



A DIVISION OF DAWN MEATS

Dunbia (Llanybydder) Odour Management Plan Report

(To take effect upon completion of Beef Extension variation works)

Document Ref	Page	Version	Date of issue:	Prepared by:	Approved by:
LLA-ENV33	1 of 33	001	02/06/2021	Luke Healy	Victoria Kerr

Contents:

	Page
1.0 INTRODUCTION:	5
1.1 Introduction:	5
1.2 Structure of Odour Management Plan:	6
1.3 Status of the Odour Management Plan:	6
2.0 SITE BACKGROUND:	7
2.1 Site Setting:	7
2.2 Potential Odour Receptors:	7
2.3 Activities that Produce Odour and Points of Release:	10
2.3.1 Production Process:	10
2.3.2 Effluent Treatment Process:	11
3.0 CONTROL MEASURES TO PREVENT AND CONTROL ODOUR: ...	12
3.1 Lairage:	12
3.2 Mechanical Screens & Collection of Screenings (Including Bellygrass):	12
3.3 By-Products Collection Areas:	13
3.4 By-Products Trailers:	13
3.5 Blood Tanks:	13
3.6 General Waste Collection Points and Skips:	14
3.7 Pet Food Soft Offal Storage:	14
3.8 Skins & Hides Processing Area:	14
3.9 Truck Wash Area:	15
3.10 Spell Tank (Sump):	15
3.11 T5 Balance Tank:	15
3.12 Pump Pit Below ETP Gantry & Selector Pit:	15
3.13 Flocculator:	16
3.14 Diffused Air Flotation Units:	16
3.15 Anoxic Tank:	16
3.16 Aeration Tank:	17
3.17 Sludge Tank:	17
3.18 Screw Press:	17
3.19 Screw Press Sludge Cake Storage:	18
3.20 Waste Tanker	18
4.0 FAILURE AND ABNORMAL EVENT SCENARIOS:	19
4.1 Abnormal Meteorological Conditions:	19
4.2 Failure of Control Measures:	19
5.0 MONITORING MEASURES:	20
5.1 Meteorological Conditions:	20
5.2 Olfactory Monitoring Procedure:	20
5.3 Complaint Monitoring:	22
5.4 Monitoring Frequency:	23
5.5 Responsible Persons:	23
6.0 COMPLIANCE ACTION PLANS:	23
6.1 Control Levels:	23
6.2 Compliance Actions:	24
6.2.1 Response to Complaints:	24
6.2.2 Detection of a Distinct Odour During Olfactory Survey:	24
6.2.3 Corrective Actions:	25
6.2.4 Reporting:	25
7.0 FURTHER ACTIONS:	25

Document Ref	Page	Version	Date of issue:	Prepared by:	Approved by:
LLA-ENV33	2 of 33	001	02/06/2021	Luke Healy	Victoria Kerr

Document Ref	Page	Version	Date of issue:	Prepared by:	Approved by:
LLA-ENV33	3 of 33	001	02/06/2021	Luke Healy	Victoria Kerr

Tables:

Table 2.1 Location of Potential Odour Receptors

Table 5.1 Monitoring Frequencies

Table 6.1 Control Levels

Table 7.1 Actions for Improvement

Appendices:

Appendix 1 Site Location and Receptor Maps

Appendix 2 Potential Odour Source Site Plans

Appendix 3 Dunbia (UK) Odour Management Plan (LLA-ENV33A) & Summary Table

Appendix 4 Abnormal Event Summary Table

Appendix 5 Dunbia (UK) Odour Monitoring Programme (LLA-ENV33B) Including Monitoring Sheets

Appendix 6 Completed Monitoring Forms for Site Boundary and Local Area Receptor Assessment Points.

