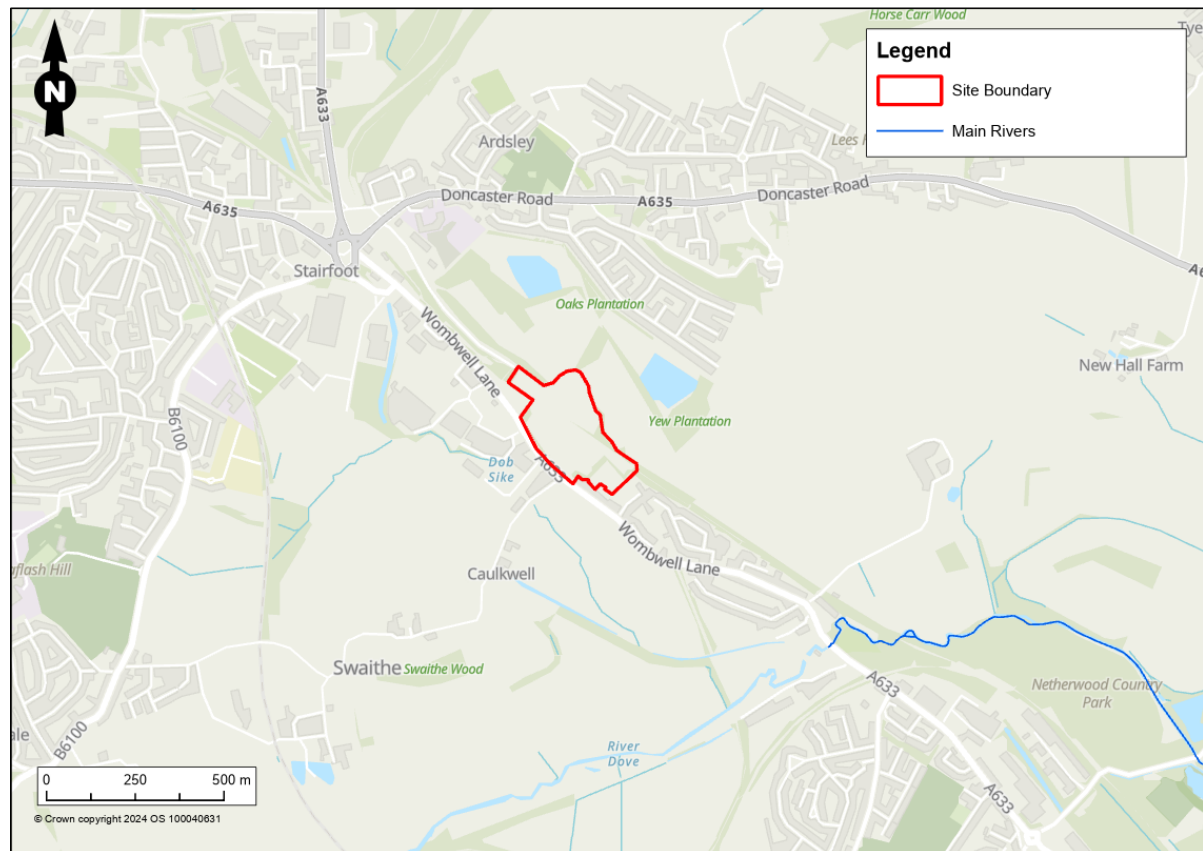
⁴ British Geological Survey GeoIndex. Available Online: <https://www.bgs.ac.uk/>

⁵ British Geological Survey Borehole GeoIndex, Available Online:

https://mapapps2.bgs.ac.uk/geoindex/home.html?layer=BGSBoreholes&_ga=2.92936349.1435292450.1677592503-1764131558.1677592503

⁶ Generic Quantitative Risk Assessment – Ramboll: Ref: R1620015371-001 Potters Stairfoot GQRA, Date: 19th January 2024

Figure 3.1: Hydrological Setting



3.3 Fluvial and Tidal Flood Risk

The EA floodplain maps identify areas in England and Wales at risk of flooding by allocating them into flood risk zones. The flood risk zones shown on the flood maps are defined in Table 1 (Flood Zones) of the Technical Guidance to the NPPF⁷, and are as follows:

