Environmental Risk Assessment

Norfolk Recycling Limited
Six Acres Recycling Facility
Six Acres, Stone Road
Hockering
Norwich
NR20 3PZ

WESTBURY ENVIRONMENTAL

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1	Original Environmental Risk Assessment.	Sian Wilcox	Tracey Westbury	18 August 2025

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1. Introduction

1.1. Westbury Environmental Limited have produced this Environmental Risk Assessment (ERA) to support an Environmental Permit variation application on behalf of Norfolk Recycling Limited (Operator). The purpose of the variation application is to extend the permit boundary at Six Acres Recycling Facility, Six Acres, Stone Road, Hockering, Norwich, NR20 3PZ (Site).

1.2. For the purpose of this ERA, the Site is defined as the the area covered by Environmental Permit reference EPR/DB3603UA (Permit). The extension area is defined by the green dotted line, see Drawing No. 13/006ao 001 Permit Boundary Plan with Extension.

1.3. This ERA assesses the environmental risks associated with Site operations being carried out within the proposed boundary extension area.

1.4. The extension will increase the operational footprint by 2.9 hectares. The area will be surfaced with hardstanding and is will be used for:

- Waste storage.
- Waste treatment (crushing and screening).

1.5. There is no proposed change to the waste types to be accepted, the annual throughput of waste or the volume of waste stored on Site at any one time. There are no proposed changes to the waste treatment activities carried out on the Site.

1.6. It is not anticipated that wash plant activities will be carried out in the proposed extension area. The wash plant is a large, fixed piece of equipment that is located within the existing permit boundary.

1.7. An assessment of the potential risks to the environment and human health from the waste activities included in the permit variation application is required by the Environment Agency (application form Part C2 *and Environment Agency Guidance: Risk assessments for your environmental permit*, last updated 3rd January 2025).

1.8. This report describes the Site setting, identifies nearby sensitive receptors, and evaluates the environmental risks posed by the proposed changes.

2. Site Location and Sensitive Receptors

Location

2.1. Six Acres Recycling Facility is located approximately 1.7km north of the town of Hockering. The Site is accessed off Stone Road.

2.2. The Site is mainly in an agricultural area, with some commercial and industrial businesses nearby.

2.3. The Site is located within 1km of a number of protected areas, including ancient woodland, a site of special scientific interest and areas of deciduous woodland.

2.4. The Site is located within a Groundwater Source Protection Zone III (total catchment).

2.5. The Site is located on a Principal bedrock aquifer. The bedrock geology consists of Lewes Nodular Chalk, Seaford Chalk, Newhaven Chalk, Culver Chalk and Portsdown Chalk Formations - Chalk.

2.6. The Site is located on a Secondary undifferentiated (Superficial Drift) Aquifer.

2.7. The Site is in Flood Zone 1. There is reported to be a low probability of flooding from rivers and the sea. It is reported that there is a risk of flooding from surface water.

2.8. The predominant wind direction in the area blows towards the northeast, based on statistics from Norwich International Airport Weather Station between November 2000 – July 2025.

2.9. The proposed extension to the Site will extend the permit boundary to cover an area to the northeast of the existing boundary. The proposed extension brings the permit boundary closer to sensitive receptors in this direction.

Receptors

2.10. Sensitive receptors near the Site are identified on the Drawing No. 13/006s 003 Sensitive Receptors Plan.

2.11. Table 2.1 shows the approximate distance and orientation (from the Site boundary to the boundary of the nearest receptor) of nearby sensitive receptors located within a 1km radius of the Site.

Table 2.1: Sensitive Receptors

No	Receptor	Type of receptor	Bearing from Site	Minimum Distance (m)*
1	Deciduous Woodland	Woodland	North	30
2	Operator's Dwelling	Residential	South	50
3	Bernard Mathews Turkey Farm	Farm	Northwest	50
4	Pond	Surface Water Feature	Northwest	175
5	Pond	Surface Water Feature	Northeast	290
6	Heath Farm	Farm	Southwest	300
7	Mill Farm	Farm	Southeast	375
8	Pond	Surface Water Feature	Northeast	530
9	Day's Grove – ancient, replanted woodland	Woodland	Southeast	530
10	Willows Farm	Farm	Northeast	625
11	Hockering Wood (SSSI) and ancient replanted woodland	Woodland	Southwest	650

2.12. The nearest Protected Habitat sensitive receptor to the site is the Deciduous Woodland located approximately 30m north of the Site.