Appendix 7 Communication Action Form DBG-ENVR11A

Appendix 8 List of Responsible Persons

Appendix 9 Odour Risk Assessment

Document Ref	Page	Version	Date of issue:	Prepared by:	Approved by:
LLA-ENV33	4 of 33	001	02/06/2021	Luke Healy	Victoria Kerr

1.0 INTRODUCTION:

1.1 Introduction:

Dunbia (UK) (“Dunbia”) is licensed by Natural Resources Wales (“NRW”) under the Environmental Permitting (England & Wales) Regulations 2010. This report has been compiled by Dunbia in response to license EPR/BV9683/003 requiring Dunbia (UK) to submit and implement a structured odour management plan which incorporates potential odour sources from the whole site. The plan includes the following:

“The plan should include;

- *Identification of all potential sources of odour.*
- *Control measures to prevent and control odour.*
- *Identification of the actions to be carried out in the event of abnormal events or conditions which might lead to odour, or potential odour problems.*
- *Olfactory or other monitoring to be undertaken. This shall include monitoring frequency and location.*
- *An understanding of the impact in the event of abnormal events or conditions, for example the emptying of the lairage tanks. This may require modelling the dispersion of odours under such circumstances.*
- *A demonstration/justification that there will not be an odour problem from the emission under normal conditions.*
- *Communication with complainants in an odour problem arises or is likely to arise. Your procedure should ensure that a record is kept of any complaints received, what they relate to (source/operation) and the remedial action taken. The types and source of odorous substances used or generated, relevant release points and any monitoring undertaken.*
- *Odour control is not a once-off activity and requires a constant re-evaluation of control techniques and this must form part of the odour management plan.”*

This odour management plan (“OMP”) has been produced in accordance with the Environment Agency’s draft Technical Guidance Note H4: Horizontal Guidance for Odour Management¹ and the monitoring procedures discussed in this OMP also follow those outlined in this guidance note.

Document Ref	Page	Version	Date of issue:	Prepared by:	Approved by:
LLA-ENV33	5 of 33	001	02/06/2021	Luke Healy	Victoria Kerr

This OMP is intended as a “live” document and will be revised when required to ensure that it remains relevant to the activities ongoing at Dunbia (UK), and any change in conditions relating to odour and odour management will be incorporated into the OMP as part of those revisions.

1.2 Structure of Odour Management Plan:

The OMP structure follows recommendations outlined in the draft H4 guidance document and considers the following:

- An assessment of the risks of odour problems, from normal and abnormal situations, including worst case scenarios.
- The appropriate controls (physical and management) needed to manage those risks.
- Suitable monitoring.
- Actions, contingencies and responsibilities when problems arise.
- Regular review of the effectiveness of odour control measures.

1.3 Status of the Odour Management Plan:

This OMP is a live document with the monitoring procedures and compliance actions being updated as required by the procedures specified within in it.

¹ Environment Agency, Horizontal Guidance Document H4: DRAFT *Horizontal Guidance for Odour*, Part 2 – Odour Management.

Document Ref	Page	Version	Date of issue:	Prepared by:	Approved by:
LLA-ENV33	6 of 33	001	02/06/2021	Luke Healy	Victoria Kerr

2.0 SITE BACKGROUND:

2.1 Site Setting:

Dunbia operates a lamb & beef slaughtering and processing facility half a mile North of Llanybydder and four miles to the South-west of Lampeter with the capacity to slaughter up to 30,000 lambs and 1,000 cattle per week. The site and the immediate surrounds are shown in Appendix one. The site is situated in a rural location with a few local receptors, the nearest being isolated residential properties.

Potential odours at site may be separated into two main categories those directly linked to waste generated as part of the production process and those linked to treatment of effluent at the site effluent treatment plant (ETP).

Potential odour sources off-site include neighbouring farms and agricultural activities, Llanybydder Wastewater Treatment Plant and the Welsh Water Pumping Station located to the North-east of the site.

2.2 Potential Odour Receptors:

The land surrounding the site is predominantly agricultural with open fields to the North, East and West of the site, although there are a few single domestic dwellings as well. To the South and South-west of the site is the village of Llanybydder. Some receptors (both commercial and residential), in the vicinity of the site are listed in Table 2.1.