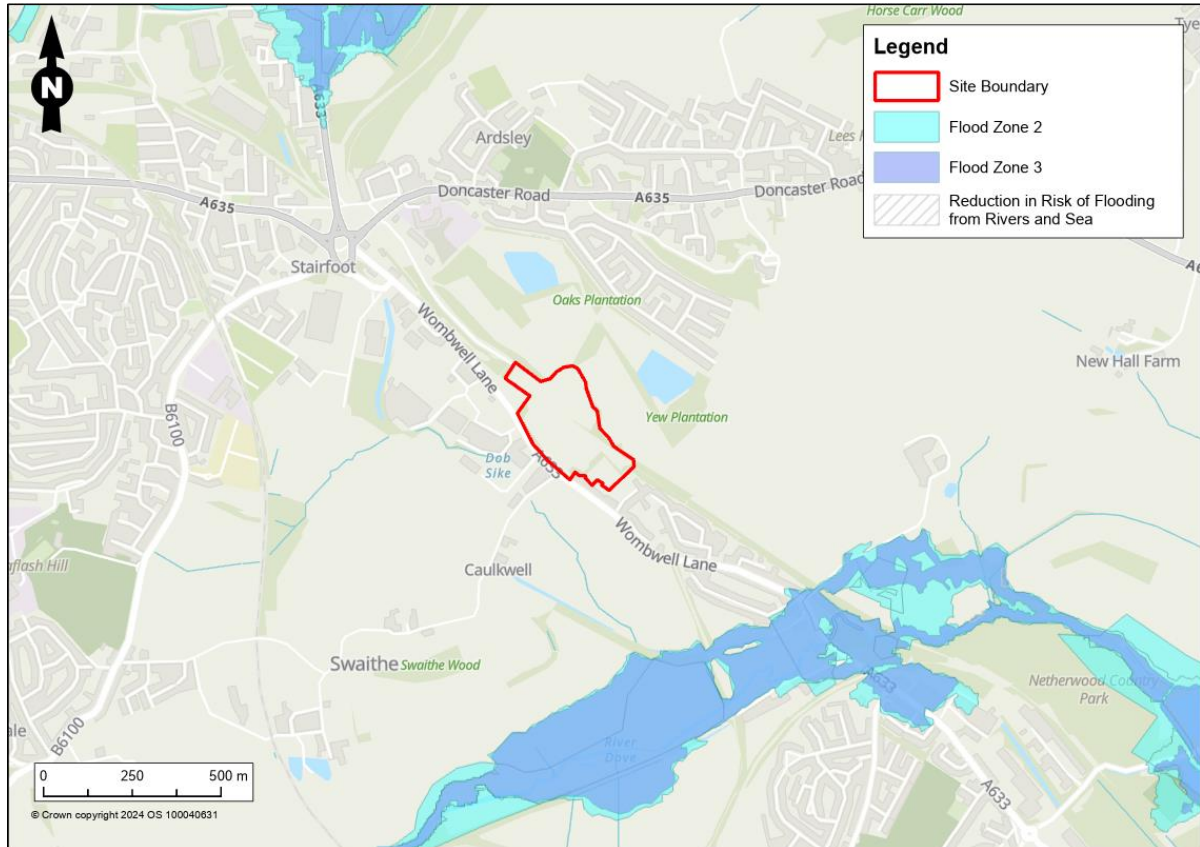
- **Zone 1: Low Probability.** According to the NPPG, land in this zone is considered to have less than 1-in-1000 annual probability of river or sea flooding in any year.
- **Zone 2: Medium Probability.** According to the NPPG, land in this zone is considered to have between a 1-in-100 and 1-in-1000 annual probability of river flooding in any year (between 1% and 0.1%) or between a 1-in-200 and 1-in-1000 annual probability of sea flooding in any year (0.5% to 0.1%).
- **Zone 3a: High Probability.** According to the NPPG, land in this zone is considered to have a 1-in-100 or greater annual probability of river flooding in any year (>1%) or a 1-in-200 or greater annual probability of flooding from the sea in any year (>0.5%).
- **Zone 3b: The Functional Floodplain.** According to the NPPG, land in this zone is used for water flow or storage in times of flood. This flood zone should be identified by a Strategic Flood Risk Assessment (SFRA). It is considered to have a 1-in-20 or greater chance of river flooding in any year which is >5%. Another probability, however, can also be agreed between the Local Planning Authority (LPA) and the EA.

The EA's designated Flood Zone extents at and around the vicinity of the site are presented below in Figure 3.2. The red line boundary is entirely located in Flood Zone 1 (Low Probability). The closest Flood Zones to the site are associated with any flood extents emanating from the River Dove and as such are located approximately 630 m southeast of the site. Fluvial and tidal flood

⁷ Communities and Local Government, March 2012, Technical Guidance to the National Planning Policy Framework

risk to the site is therefore considered Low, however, further assessment of potential flood risk from other sources at the site is necessary.