2.13. The nearest residential sensitive receptor to the Site is housing located approximately 50m south of the Site. This residential property is the home of the Site operator. There are residential properties located at Heath Farm and Mill Farm. These properties are not located in the predominant wind direction.

2.14. Agricultural activities in the surrounding area, such as Heath Farm and Mill Farm, are considered likely to produce emissions such as dust, noise and odour seasonally as a result of agricultural activities.

2.15. The proposed boundary extension brings the permit boundary closer to Willows Farm, located to the northeast, by approximately 200m.

2.16. The proposed boundary extension brings the permit boundary closer to Mill Farm, located to the southeast, by approximately 100m.

2.17. The proposed boundary extension brings the eastern boundary of the site approximately 200m closer to the pond located 530m northeast of the current boundary. The pond is located approximately 240m northeast of the extended boundary at its closest point. This pond is located within the predominant wind direction.

2.18. The proposed boundary extension does not bring Site operations closer to any sensitive residential receptors or protected habitats.

3. Environmental Risk Assessment

Risk Estimation

3.1. Table 3.1 below shows the matrix for estimating the magnitude of risk of a potential hazard from considering both the probability and consequence of a hazard occurring. The magnitude of risk determines what level of management is required to reduce the environmental impact and the probability of the risk occurring.

Table 3.2: Estimating the Magnitude of Risk

	Magnitude of Risk	Consequence			
		High	Medium	Low	Negligible
Probability	High	Very high	High	Medium/Low	Very low
	Medium	High	Medium	Low	Very low
	Low	High/Medium	Medium/Low	Low	Very low
	Negligible	High/Medium/Low	Medium/Low	Low	Negligible

3.2. Although Table 3.1 is a gross simplification that cannot represent the true complexity of risk assessment, it has been used as a guide in preparing this risk assessment report.

3.3. A risk assessment of the potential hazards associated with the proposed change, that may cause harm to the environment has been completed using the method shown in Table 3.1, see Table 3.2 Environmental Risk Assessment.

Key Considerations

3.4. The following aspects have been considered when completing this Environmental Risk Assessment:

Data and Information

- Receptor
- Source / Hazard
- Harm
- Pathway

Judgement

- Probability of Exposure
- Consequences
- Magnitude of Risk

Action

- Justification for Magnitude
- Risk Management
- Residual Risk

Table 3.2: Environmental Risk Assessment

Data and Information				Judgement			Action (By Permitting)		
Receptor	**Source**	**Harm**	**Pathway**	**Probability of Exposure**	**Consequence**	**Magnitude of Risk**	**Justification for Magnitude**	**Risk Management**	**Residual Risk**
Local human population – residential dwellings. Operator's Dwelling (50m south) Properties at Heath Farm (300m southwest) and Mill Farm (375m southeast) Protected Habitat - Deciduous Woodland (30m north) Ancient woodland (530m southeast) SSSI (650m southwest)	Releases of dusts and micro-organisms (bioaerosols) Smothering of plants and vegetation, reduced plant life	Harm to human health - respiratory irritation and illness Harm to the health and habitats of protected wildlife.	Air transport then inhalation	Medium	Medium	Medium	Permitted waste types do not include dusts, powders or loose fibres and have a low potential to produce bioaerosols. Site activities that have the potential to generate dust include screening, crushing, handling and storage of waste. There is potential for increased dust generation from permitted activities during prolonged dry periods e.g. summer months. The operator's dwelling is located on the site boundary and is sensitive to nuisance caused by dust emissions. The washing operations will significantly reduce the dust emissions compared to dry recycling activities such as screening and crushing.	Several mitigation measures will be implemented to reduce the risk of dust nuisance. Strict waste acceptance procedures are applied in line with the Environmental Management System (EMS) to ensure that loads consisting solely or mainly of dusts powders or loose fibres are not accepted at Site. Vehicles entering and exiting the site are sheeted to reduce the likelihood of dust emissions. Strict waste acceptance procedures are also in place to ensure that excessively dusty loads are not accepted on Site. Stockpiles will be dampened down to avoid wind whipping.	Low