Table 2.1 Location of Potential Odour Receptors:

Reference Number in Appendix 1	Receptor	Receptor Type	OS Grid Co-Ordinates		Distance & Direction from Site Boundary
			X (m)	Y (m)	
NR 1	Highmead Terrace	Domestic Dwelling	351900	244200	400m, SW
NR 2	Station Terrace	Domestic Dwelling	252000	244100	300m, SW
NR 3	Ormond Dale	Domestic Dwelling	252000	244000	280m, SW
NR 4	Llyn	Domestic Dwelling	252195	243700	440m, SSW

Document Ref	Page	Version	Date of issue:	Prepared by:	Approved by:
LLA-ENV33	7 of 33	001	02/06/2021	Luke Healy	Victoria Kerr

Reference Number in Appendix 1	Receptor	Receptor Type	OS Grid Co-Ordinates		Distance & Direction from Site Boundary
			X (m)	Y (m)	
NR 5	Grey Fox	Domestic Dwelling	252285	244010	280m, SW
NR 6	Spar	Commercial	252200	244090	260m, SW
NR 7	Y Fro	Domestic Dwelling	252195	244240	120m, SW
NR 8	Llys Teify	Domestic Dwelling	252260	244260	140m, SW
NR 9	Maes Y Fro	Domestic Dwelling	252230	244230	60m, SW
NR 10	Maes Gwyn	Domestic Dwelling	252285	244285	40m, SW
NR 11	Banc Y Felyn	Domestic Dwelling	252290	244290	60m, SW
NR 12	Hafan Deg	Domestic Dwelling	252350	244290	20m, SW
NR 13	Smithfield	Domestic Dwelling	252390	244300	0m, SW
NR 14	Crisden	Domestic Dwelling	252310	244280	30m, SW
NR 15	Sunny Bank	Domestic Dwelling	252300	244250	80m, SW
NR 16	Gwynfryn Terrace	Domestic Dwelling	252290	244195	100m, SW
NR 17	Dyffrun Duar	Domestic Dwelling	252400	244260	20m, S
NR 18	Troed Y Bryn	Domestic Dwelling	252420	244595	100m, S
NR 19	Vicarage	Domestic Dwelling	252500	244360	30m, S
NR 20	Y Glyn	Domestic Dwelling	252760	244390	20m, SE
NR 21	Halfway House	Domestic Dwelling	252520	244010	380m, S
NR 22	Llwynglas	Domestic Dwelling	252530	243985	400m, S
NR 23	Aber Duar Farm	Domestic Dwelling/ Agricultural	252595	244195	95m, S
NR 24	Y Bryn	Domestic Dwelling	252210	244070	220m, SW
NR 25	Llwyn crwn House	Domestic Dwelling	253010	244585	100m, NE
NR 26	Llwyn Crwn Farm	Domestic Dwelling	253200	244700	180m, NE
NR 27	Llwyn Crwn	Domestic	253210	244780	190m, NE

Document Ref	Page	Version	Date of issue:	Prepared by:	Approved by:
LLA-ENV33	8 of 33	001	02/06/2021	Luke Healy	Victoria Kerr

Reference Number in Appendix 1	Receptor	Receptor Type	OS Grid Co-Ordinates		Distance & Direction from Site Boundary
			X (m)	Y (m)	
	Bungalow	Dwelling			
NR 28	The Old Vicarage	Domestic Dwelling	253190	244795	190m, NE
NR 29	Maesisa	Domestic Dwelling	253250	244915	450m, NE
NR 30	Troed Rhiw	Domestic Dwelling	253205	244785	200m, NE
NR 31	The Old Bank	Domestic Dwelling	251970	244095	180m, SW
NR 32	Black Lion Hotel	Hotel	251990	244050	160m, SW
NR 33	Gelli House	Domestic Dwelling	251890	244000	510m, SW
NR 34	Gerlan	Domestic Dwelling	251895	243980	250m, SW
NR 35	Rylwyn	Domestic Dwelling	251900	243965	255m, SW
NR 36	Islwyn	Domestic Dwelling	252090	243815	500m, SW
NR 37	Glenfaes	Domestic Dwelling	252195	243560	800m, SSW
NR 38	Neuadd	Domestic Dwelling	252110	243580	790m, SSW
NR 39	Y Mans	Domestic Dwelling	252140	243680	650m, SSW
NR 40	Harfryn	Domestic Dwelling	252100	243735	570m, SSW
NR 41	Llysfryn	Domestic Dwelling	252100	243720	575m, SSW
NR 42	Gorwel	Domestic Dwelling	252100	243710	580m, SSW
NR 43	Uplands	Domestic Dwelling	252090	243700	590m, SSW
NR 44	Bryn Meddyg	Doctor Surgery	252650	243890	245m, SW
NR 45	Albion Arms	Domestic Dwelling	252805	243815	500m, SSE
NR 46	Bro Duar	Domestic Dwelling	252900	243815	530m, SSE
NR 47	Gwar Duar	Domestic Dwelling	252990	243800	560m, SSE
NR 48	Troed y Bryn	Domestic Dwelling	253000	243770	600m, SSE
NR 49	Nursing Home	Nursing Home	252900	243700	360m, SSE
NR 50	School	School	252815	243750	350m, SSE