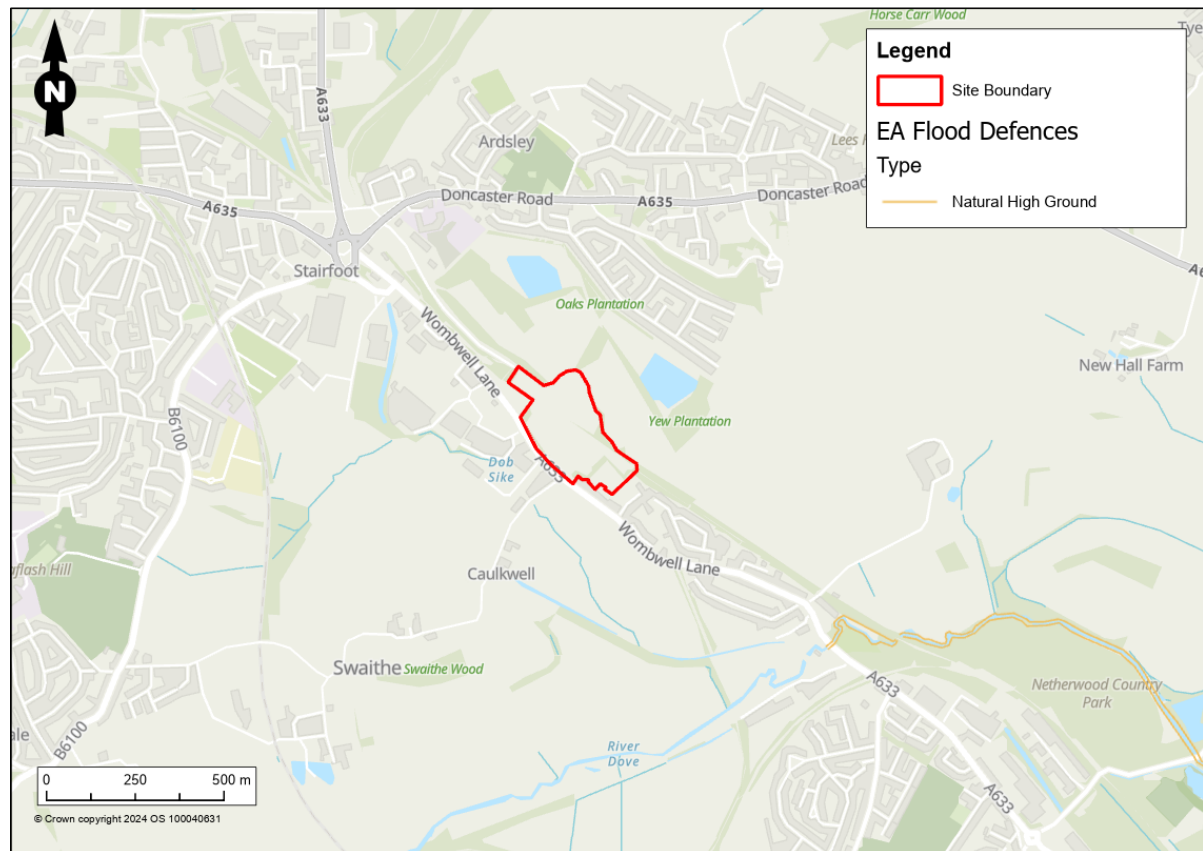
Figure 3.2: Flood Map for Planning



3.4 Flood Defences

The site is located in Flood Zone 1 and therefore does not benefit from any flood defences. The closest flood defences to the site are located approximately 1.3 km southeast of the site and are associated with Natural High Ground located on both banks of the River Dove. This is presented in Figure 3.3.

Figure 3.3: EA Flood Defences



3.5 Surface Water and Sewer Drainage Flood Risk

The EA has undertaken national-scale modelling of potential surface water flood risks (i.e. those associated with extreme rainfall events and associated overland flow rather than flooding from rivers or the sea). Such risks are categorised as High, Medium, Low or Very Low as follows:

- High – Greater than a 1 in 30 (3.33%) annual probability;
- Medium – Between a 1 in 30 and 1 in 100 (3.33% to 1%) annual probability;
- Low – Between a 1 in 100 and a 1 in 1,000 (1% to 0.1%) annual probability; and
- Very Low – Less than a 1 in 1,000 (0.1%) annual probability.

The EA mapping shows areas of the site to be at High or Medium risk of surface water flooding, with the majority of the site shown to be at Very Low or Low risk, as presented in Figure 3.4. However, it must be noted that the EA Flood Map for Surface Water is typically based only on limited information held by the EA with regard to ground elevations and drainage.

The EA's online surface water flood risk data suggests a potential for surface water flood risk in the central area of the site. The potential flood depths in these areas range up to 0.30m for the 1 in 100 year Annual Exceedance Probability (AEP). However, these areas are associated with topographic depressions in the current topography and it is assumed that ground levels would be changed as part of the proposed development. A further isolated lineal strip of surface water risk is present on the northern boundary of the site, ranging up to 0.9 m in depth, and is likely to be the result of surface water runoff from the sloping area of land upgradient (north) of the site.

However, the modelling is completed at a national scale, and the EA has stated⁸ that there are a number of assumptions in the model used to produce this mapping. Specifically, it is stated by the EA that the model cannot represent every detail of the urban landscape and very local mechanisms of flooding. Buildings are artificially raised above ground levels data within the model to represent the likely slowing of water flow to internal areas. As a result, adjacent external ground areas are shown to receive an accumulation of surface water runoff.

The EA publishes geo-spatial data⁹ describing the suitability of the modelling for a range of types of assessment for given locations. At the subject site location it is confirmed that the mapping was produced by the JFlow National Surface Water model, which was run in March 2013 at a 2m resolution. It is stated that the assumption at this location was that any drainage systems are at capacity. Therefore, the model does not allow for losses (departure) of surface water runoff during the modelled storm event via the drainage network at the site and in the vicinity of the site.

The Suitability of the results at this location is stated to be 'Town to Street. This is defined in Table 2 below, and suggests that, whilst suitable for identifying flood extents, approximate depth of flooding, and identifying streets at risk of flooding, the results at this location are "Likely to be reliable for a local area (and so the information is suitable for areas of land, not individual properties)", however, "Very unlikely to be reliable for identifying individual properties at risk".