Receptor	Source	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
							The proposed boundary extension area does not bring Site operations closer to any sensitive residential receptors or habitats. The proposed boundary extension does bring Site operations closer to a surface water feature located in the predominant wind direction. The pond is not reported to house any protected species (e.g., Great Crested Newts); however other wildlife may be present. The same mitigation measures as currently in force on Site will be implemented across the extension area. It is therefore considered that the magnitude of risk is not impacted by the proposed change and remains at Medium.	Activities that are observed to be generating dust may be temporarily ceased during periods of high winds. A 5mph speed limit will be enforced on Site, drop heights and double handling of waste will be kept to a minimum.	

Receptor	Source	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
		Nuisance - dust on cars, clothing etc. Harm to Protected Habitats through smothering	Air transport then deposition	High	Low	Medium/ Low	As above.	As above.	Low
	Waste, litter and mud on local roads. Harm to the health and habitats of local wildlife.	Nuisance, loss of amenity, road traffic incidents.	Air transport then deposition, Vehicles entering and leaving the site.	Medium	Medium	Medium	Local residents are often sensitive to litter and mud on roads. The permitted waste types have a low potential to produce litter. The proposed changes do not include any increase to annual throughput of waste so it is not anticipated that the number of deliveries to the Site will increase. The proposed extension does not bring Site operations closer to local roads. The import and export of waste materials to the Site have the potential to create waste, litter and mud on roads when vehicles collecting materials leave the site.	Strict waste acceptance procedures are applied in line with the EMS to ensure that only permitted waste types are accepted at Site. Housekeeping measures are employed on Site in line with the EMS, such as visual inspection for litter and daily litter picking. There is a fence around the Site that minimises the amount of windswept litter leaving the Site boundary. There is a fence along the nearest public highway, which provides a further	Low

Receptor	Source	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
							The proposed boundary extension does not bring Site operations closer to any sensitive residential receptors or protected habitats. The proposed boundary extension does bring Site operations closer to a surface water feature located in the predominant wind direction. The pond is not reported to house any protected species (e.g., Great Crested Newts); however other wildlife may be present. The same mitigation measures as currently in force on Site will be implemented across the extended area. It is therefore considered that the magnitude of risk is not impacted by the proposed change and remains at Medium.	barrier for any escaped litter. Vehicles are visually inspected for mud prior to leaving the Site. A road sweeping vehicle is deployed when mud is observed being tracked onto local roads.	
	Odour	Nuisance, loss of amenity and harm to the health of local wildlife.	Air transport then inhalation	Low	Low	Low	Residents and wildlife are often sensitive to odour. Permitted waste types have a low potential to produce odour.	Strict waste acceptance procedures are applied in line with the EMS to ensure that only permitted waste	Very low

Receptor	Source	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
							The proposed changes do not include any changes to accepted waste types or activities. As such, it is not considered that there will be a significant impact to the probability of odour emissions. The same mitigation measures as currently in force on Site will be implemented across the extended area. It is therefore considered that the magnitude of risk is not impacted by the proposed change and remains at Low.	types are accepted at Site. Waste imported onto the Site will be checked to ensure that it does not contain malodourous materials. Waste that contains malodorous materials will be quarantined and removed from the site as soon as possible.	
	Noise and vibration	Nuisance, loss of amenity, loss of sleep. Nuisance and harm to the health of local wildlife.	Noise through the air and vibration through the ground	Medium	Medium	Medium	Local residents are often sensitive to noise and vibration. Habitats and the behaviour of wildlife can be impacted by noise and vibration. Waste treatment operations such as screening, crushing and washing have the potential to produce noise and vibration.	Operation of the crushing plant is minimised where practically possible, with this being used only when strictly necessary in response to the volume of incoming loads. A 5mph speed limit will be enforced on Site, and drop heights and double handling of waste will be kept to a minimum.	Low

Receptor	Source	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
							The import and export of waste materials has the potential to produce noise and vibration. The proposed changes do not include any increase to the annual throughput of waste. As such, it is not anticipated that there will be a significant increase in the frequency of waste treatment or vehicle movements. The proposed boundary extension does not bring Site operations closer to any sensitive residential receptors or protected habitats. The same mitigation measures as currently in force on Site will be implemented across the extended area. The proposed boundary extension does bring Site operations closer to a surface water feature. The pond is not reported to house any protected species that could be sensitive to Noise (e.g., Great Crested Newts);	The Site is screened on the northern boundary by trees to minimise the impact of noise in this direction. All plant and equipment will be maintained in accordance with the manufacturers' recommendations to minimise noise generation.	