Document Ref	Page	Version	Date of issue:	Prepared by:	Approved by:
LLA-ENV33	9 of 33	001	02/06/2021	Luke Healy	Victoria Kerr

Reference Number in Appendix 1	Receptor	Receptor Type	OS Grid Co-Ordinates		Distance & Direction from Site Boundary
			X (m)	Y (m)	
NR 51	Bro Einon	Domestic Dwelling	252600	248750	250m, S
NR 52	Heol y Gaer	Domestic Dwelling	252400	243800	240 m, S
NR 53	Highmead Arms	Domestic Dwelling	251900	244400	210m, W
NR 54	Pepperstock Cottages	Domestic Dwelling	251990	244490	185m, NW
NR 55	Cadabowen Cottages 1	Domestic Dwelling	251995	244580	240m, NW
NR 56	Cadabowen Cottages 2	Domestic Dwelling	251998	244590	310m, NW
NR 57	Perthu	Domestic Dwelling	252000	244600	320m, NW
NR 58	Llanfon	Domestic Dwelling	252000	244660	330m, NW
NR 59	Cattle Market	Commercial	251990	243940	310m, SW
NR 60	Highmead Dairies	Industry	252775	243790	440m, SE

NB: Dunbia (UK) is assumed to be at 252570, 244390

2.3 Activities that Produce Odour and Points of Release:

As outlined earlier in this OMP there are two main categories into which potential odour from normal processes at Dunbia may be separated, those directly linked to waste generated due to the production process and those linked to treatment of effluent at the site effluent treatment plant. Although the production of effluent is also linked to the production process for the purpose of the OMP the effluent treatment process will be treated as a separate category. Both of these potential sources are considered below.

2.3.1 Production Process:

Potential odour sources considered to be linked to the production process are as follows:

- Holding of animals in lairage prior to slaughter. Build up of slurry and manure below and in lairage. Improvements have been made which will be detailed later.

Document Ref	Page	Version	Date of issue:	Prepared by:	Approved by:
LLA-ENV33	10 of 33	001	02/06/2021	Luke Healy	Victoria Kerr

- Use of a screen to remove SRM material from effluent in compliance with animal by-products regulations. Build-up of solids in/around the screen.
- Collection of screenings from the drum screen. Build-up of solids in or around the screen.
- By-Products collection area. Build up of by-product material (Bones, SRM, fat, wool clippings, soft offal, skins etc.)
- By-Products trailers. Storage of By-Products (Bones, SRM, fat, wool clippings, soft offal etc.)
- Blood tanks. Storage of blood.
- General waste collection points and general waste skips. Storage of general waste or mixed municipal waste such as dirty packaging, plastics (non-recyclable), expired materials etc.
- Soft offal refrigerated storage area for pet food. Storage of animal by-products.
- Skins and hides processing area. Storage of skins and hides.
- Truck wash area. Manure/slurry or solids build up in this area.

These are marked on a site plan included in Appendix two.

2.3.2 Effluent Treatment Process:

Potential odour sources considered to be linked to the effluent treatment process are as follows:

- Spell tank pump sump. Contains effluent.
- Drum Screen. Build-up of solids in / around the screen.
- T5 balance tank. Storage of effluent.
- Rotary screen. Build up of solids on screen, and below screen.
- Pump pit below ETP gantry. Contains effluent.
- Flocculator. Effluent release during failure event.
- Dissolved Air Flotation unit. Contains effluent and separates sludge.
- Selector pit. Contains effluent.
- Anoxic tank. Contains and treats effluent.
- Aeration tank. Contains and treats effluent.
- Sludge tank. Contains sludge.