In addition, the drainage assets serving such areas are not represented in the model; drainage capacity is the biggest factor in uncertainty in the modelling. The EA has to make assumptions where no drainage data is available, and therefore the outputs of the model may be less accurate; as a result, the EA typically advise that this mapping is not used to inform site-specific assessments of flood risk. It is also noted that the surface water flood risk does not take account of any below ground drainage.

OS MasterMap data on land cover, and data on soil type and land permeability is used to represent the spatial variation in runoff and infiltration rates. Therefore, the modelling is not likely to represent site-specific conditions.

⁸ <https://assets.publishing.service.gov.uk/media/5db6ded540f0b6379a7acbb8/What-is-the-Risk-of-Flooding-from-Surface-Water-Map.pdf>

⁹ <https://www.data.gov.uk/dataset/d5ca01ec-e535-4d3f-adc0-089b4f03687d/risk-of-flooding-from-surface-water-suitability>

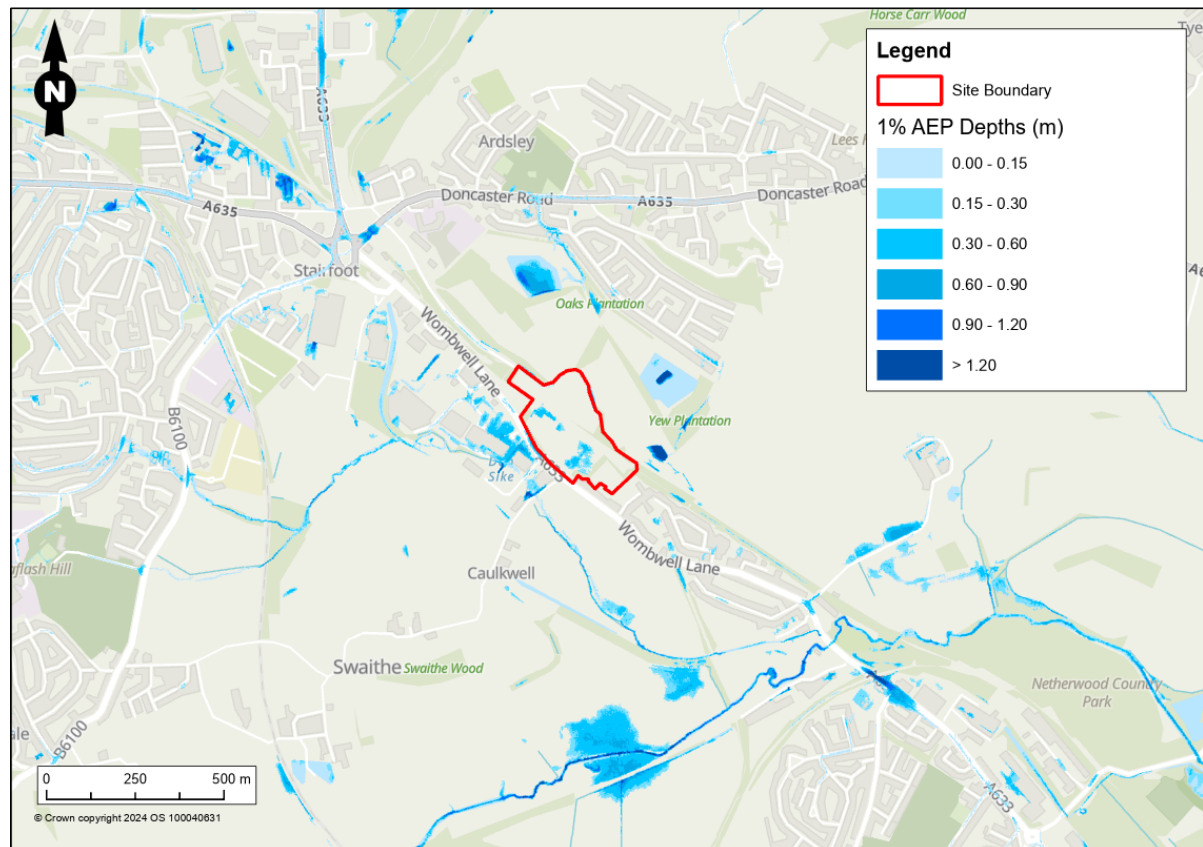
Table 1: Risk of Flooding from Surface Water Suitability Matrix

(Page 30 of the EA's 'What is the Risk of Flooding from Surface Water map?' Report, Version 2.0, April 2019)