Receptor	Source	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
							however other wildlife may be impacted. The same mitigation measures as currently in force on Site will be implemented across the extended area. It is therefore considered that the magnitude of risk is not impacted by the proposed change and remains at Medium.		
	Scavenging animals and scavenging birds	Harm to human health - from waste carried off site and faeces. Nuisance and loss of amenity. Nuisance and harm to the health of local wildlife and habitats.	Air transport and over land.	Medium	Medium	Medium	Permitted waste types are unlikely to attract scavenging animals and birds but may become nesting/breeding sites. The proposed changes do not include any changes to accepted waste types that may impact the probability of scavenging animals being attracted by the Site operations. The increase to the permit boundary may increase the area where scavenging animals and birds may nest. As such, it is considered that the proposed	Implementation of strict waste acceptance procedures within the EMS will ensure that materials that could attract scavenging animals are not accepted on to the site. Housekeeping measures are employed on Site in line with the EMS, with regular inspections for evidence of pests being carried out, with the findings recorded.	Low

Receptor	Source	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
							changes could increase the probability of birds and scavenging animals nesting within the boundary of the Site. The previous probability of exposure was assessed as Low. The probability of exposure has therefore been re-assessed as Medium.		
	Pests (e.g. flies)	Harm to human health, nuisance, loss of amenity. Nuisance and harm to the health of local wildlife.	Air transport and over land	Low	Medium	Medium/ Low	Permitted waste types are unlikely to attract pests. The proposed changes do not include any changes to accepted waste types that may impact the probability of pests being attracted by the Site operations. The same mitigation measures as currently in force on Site will be implemented across the extended area. It is therefore considered that the magnitude of risk is not impacted by the proposed changes and remains at Medium/Low.	As above.	Low

Receptor	Source	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
	Flooding of Site.	Run-off produced from the Site. Harm to the health of local wildlife and habitats.		Low	Low	Low	Any waste washed off Site as a result of a flood will add to local post-flood cleanup. Permitted waste types are inert and non-hazardous so are not considered to pose a risk to human health from contact during post-flood cleanup activities. Water used in the washing activity is recirculated and contained within the wash plant. The proposed change does not include any changes to accepted waste types or annual waste throughput. It is not anticipated that the risk posed by waste washed away by floodwaters will be impacted by the change. The same mitigation measures as currently in place on Site will be implemented across the extended area. It is therefore considered that the magnitude of risk	The Site operates in line with an EMS which includes a Flood Management Plan, which outlines actions to take in the event of a flood. All staff are trained in procedures implemented by the Flood Management Plan. The wash plant is maintained in line with manufacturer's specifications, to ensure that leaks/breakdowns, which could result in the release of water, are minimised.	Very Low

Receptor	Source	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
							is not impacted and remains Low.		
Local human population and / or livestock after gaining unauthorised access to the Site.	All on-site hazards: wastes, machinery and vehicles.	Bodily injury; respiratory illness i.e. lung cancer and mesothelioma.	Direct physical contact with machinery or asbestos.	Medium	Low	Medium/ Low	Permitted waste types are inert and non-hazardous and are not considered to pose a risk to human health from contact. The proposed changes do not include any changes to accepted waste types. The proposed changes do not include any changes to waste treatment activities that introduce new or additional plant or equipment. The proposed change aims to increase the operational area of the Site. The same mitigation measures as currently in force on Site will be implemented across the extended area. It is therefore considered that the magnitude of risk is not impacted and remains at Medium/Low.	The Site is manned during operational hours. The Site is secured with a gate at the entrance of Stone Road which is locked outside of operational hours. The Site has CCTV in operation. Keys to plant, equipment and vehicles are kept secure outside of operational hours. A regular stock check of small portable tools and plant is carried out. The boundary fencing is checked and maintained in line with the Maintenance Procedure in the EMS.	Low