Document Ref	Page	Version	Date of issue:	Prepared by:	Approved by:
LLA-ENV33	11 of 33	001	02/06/2021	Luke Healy	Victoria Kerr

- Screw Press. Dewatering of sludge.
- Sludge cake storage. Storage of dewatered sludge.

These are marked on a site plan included in Appendix two.

3.0 CONTROL MEASURES TO PREVENT AND CONTROL ODOUR:

This OMP describes the techniques and measures that will be adopted at Dunbia (UK) to minimise any potential releases of odour as a result of the red meat slaughter and processing activities and associated effluent treatment activities.

The following sections detail the management techniques and procedures, and odour control measures that will be used for each potential odour source identified in section 2.3 of this plan. The controls outlined in this section below are summarised in a table included as part of Appendix 3.

3.1 Lairage:

To control the fugitive release of odours the following measures will be employed:

- Manure production is minimised by controlling feeding rate prior to transportation of animals to site.
- Regular ‘dry’ cleaning during production and final wash down daily.
- The storage area below the upper lairage is cleaned out several times a year reducing the time manure/slurry is stored.
- The lower lairage features automatic scrapers which will move slurry into a trough where it is screened, and the liquid then goes onward to the ETP. The lower lairage will also be washed down daily to prevent a build-up of slurry.
- The contractor removing the lairage waste, may use the site lorry wash and will be asked to wash his vehicle or trailer before leaving site if the Dunbia operative supervising this activity determines that this is required.

3.2 Mechanical Screens & Collection of Screenings (Including Bellygrass):

To control the fugitive release of odours the following measures will be employed:

- Regular cleaning and maintenance of screens.

Document Ref	Page	Version	Date of issue:	Prepared by:	Approved by:
LLA-ENV33	12 of 33	001	02/06/2021	Luke Healy	Victoria Kerr

- The screens are self-contained to minimise air movement.
- Solids from the screens are removed regularly each day.
- Storage of screenings is within a dedicated area with foul drainage allowing regular planned wash down.
- The screenings are collected in a dolav with a lid and the shoot from the meva enters the dolav through the lid.

3.3 By-Products Collection Areas:

To control the fugitive release of odours the following measures will be employed:

- Dolavs are removed regularly throughout the day and the contents disposed into the by-products trailers, soft offal refrigerated storage and hides and skins processing area. Therefore, these areas contain fresh material which has limited time to decay and cause odour.
- The by-products storage areas drain to foul and have all by-products removed each evening before they are washed down.
- Continuous, segregated collection of animal by-products occurs.
- Sealed dolavs are used for collection.
- The by-products areas are also roofed.
- Dolavs used to collect the by-products are washed out on a frequent basis to prevent build up of malodorous material.

3.4 By-Products Trailers:

To control the fugitive release of odours the following measures will be employed:

- Trailers are removed at least once daily so any trailers on site always contain ‘fresh’ material which has limited time to decay and cause odour.
- All by-products trailers are sealed containers.
- Trailers are covered before removal from site and throughout the day, when they are not being filled they are also covered.

3.5 Blood Tanks:

To control the fugitive release of odours the following measures will be employed:

- Blood is removed from site on a frequent basis.
- Odour abatement is installed on the blood storage tank vents.

Document Ref	Page	Version	Date of issue:	Prepared by:	Approved by:
LLA-ENV33	13 of 33	001	02/06/2021	Luke Healy	Victoria Kerr

- During blood collection the tanker connects to a carbon trap on site and exhaust air expelled from the tanker passes through the carbon trap.
- The beef blood collection tank is refrigerated.

3.6 General Waste Collection Points and Skips:

To control the fugitive release of odours the following measures will be employed:

- Dolavs with lids are used to provide collection points at designated areas of the site so the collection area is covered.
- Dolavs are emptied daily or more frequently if required into the general waste skips.
- The general waste skip is a sealed skip.
- The general waste skip is emptied on a regular basis.
- The general waste skip is sealed and the dolavs used as localised collection points are also sealed containers.
- The dolavs used for general waste collection are washed out periodically to prevent build-up of malodours materials.