Suitability: 'it's good enough for...'		Reliability: 'how good is it...'	
Indicative suitable scale	Indicative suitable information use	How reliable is this for a local area	How reliable is this for an individual property
National to county Suitable for identifying which parts of countries or counties are at risk, or which countries or counties have the most risk.	Suitable for identifying areas with a natural vulnerability to flood first, deepest or most frequently.	Very unlikely to be reliable for a local area.	Extremely unlikely to be reliable for identifying individual properties at risk
County to town Suitable for identifying which parts of counties or towns are at risk, or which counties or towns have the most risk.	Suitable for identifying approximate extents, shallower and deeper areas.	Unlikely to be reliable for a local area.	Very unlikely to be reliable for identifying individual properties at risk.
Town to street Suitable for identifying which parts of towns or streets are at risk, or which towns or streets have the most risk.	Suitable for identifying flood extents, approximate depth of flooding, and identifying streets at risk of flooding.	Likely to be reliable for a local area (and so the information is suitable for areas of land, not individual properties).	Unlikely to be reliable for identifying individual properties at risk (and so the information is suitable for areas of land, not individual properties).
Street to parcels of land Suitable for identifying which parts of streets or parcels* of land are at risk, or which streets or parcels of land have the most risk.	Suitable for identifying flood extents, depths and approximate velocities.	Very likely to be reliable for a local area (and so the information is suitable for areas of land, not individual properties).	Likely to be reliable for identifying individual properties at risk (though not whether they flood internally, so the information is suitable for areas of land, not individual properties).
Property (including internal) Suitable for identifying which parts of a property are at risk (including internal / external distinction), or which properties have the most risk.	Suitable for identifying flood extents, depths, velocities, and distinguishing between street and property flooding	Extremely likely to be reliable for a local area.	Likely to be very reliable at identifying individual properties at risk, including depths of flooding internally (this provides a genuine property level assessment).

Whilst the EA mapping indicates where there could be heightened surface water flood risks in some areas, this does not take account of site-specific or public surface water drainage measures which are likely to be present and would be expected to significantly reduce surface water flood risks from that assumed and presented by the EA mapping. The EA's data confirms that the mapping at this location should not be used for site-specific assessment of risk, being Unlikely to be reliable for the local area, and Very Unlikely to be reliable for identifying individual properties at risk.

Figure 3.4: Risk of Surface Water Flooding



3.6 Groundwater Flood Risk

Groundwater flooding is caused by the emergence of water originating from sub-surface permeable strata. A groundwater flood event results from a rise in groundwater level sufficient enough for the water table to intersect the ground surface and inundate low lying land and/or infrastructure below ground. Groundwater floods may emerge from either point or diffuse locations. They tend to be long in duration developing over weeks or months and prevailing for days or weeks.

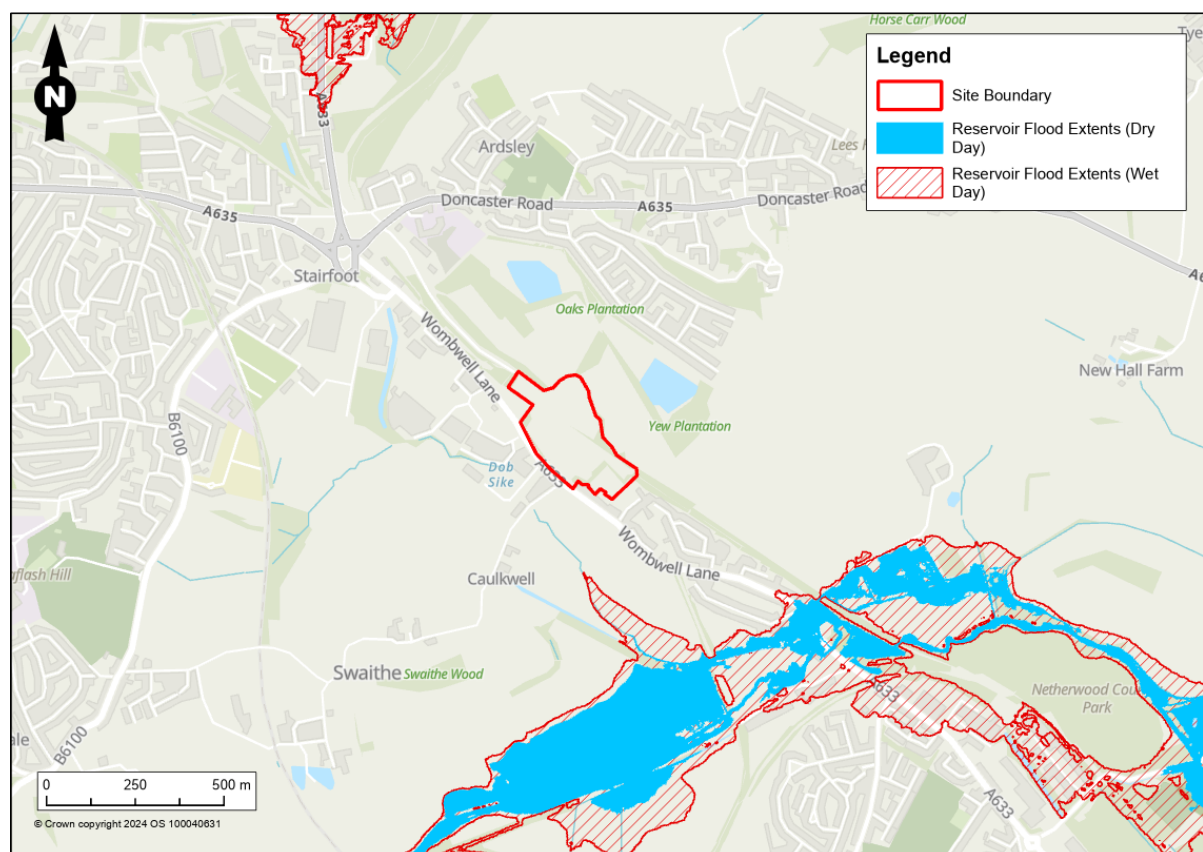
The Barnsley Metropolitan Council Strategic Flood Risk Assessment (SFRA) September 2011¹⁰ indicates that the main threat of groundwater flood risk is from the re-emergence of minewaters from the formerly very important South Yorkshire mining region following the cessation of minewater pumping. Both The Coal Authority and the EA are working in partnership and are in the process of developing a strategic forward plan to manage minewater levels to minimise the risk of re-emerging minewaters causing both flooding and/or initiating water quality problems in the major Sherwood Sandstone water resource aquifer.