Receptor	Source	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
Local human population – residential dwellings. Operator's Dwelling (50m south) Properties at Heath Farm (300m southwest) and Mill Farm (375m southeast) Protected Habitat - Deciduous Woodland (30m north) Ancient woodland (530m southeast) SSSI (650m southwest)	Arson and / or vandalism causing the release of polluting materials to air (smoke or fumes), water or land.	Respiratory irritation, illness and nuisance to the local population and harm to local habitats/species. Injury to staff, firefighters or arsonists / vandals. Pollution of water or land.	Air transport of smoke. Spillages and contaminated firewater by direct run-off from Site and via surface water drains and ditches	Medium	Low	Medium/ Low	Permitted waste types do not include any flammable materials, so a low magnitude of risk is estimated. The proposed changes to not include any changes to accepted wastes that will introduce flammable materials. The same mitigation measures as currently in force on Site will be implemented across the extended area. It is therefore considered that the magnitude of risk is not impacted and remains at Medium/Low.	Procedures contained within the EMS identify and minimise the risks of pollution, including those arising from operations, maintenance, accidents, incidents and non-conformances (including fire and spillages). The Site is manned during operational hours. The Site is secured with a gate at the entrance of Stone Road which is locked outside of operational hours. The Site has CCTV in operation. Keys to plant, equipment and vehicles are kept secure outside of operational hours.	Low

Receptor	Source	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
	Accidental fire causing the release of polluting materials to air (smoke or fumes), water or land.	Respiratory irritation, illness and nuisance to the local population. Injury to staff or firefighters. Pollution of water or land.	As above.	Medium	Low	Medium/ Low	As above.	As above.	Low
All surface waters on, close to and downstream of Site. There is a large lake on the Site. The lake is part of the restoration design of the Site. There are a number of ponds near to the Site, with the closest being located approximatel y 175m northwest of the Site.	Spillage of liquids, leachate from waste, contaminated run-off from waste e.g. containing suspended solids.	Acute effects: oxygen depletion, fish kill and algal blooms. Chronic effects: deterioration of water quality.	Direct run-off from Site across ground surface, via surface water drains, ditches etc.	Medium	Low	Medium/ Low	Permitted waste types do not include sludges or liquids so only a low magnitude risk is estimated. Non-hazardous and inert waste types are unlikely to cause significant harm. Any harm is likely to be temporary and reversible. The proposed changes do not include any changes to waste types that will introduce new waste types. The probability of exposure was previously assessed as Low. The proposed boundary extension does bring Site operations closer to a	Inert and non-hazardous waste types are stored on hardstanding, with surface water naturally percolating down through the ground. Water within the wash plant is recirculated and is therefore contained. The wash plant is maintained in line with manufacturer's specifications to ensure that leaks/breakdowns, which could result in the release of water, are minimised. Fuels and oils are stored in accordance	Low

Receptor	Source	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
							surface water feature located in the predominant wind direction. The pond is not reported to house any protected species (e.g., Great Crested Newts; however other wildlife may be impacted. As such, the probability of exposure has been re-assessed as Medium/Low.	with the Fuel and Oil Storage procedure in the EMS. Any spillages are dealt with in accordance with the Spillage Procedure within the EMS.	
Groundwater	As above.	Chronic effects: contamination of groundwater, requiring treatment of water or closure of borehole.	Transport through soil / groundwater then extraction at borehole.	Low	Low	Low	There are no point source discharges to ground, or groundwater. The Site is located in a Groundwater Source Protection Zone III. Permitted waste types are inert and non-hazardous and are unlikely to contaminate groundwater. The proposed changes do not include any changes to accepted waste types that will introduce waste with the potential to contaminate groundwater. As such, there is not considered to be a	As above.	Very Low

Receptor	Source	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
							significant impact to the magnitude of risk and this remains as Low.		