3.7 Pet Food Soft Offal Storage:

To control the fugitive release of odours the following measures will be employed:

- This storage area is fully enclosed within a container.
- The pet food soft offal is refrigerated as it may be held on site for a couple of days, before being transferred off site.

3.8 Skins & Hides Processing Area:

To control the fugitive release of odours the following measures will be employed:

- This activity occurs within a specifically designated building which is enclosed.
- The door to this processing/storage area remains closed during processing apart from vehicle entrance and egress with skins and hides or salt.
- The skins area drains to foul and is washed down each evening.
- Vented panel walls of the skins and hides processing area have been replaced with solid panels.

Document Ref	Page	Version	Date of issue:	Prepared by:	Approved by:
LLA-ENV33	14 of 33	001	02/06/2021	Luke Healy	Victoria Kerr

3.9 Truck Wash Area:

To control the fugitive release of odours the following measures will be employed:

- The truck wash area is frequently cleaned down to prevent build-up of malodorous material.
- The truck wash is angled to assist drainage.

3.10 Spell Tank (Sump):

To control the fugitive release of odours the following measures will be employed:

- Regular maintenance of pumps as standard to ensure they are operational and in good order.
- The tank and pumps are setup in such a way that the velocity of the pumping prevents any settlement on the floor of the tank and as such is self-cleaning.
- Screens / catch pots are used on the production floor to minimise meat scraps / fats from entering the drainage system and the Spell Tank.

3.11 T5 Balance Tank:

To control the fugitive release of odours the following measures will be employed:

- Screens / catch pots are used on the production floor to minimise meat scraps / fats from entering the drainage system and the Spell Tank.
- Effluent within the tank is kept continually mixed by air is introduced which prevents the chance of the effluent turning septic.
- The level of effluent within the tank is controlled by sensors at a consistent level.
- This tank has a roof on it which again minimises the chance of emitting any odour.

3.12 Pump Pit Below ETP Gantry & Selector Pit:

To control the fugitive release of odours the following measures will be employed:

- Regular maintenance of pumps and cleaning of pump sump to remove solids build up.
- Effluent is kept in suspension/pumped to prevent it becoming septic and does not remain in the pump pit for an extended period of time before it is pumped through the system.

Document Ref	Page	Version	Date of issue:	Prepared by:	Approved by:
LLA-ENV33	15 of 33	001	02/06/2021	Luke Healy	Victoria Kerr

- This pit is also covered.
- The majority of pumps are duplex (Duty/Standby).

3.13 Flocculator:

To control the fugitive release of odours the following measures will be employed:

- The flocculator is located within the ETP building.
- There is local foul drainage in this area allowing regular wash down.

3.14 Diffused Air Flotation Units:

To control the fugitive release of odours the following measures will be employed:

- They are located within the new ETP building.
- Effluent is constantly moving through the unit and does not get a chance to stagnate.
- Sludge is constantly strapped off the surface and the clean effluent then flows onwards. The sludge is pumped to the sludge tank for a later process.
- The flotation units are also part of a planned maintenance and cleaning schedule which prevents the build-up of malodorous material.

3.15 Anoxic Tank:

To control the fugitive release of odours the following measures will be employed:

- The tank is kept continuously mixed with below surface mixers.
- The treatment in this tank, and so by default the generation of odour, is controlled by closely monitoring and controlling the pH of the influent to this tank, as this controls the reactions in the tank and so the generation of odour.
- There is an inline continuous pH probe which is linked to the SCADA system and an emergency alarm for high or low pH. pH to this tank is also manually monitored in the daily sampling that occurs.
- There is adequate free board space and an overflow to the aeration tank is in place should the maximum fill level be reached. This will then trigger a high-level alarm at the plant.
- There are duplex mixers in this tank. (Duty / Standby)

Document Ref	Page	Version	Date of issue:	Prepared by:	Approved by:
LLA-ENV33	16 of 33	001	02/06/2021	Luke Healy	Victoria Kerr

3.16 Aeration Tank:

To control the fugitive release of odours the following measures will be employed:

- The tank is aerated through fine bubble submerged aeration rather than surface aeration greatly reducing the possibility of an aerosol effect causing odour dispersion.
- The oxygen level in this tank is carefully monitored by a probe and an automatic alarm sounds if the oxygen level is too high or too low. There is also a manual check of the oxygen level in this tank on a daily basis.
- There are two blowers so one is available as a back-up should one develop a fault. If for some reason the probe signals the blowers that the oxygen level has dropped to the low level and the first blower does not switch on the second will automatically be started, and an alarm will be given to alert the plant operative to the problem.
- There is adequate free board space and an overflow to the anoxic tank is in place should the maximum fill level be reached. This will then trigger a high-level alarm at the plant.