As part of the development, Ramboll will be conducting a Ground Investigation Report to aid the planning application. Further details on the ground conditions and associated depths of groundwater may be found within this document. This document has been referenced in Section 2.3

3.7 Risk from Reservoirs, Canal and Other Artificial Sources

According to the EA's Long-Term Flood Risk Map¹¹ the site is not identified as being at risk of flooding in the event of a reservoir failure, both when river levels are normal and when there is flooding from rivers. This is shown below in Figure 3.5.

Figure 3.5: Risk of Reservoir Flooding



¹⁰ Barnsley Metropolitan Council Strategic Flood Risk Assessment (SFRA) September 2010. Available at:

<https://www.barnsley.gov.uk/media/18125/barnsley-strategic-flood-risk-assessment-level-1-report-sept-2010.pdf>

¹¹ UK Government (2022). Check the long term flood risk for an area in England, available at: <https://www.gov.uk/check-long-term-flood-risk>

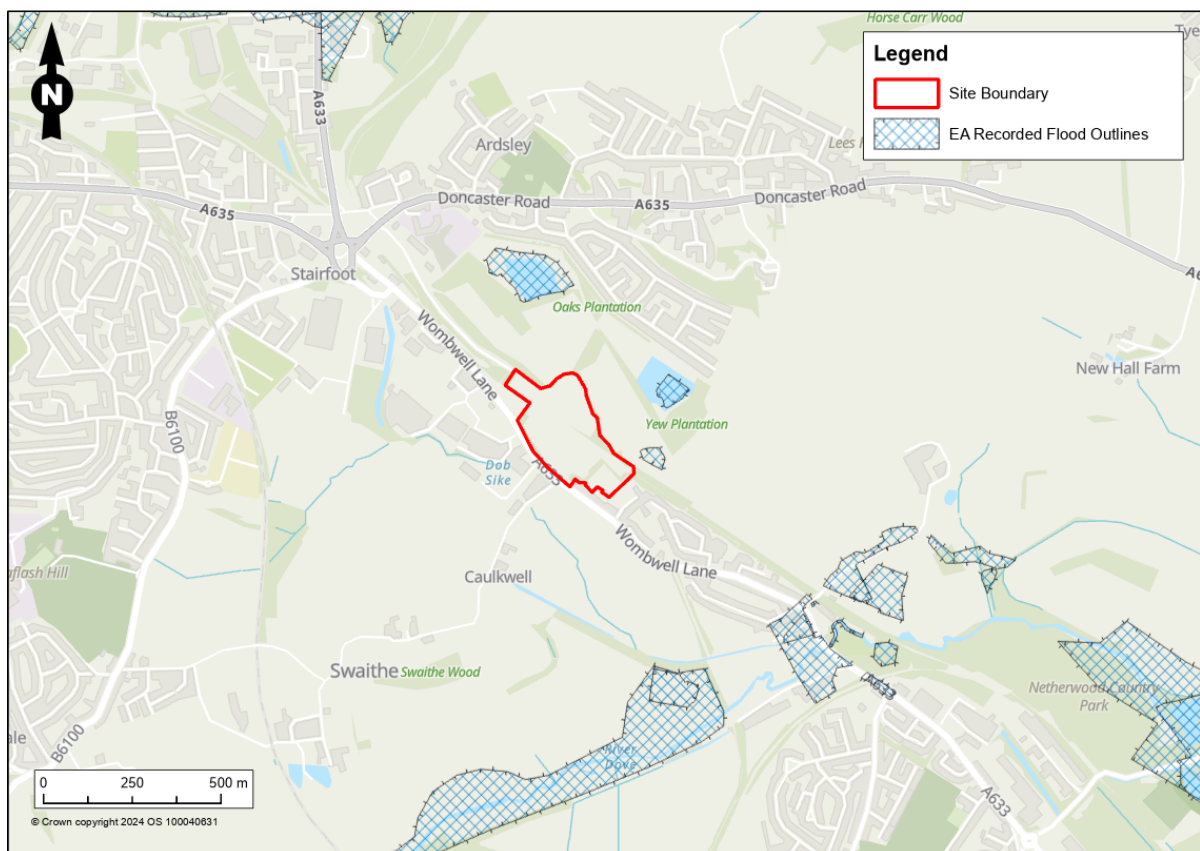
3.8 Historic Flooding

According to DEFRA spatial data¹² the site is not situated within an area of historical flooding. This is presented in Figure 3.6 below.

There are isolated incidents of historical flooding indicated by EA data located within the close vicinity of the site. These events have been identified to have been associated with a surface water flooding event that occurred in June 2007. The closest recorded flood event associated with fluvial flooding occurred in November 2019 and is located approximately 720 m southeast of the site and is associated with the River Dove.