Drawings

Drawing No. 13/006s 003	Sensitive Receptors Plan
Drawing No. 13/006ao 001	Permit Boundary Plan with Extension

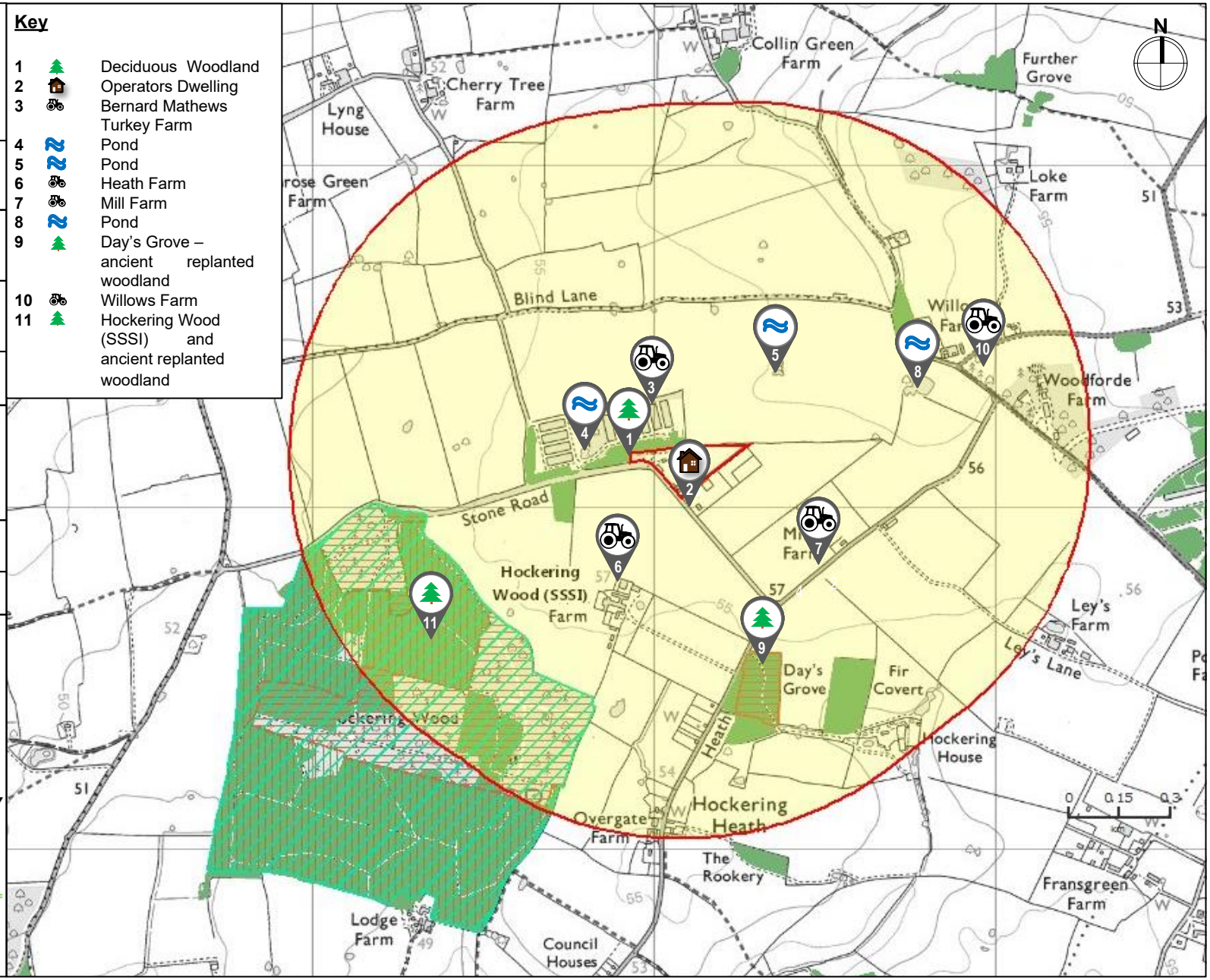
NORFOLK RECYCLING LTD

Six Acres Recycling Facility

Client	**Norfolk Recycling Limited**
Title	Sensitive Receptors Plan
Plan Ref.	13/006s 003 V.4
Site	Six Acres, Stone Road, Hockering, Norwich, NR20 3PZ.
Scale	Not to Scale
Date	18/05/2025

Key

1. Deciduous Woodland
2. Operators Dwelling
3. Bernard Mathews Turkey Farm
4. Pond
5. Pond
6. Heath Farm
7. Mill Farm
8. Pond
9. Day's Grove – ancient replanted woodland
10. Willows Farm
11. Hockering Wood (SSSI) and ancient replanted woodland



