

# Non-Technical Summary

Issue 2.0

Produced for Biowise Ltd

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Willerby IVC Facility





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## QUALITY CONTROL

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## 1.0 INTRODUCTION

### 1.1 Site Address

Biowise Ltd  
Albion Lane,  
Willerby,  
Hull,  
East Yorkshire,  
HU10 6TS

### 1.2 Operational Locations

Site Grid Reference: 500500, 431896 (IVC Facility)  
Site Grid Reference: 501172, 431336 (ASP, OWC, Wood and Soils)

### 1.3 Description

The site is located in Willerby, 7km west of Hull and approximately 14km from the M62. Willerby is situated approximately 2km to the south east of the site and Beverley 8km to the north east. Access to the site is via Albion Lane.

The site is split by Westfield Road into a northern and southern portion of the site. The northern area consists of an in-vessel composting (IVC) facility treating food and green wastes through an enclosed vessel tunnel system. The southern area of the site consists of air static pile composting, open windrow composting, wood recycling and soils manufacture.

### 1.4 Plans

Reference Drawing: Site Plans BIO12.

### 1.5 Permits and Licences

Environmental Permit/License Number: WML65512 - EPR/PP3096ZA.

### 1.6 Reason for Application

Biowise Ltd (Biowise) is seeking permission to increase the permitted capacity of the Willerby recycling facility from <75,000 tonnes per annum (tpa) to <90,000tpa to enable full capacity utilisation of the installed equipment. The Covid-19 situation has resulted in unexpected higher feedstock volumes being received throughout 2020. Biowise therefore have an opportunity to bring additional biowaste tonnage into the site during winter months. Biowise see this as a potential issue that may present itself again in 2021 and beyond and by increasing their permitted capacity this puts them in a position to assist in the processing of this material. It should be noted that Biowise are not looking to process additional tonnage during the peak summer months. There is no other proposed change to the permit by way of treated material or operational technique.

## 2.0 PROPOSED OPERATIONS

### 2.1 Current Permitted Activity

Biowise is currently permitted to treat a variety of materials at the Willerby recycling facility under a bespoke environmental waste operation permit (EPR/PP3096ZA). Permitted activities are as stated below:

- Composting in closed systems of biodegradable wastes (<75,000tpa).
- Composting in open systems of biodegradable wastes (<75,000tpa), no more than 30,000 tonnes at any one time);
- Soil manufacture (<50,000tpa, no more than 20,000 tonnes at any one time); and
- Wood recycling (<75,000tpa, no more than 10,000 tonnes at any one time).

### 2.2 Proposed Operations

Biowise Ltd (Biowise) is seeking permission to increase the permitted capacity of the Willerby composting facility from <75,000tpa to <90,000tpa to enable full capacity utilisation of the installed equipment. This increase is in line with the site capacity assessment (BIO13) which finds that current operations can support a capacity of 90,000tpa through the IVC. As stated previously, Biowise have an opportunity to bring additional biowaste tonnage into the site during winter months. The proposed variation will increase the throughput of the composting activity as identified in the table below:

**Table 1 – Composting Process Type and Throughput**

Process Type	Stage	Annual Receipt
In Vessel Composting	Sanitisation Food/Green Waste	90,000 tpa
Open Windrow Composting	OAW Maturation Food/Green Waste	90,000 tpa
	OAW Sanitisation Green Waste	
	OAW Maturation Green Waste	
Aerated Static Pile Composting	ASP Maturation Food/Green Waste	
	ASP Sanitisation Green Waste	
	ASP Maturation Green Waste	

## 2.3 Operational Layout

The proposed variation does not alter the existing permitted site boundary. The operational layout of the facility is shown on a site plan (document reference: BIO12). The proposed increase in capacity is within the current design capacity of the site, stated as 90,000tpa within the site capacity assessment (document reference: BIO13).