It is understood that there is a culverted drain crossing the site which, if in good working order, would reduce such risks. It is noted that the drain has previously been identified to be at least partially blocked and this would contribute to surface water flood risks.

Figure 3.6: Historic Flooding



¹² DEFRA Spatial Data Services Platform, Historic Flood Map, available at:
<https://environment.data.gov.uk/DefraDataDownload/?mapService=EA/HistoricFloodMap&Mode=spatial> (accessed 12/2023)

4. ASSESSMENT OF FLOOD RISK

4.1 Sources of Flood Risk

The site is situated within Flood Zone 1, meaning that the EA consider there to be a low risk of flooding from rivers and the sea. This status will not be changed as a result of the proposed development. There is a culverted drain crossing the site. It is noted that the drain has previously been identified to be at least partially blocked and this would contribute to current surface water flood risks.

The likelihood of groundwater flooding at the surface is low. Assuming appropriate engineered waterproofing measures are implemented, the probability of groundwater ingress at basement level would also be low.

4.2 Flood Risk Vulnerability

According to Table 2 (Flood Risk Vulnerability Classification) in the Planning Practice Guidance to NPPF¹³ the proposed development would be classified as "Less Vulnerable" due to its waste treatment elements.

Table 3 (Flood Risk Vulnerability and Flood Zone Compatibility) in the Planning Practice Guidance to NPPF states that "Less Vulnerable" developments are appropriate to be located in Flood Zone 1

4.3 Sequential & Exception Test

Development in the context of flood risk is regulated through the planning process via the NPPF. A Sequential Test and potentially an Exception Test would only be required if the proposed development is within Flood Zone 2 or Flood Zone 3.

Given that the site is situated in Flood Zone 1 and given the nature of the proposed development (waste treatment, except landfill and hazardous waste facilities), being regarded as 'less vulnerable' by the NPPF, the Sequential Test and Exception Test are not required under the NPPF and the proposed development is considered a suitable land use within Flood Zone 1.

4.4 Mitigation Measures

Previously, areas of surface water flood risk and issues were related to the partially blocked drain underneath the site. It has been confirmed that the applicant has undertaken remedial works on the drain. However, it must be noted that the full extent of the below ground network is unknown, as no further CCTV survey or Ground Penetrating Radar (GPR) survey of the site has been completed. Therefore, it remains that, the ground level strategy for the site as well as surface water drainage designs would ensure that surface water runoff from land upgradient of the site is accommodated such that it can either flow through a repaired below ground culvert/drain or through an above ground conveyance route.

4.5 Management of Residual Risk

The risk of flooding is low overall and there are no notable residual risks anticipated.

¹³ GOV.uk (2014) Planning Practice guidance: Flood Risk and Coastal Change <https://www.gov.uk/guidance/flood-risk-and-coastal-change>

5. CONCLUSIONS

Based on the findings of this Flood Risk Assessment and in consideration of the recommendations made, it is concluded that any flood risk is appropriately managed by the development proposals over the lifetime of the development, taking climate change into account and fittingly for the vulnerability of proposed users.

No further flood risk assessment is deemed necessary.

APPENDIX 1

PROPOSED DEVELOPMENT PLAN



SCHEDULE OF AREAS	
Gross Internal Areas	
Processing Building:	2739.3 m ² / 29,486 sqft
(excluding external covered loading area of 788.8 m ² / 8491 sqft)	
Workshop:	162.0 m ² / 1744 sqft
Admin Building:	144.1 m ² / 1551 sqft
Gatehouse:	22.0 m ² / 236 sqft
Total GIA	3067.4 m ² / 33,017 sqft
Site Development	
Building Footprints (Gross External Areas)	
Process Building:	3664.1 m ² / 39,440 sqft
(including external covered loading area)	
Workshop:	185.5 m ² / 1997 sqft
Admin Building:	160.2 m ² / 1724 sqft
Gatehouse:	30.5 m ² / 328 sqft
Total Footprint:	4040.3 m ² / 43,489 sqft
Site area (red boundary):	63,872.5 m ² / 6.39 ha / 15.8 acres
Development density:	6.3 % (total footprint / site area x 100)
Parking	
Car parking spaces:	27
Disabled spaces:	3
EV spaces:	3
Total car parking spaces:	33
Lorry parking spaces:	12
Cycle spaces:	12

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following risks and information.

Risks listed here are not exhaustive. For residual architectural risks, refer to D5 H&S Risk Register**965-D5A-XX-XX-HS-A-0001**

DEMOLITION (PRE-CONSTRUCTION) & CONSTRUCTION:

- D5A-A-0001 - Existing underground services
- D5A-A-0002 - Site Contamination
- D5A-A-0003 - Unknown voids and buried tanks
- D5A-A-0004 - Historic Landfill
- D5A-A-0005 - Public right of way adjacent site
- D5A-A-0006 - Access to site during construction phase
- D5A-A-0007 - UXO
- D5A-A-0008 - Adjacent residential areas
- D5A-A-0009 - Known or potential coal mining risks
- D5A-A-0012 - Pedestrian and vehicle segregation

For information relating to Use, Cleaning and Maintenance, refer to the above H&S Risk Register.

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement.