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NORFOLK RECYCLING LTD

Norfolk Recycling Ltd

Permit Boundary Plan with Extension

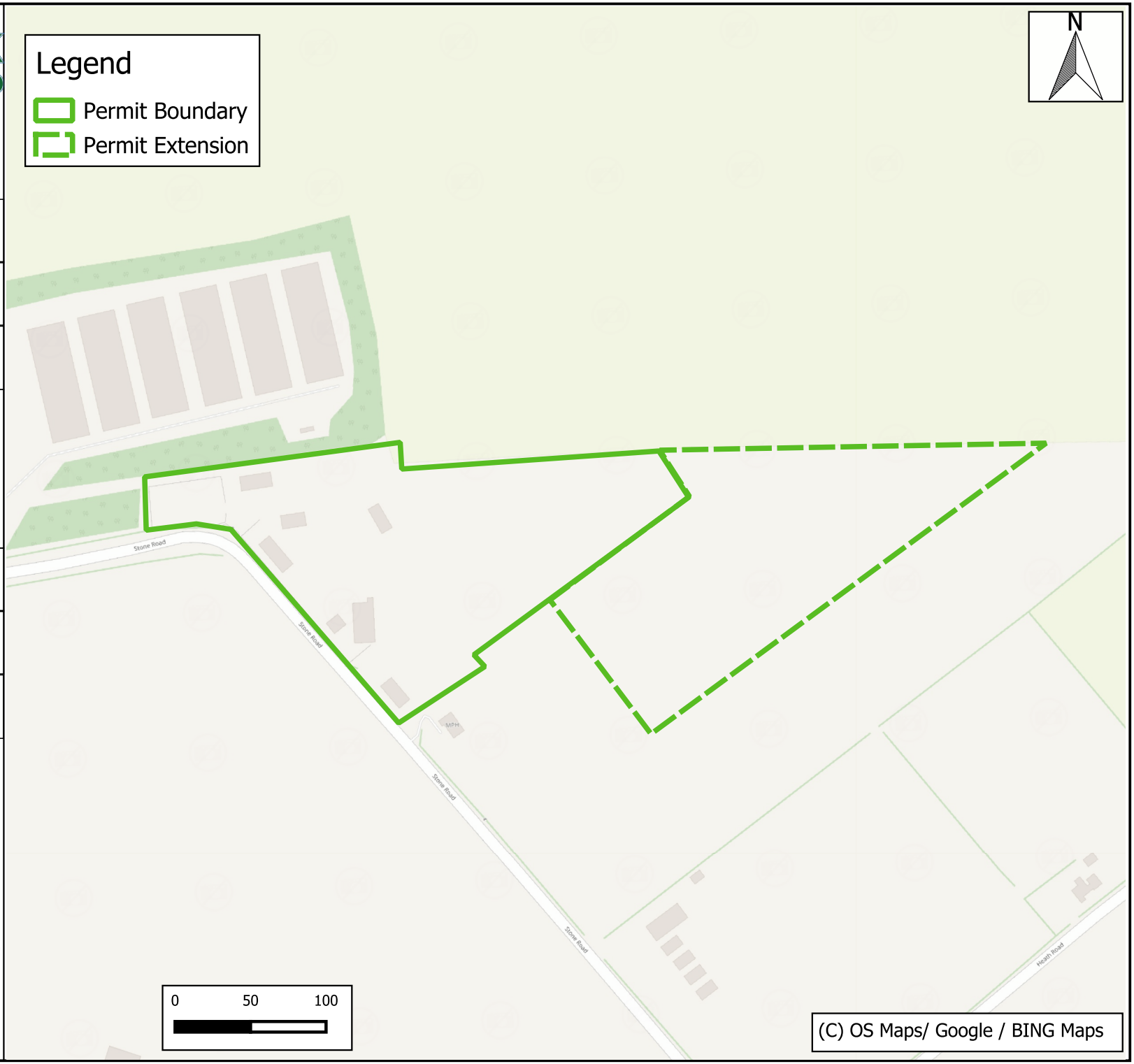
13006ao/001

Six Acres
Hockering
NR20 3PZ

Scale: 1:3,500

Date: 7th January 2025

Created by: SC
Checked by: TW



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