## 2.4 Recycling Operations

The recycling operations to be undertaken on site following permit variation will not differ from the currently permitted activity:

- OWC: R13, R3
- ASP: R13, R3
- IVC: R13, R3
- Soil Manufacture: R13, R3, R5
- Wood Recovery: R13, R3

## 2.5 Wastes to be Processed

A full itemised list of wastes to be processed on site is listed within the current Environmental Permit. No alteration to the types of waste processed are proposed within this variation application.

## 2.6 Calculated Capacity

In order to establish whether or not the site will fall above or below the Industrial Emissions Directive (IED) threshold of 75tpd the following calculations identified below were undertaken. Based upon the proposed maximum at any one time across the IVC, ASP and OWC processes the tonnes per day is calculated to be above the IED threshold. The full range of treatment options are provided to ensure all process throughputs are considered.

**Table 2 – IED Process Calculation for Biological Treatment Activities**

Sanitisation Phase	Maturation Phase	Process Tonnage	Process Length (days)	Throughput Capacity
IVC 2,500t	OWC 4,400t	6,900t	56	123t/day
IVC 2,500t	ASP 7,800t	10,400t	42	248t/day
ASP 7,800t	ASP 7,800t	7,800t	42	186t/day
ASP 7,800t	OWC 4,400t	12,200t	56	218t/day
OWC 4,400t	OWC 4,400t	4,400t	56	79t/day

## 2.7 Aggregation

The aggregation of biowaste recovery activities with other non-hazardous waste recovery treatment have been considered.

All waste streams have been accounted for in the supplied information.

## 2.8 Directly Associated Activities

The associated activities with the site activities are:

- Compost storage (prior to dispatch offsite)
- Leachate collection and storage (prior to processing)
- Collection and storage of clean site surface water (roof drainage etc. from rainwater)
- Storage of contaminants prior to recovery or disposal.

## 2.9 Operational Hours

Site operational hours for the facility will be typically as identified below:

Monday to Friday	07:00 – 17:00
Saturday	07:00 – 13:00
Sunday and Bank Holidays	Closed

In accordance with the conditions of the planning permission for the site, there will be no deliveries to or from the site outside the hours of 07:00-18:00 (Monday to Friday) and 07:00-13:00 on Saturday, and at no time on a Sunday or Bank Holiday unless otherwise agreed in writing with the local planning authority.

## 2.10 Technical Standards and Control Measures

Biowise operate to industry best standards adopting many of the procedures from PAS100 and QP standard for the composting of biodegradable waste. The critical control points governing these technical standards are to be applied to this site and fully incorporated into the site's Standard Operating Procedures.

A documented list of technical standards that the site will be operating to is provided in Annex A.

## 3.0 OPERATING PROCEDURES

### 3.1 Waste Reception

Incoming vehicles carrying source segregated green waste will enter the site and follow the directional signage to the weighbridge. On entering the weighbridge area, the driver must have the waste transfer documentation with the correct details of the waste on board. The site operative will inspect the waste transfer documentation, when the site operative is satisfied that the documentation is in order the driver will be instructed to enter the weighbridge, where the weights will be documented.

The driver will then be instructed to proceed to the waste reception area that is designated for the waste. The site operative will then inspect the load to ensure that it is to the correct standard that is acceptable under the operational procedures; if acceptable the driver will be instructed to tip the waste onto the reception area. The driver will then proceed back to the weighbridge to be weighed out and provided with a copy of the weighbridge ticket for his records.

Sanitised material from the IVC will be directed to the allocated ASP bay for batch formation. Each bay will consist of a number of IVC batches (typically 3-5 batches). Batch numbers will be transferred to a new assignment against each ASP bay, maintaining traceability of material movements through the site.