- Site Plan Key**
- 1. Existing hard-standing.
 - 2. Hard Landscaping as Landscape Architect design.
 - 3. Soft Landscaping as Landscape Architect design.
 - 4. Tarmac surfacing to form access road.
 - 5. External plant area.
 - 6. Approved 2.4m high weldmesh fence, powder coated green RAL 6005. See Planning approval 20221218 for more detail.
 - 7. Bin store enclosure.
 - 8. 1m high retaining brick wall.
 - 9. 2.5m high wall.
 - 10. External client processing machinery shown indicatively.
 - 11. Pedestrian gate.
 - 12. Approved main access 2.4m high cantilever sliding gate. see Planning approval 20221218 for more detail.
 - 13. Site level reduced to accommodate cullet bays.
 - 14. 5m high concrete panels form acoustic barrier around cullet bay.
 - 15. Sedum roof.
 - 16. Cycle shelter.

C01	21.03.24	KP	MR	A3 - Issued for Planning
P08	19.03.24	KP	MR	S4 - Issued for Stage Approval
P07	28.02.24	KP	MR	Updated as per client comments
P06	23.02.24	KP	MR	Issued for review and comment following final site layout.
P05	16.02.24	KP	MR	Further site plan revisions for review and comment
P04	08.02.24	KP	MR	Revised site plan after initial acoustic report.
P03	22.01.24	KP	MR	Schedule of Areas included
P02	19.01.24	KP	RD	Issued for review and comment
P01	23.08.23	MR		First Issue

Rev.	Date	Drawn	Checked	Description
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client

Potters Industries

project

Stairfoot Glassworks
Wombwell Lane, Barnsley

drawing title

Proposed_Site_Plan

scale

1:1000@A1

date

23/08/23

author

MR

d5 job number / CAD file

965 / 965-D5A-00-XX-M3-A-0002

CAD Format

Revit 2023

suitability description

Stage 3 Approved

suit. code

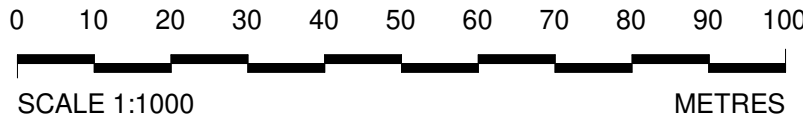
A3

drawing number

965-D5A-XX-XX-DR-A-0003

revision

C01



APPENDIX 2

SITE TOPOGRAPHIC SURVEY

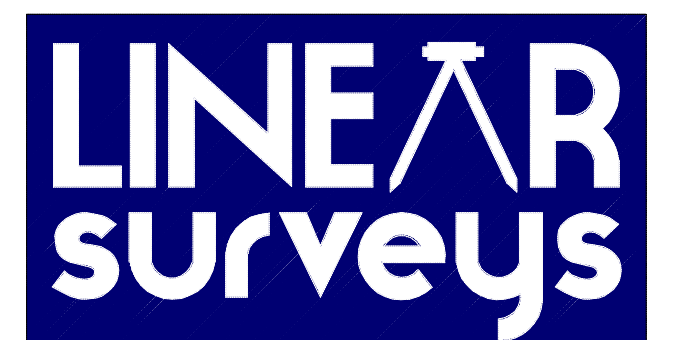
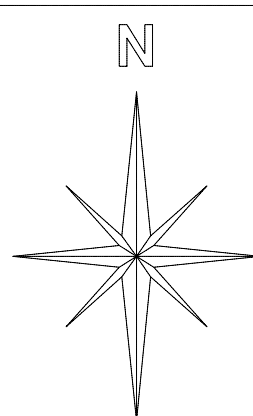
REVISIONS

Date	Description	By
01.09.2022	Initial	PR
01.09.2022	Initial	PR
01.09.2022	Initial	PR
01.09.2022	Initial	PR

Legend:

- Land Under Control of Applicant
- Updated 21st September 2022
- Top of Banking
Bottom of Banking
Kerb - Top
Kerb - Channel
Fence - Post & Wire
Fence - Secure
Edge
Track / Footpath
Wall
Edge of Waterline
Hedge/Line
Overhead Cable
1m Contour Intervals
OS Backcloth
Building/Structure
Verge Line
Footage Line
Top of Rock Face
- MH
IC
BT
G
LP
TP
EP
ST
GV
WL
IL
CL
EL
RL
BH
Spot Level
Trees
Survey Control Station
- Manhole
Inspection Cover
British Telecom Cover
Gully
Lamp Post
Telegraph Pole
Electric Pole
Stop Sign
Gas Valve
Water Level
Invert Level
Cover Level
Gare Level
Ridge Level
Borehole / Trial Pit
Spot Level
Trees
Survey Control Station

Datum: Levels relative to Ordnance Survey by connection to OS Active Network by GPS



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Client

Potters Ballotini Ltd

Job Title

Former Stairfoot Brickworks,
Barnsley

Scale 1:500@A0 Date SEPT 2022 Drawn by PR Surveyed by PR

Topographical Survey
7-10th September 2020
Additional road survey 16th
August 2021 Plus additional
manholes & water chamber
position 17th November 2021,
survey updated 21st September
2022

Job No.

PBL/SFB/SEPT22-01