### 3.2 Waste Processing

The facility deploys a number of different composting techniques which can be utilised in parallel or in series depending upon operational requirements. The flow diagram below (figure 1) outlines the different process routes depending upon material treated and technique employed. The default treatment technology for sanitisation is the IVC and for stabilisation is the ASP bays (highlighted in red below). The use of open windrow composting will be as a back up to the ASP system for any down time during routine or abnormal outage. Full details of the processing techniques can be found in the Management System document [BIO02]. These current processes are not expected to be affected by the proposed permitting variation as the changes will be in line with the current site capacity and operational layout.



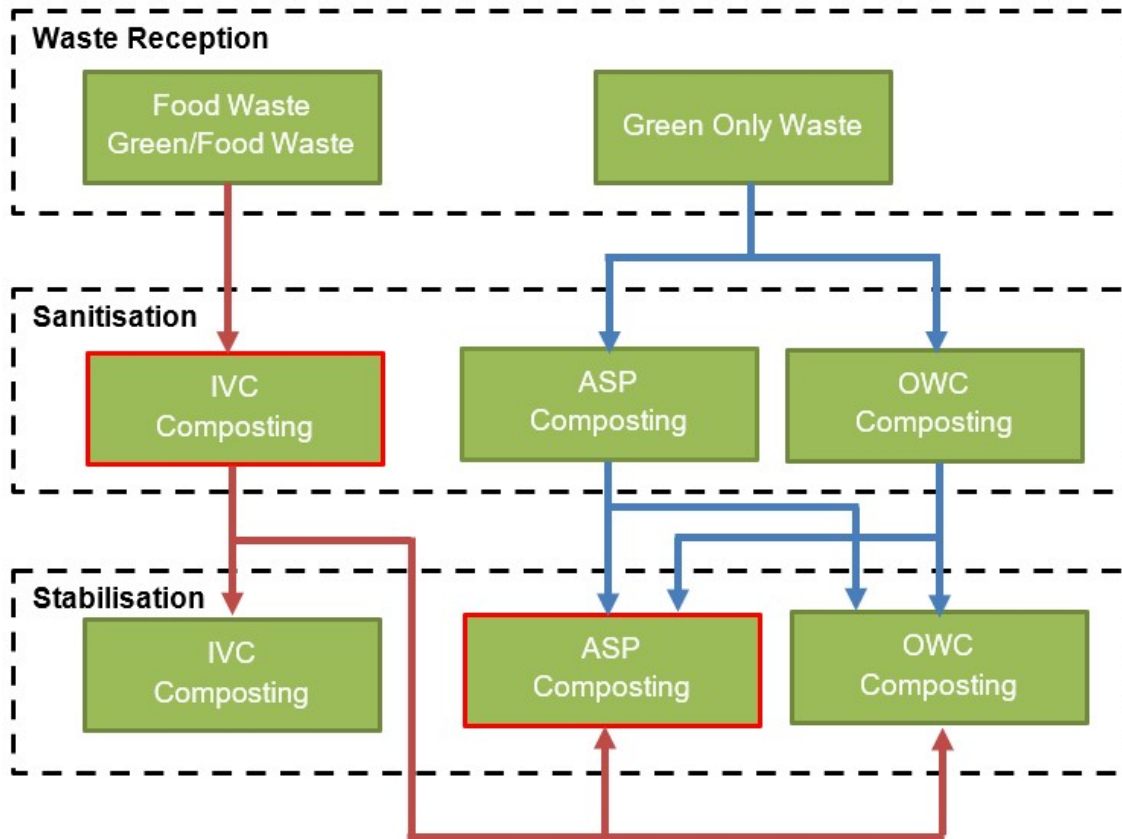


Figure 1 – Process Technique Material Flow Diagram

## 4.0 ENVIRONMENTAL IMPACT AND MITIGATION MEASURES

All facilities have a potential impact on the environment around them. A H1 Environmental Risk Assessment has been undertaken to include all operations on site (document reference BIO07). Biowise will be employing process management and monitoring techniques which will mitigate the environmental impact of the proposed variation within the following areas:

### 4.1 Odour

There is a sensitive receptor within 250 metres of the facility. Odour is considered a potential issue that is addressed within a comprehensive Odour Management Plan (OMP) which is based on the Environment Agency's Horizontal Guidance – H4 Odour Management Guidance. As per the OMP, the plant will not process any of the proposed additional tonnage during the peak summer months (May to August inclusive) and once capacity has been reached, material will be brokered to other local compost facilities as follows:

Biowise – Leighton Grange IVC facility (EPR/WP3931QA)  
Ryedale Organics Ltd – Melbourne IVC facility (EPR/DB3701LG)  
Vital Earth GB Ltd – Ashbourne IVC facility (EPR/RP3792FX)

### 4.2 Bioaerosols

The site has undertaken a full bioaerosol risk assessment which is supported by monitoring surveys as specified by the Association for Organics Recycling 2009 Protocol (BIO06). There are buildings within 250 metres (sensitive receptors) of this facility.

### 4.3 Flora and Fauna

Biowise has operated as a waste recovery facility on the site since 2001 and there are no records of any species of note within the curtilage of the facility. The site is located within 1km of a BAP – Deciduous Woodland BAP Priority Habitat which is to the north west of the site.

### 4.4 Groundwater

The site is located inside a Groundwater Source Protection Zone II (outer). All activities are undertaken on concrete hardstanding with sealed drainage. A Drainage Management Plan has been provided for the site activities (BIO09).

### 4.5 Surface Water

As any increase in activities within the IVC will be enclosed, all rainfall water will be collected within the building guttering and drainage system. Leachate runoff within the IVC is directed via drainage runs and pumped to leachate storage tanks. Leachate generated on the ASP bays and OWC pad is captured on the concrete pads and channelled to a sump before pumping to a central above ground leachate storage tank. The site also utilises a soakaway for the discharge of clean rainwater.

There are environmentally sensitive surface waters (monitored by the Environment Agency) within 250m of the site boundary – the site sits on a Major Aquifer (Intermediate).

#### **4.6 Sensitive Receptors**

There are sensitive receptors within 250m of the site boundary, most prominently the farm to the north east of the IVC. There are no sensitive receptors within 250m of the ASP bays.

## **ANNEX A – TECHNICAL STANDARDS SUMMARY**

Biowise accept a number of non-hazardous wastes for processing through the onsite waste treatment system as outlined within this document. The table below presents a list of technical documents, with reference, for the process of composting green and food wastes. These documents have been utilised in order to fulfil the requirements of the permit variation application and will continue to be in use as point of reference during the operational life of the permitted site. Documents have been sourced from both regulatory agencies and industry led organisations such as the Organics Recycling Group (ORG), to whom Biowise are a member.

<b>Composting and Wood Recycling – Technical Standards</b>	
<b>Technical Guidance Note</b>	<b>Document Reference</b>
Develop a management system: environmental permits (04/08/2021)	EA Guidance
Control and monitor emissions for your environmental permit (17/05/2021)	EA Guidance
The composting industry code of practice (2005)	REAL
Industry guide for prevention and control of odours at biowaste processing facilities (2007)	REAL
PAS 100 Standard Operating Procedure (2018)	BSi
Quality Protocol for Compost (2012)	WRAP/EA
Health & Safety at Composting Sites (Issue 03, 2012)	AfOR
Guidance on the evaluation of bioaerosol risk assessments for composting facilities	EA Guidance
General guide to pollution prevention (2001)	EA Pollution Prevention Guidance
Managing fire water and major spillages (2000)	EA Pollution Prevention Guidance
Risk assessments for your environmental permits (25/03/2021)	EA Guidance
H4 Odour Management Guidance (2011)	EA Pollution Prevention Guidance
Technical Guidance Note (Monitoring) M9 – environmental monitoring of bioaerosols at regulated facilities (Issue 2, July 2018)	Environment Agency
Guidance for the Recovery and Disposal of Hazardous and Non Hazardous Waste (Issue 5, 2013)	EA SGN IPPC S5.06

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