3.17 Sludge Tank:

To control the fugitive release of odours the following measures will be employed:

- This is an enclosed tank, covered and vented through an activated carbon filter due to the material stored in it.
- Sludge is pumped from the tank to a screw press for dewatering, the dried material is then removed from site by a licenced haulier ensuring that sludge does not remain in the tank for an extended period of time.

3.18 Screw Press:

To control the fugitive release of odours the following measures will be employed:

- The screw press is fully enclosed within the ETP.
- The air from this section of the ETP is vented via a carbon filter.
- The screw press is regularly serviced as part of a maintenance plan.
- The screw press is also self-cleaning, using a high-pressure wash system under automatic control.
- It is a slow-moving machine which gently squeezes the sludge to dewater it.

Because of the low-velocity action it has a greatly reduced potential for odour

Document Ref	Page	Version	Date of issue:	Prepared by:	Approved by:
LLA-ENV33	17 of 33	001	02/06/2021	Luke Healy	Victoria Kerr

emission in comparison to the very turbulent work done by the previous centrifuge.

3.19 Screw Press Sludge Cake Storage:

To control the fugitive release of odours the following measures will be employed:

- The sludge cake trailer is fully enclosed within a dedicated section of the ETP.
- The trailer will be covered prior to removal from site.
- The area in which the trailer is located drains to foul and will be washed down on a regular basis.
- The air from this section of the ETP is vented via a carbon filter.
- The sludge cake trailer is removed on a regular basis so it is ‘fresh’ and has limited time to decay and cause odour.
- The waste contractor may use the site lorry wash and will be asked to wash down the trailer or vehicle pulling the trailer before leaving site if the ETP operative determines this is necessary.

3.20 Waste Tanker

To control the fugitive release of odours the following measures will be employed:

- If the tanker is to be used by Maintenance, i.e. cleaning Gut Room pump house or any other pump pits, it is the responsibility of the Engineering Manager to ensure the tanker is cleaned thoroughly before being returned to the crate wash.
- No effluent shall be stored in the tanker.
- The Transport Manager shall ensure the tanker shall be periodically washed when in normal use.

A risk assessment of odour problems/hazards from normal situations and the controls proposed for these hazards as identified in this section was completed and this assessment is enclosed in Appendix 9. The methodology used for this risk assessment was EA Guidance Note H1 Environmental risk Assessment Part 1: Simple assessment of environmental risk for accidents, odour, noise and fugitive emissions.

Document Ref	Page	Version	Date of issue:	Prepared by:	Approved by:
LLA-ENV33	18 of 33	001	02/06/2021	Luke Healy	Victoria Kerr

4.0 FAILURE AND ABNORMAL EVENT SCENARIOS:

It is considered that the control measures outlined in the previous section will be sufficient to demonstrate that there will not be an problem from the site under normal conditions, however in accordance with the requirements of the EA draft Guidance Note H4, types of failure of abnormal events considered to have the potential to result in an odour impact have been reviewed. These have been identified as meteorological conditions and failures of certain control measures as details in section 3.0.

4.1 Abnormal Meteorological Conditions:

Extreme meteorological conditions that promote the generation of odour and inhibit its effective dispersion (E.g.: High temperatures, stable conditions) may result in an impact at receptor locations. Even with the application of control measures considered to represent Best Available Techniques, such as using meteorological forecasts and the other control measures mentioned in section 3.0 above an impact may still occur under extreme conditions.

4.2 Failure of Control Measures:

Failures in the control measures in place at site may potentially result in an impact at receptor locations. Failures will have the potential to result in an increase in the magnitude of odour emissions and may as a consequence potentially cause a higher odour concentration at receptors.

Potential failures in control measures or abnormal events/ conditions include:

- Cleaning out the area under the lairage.
- A breakdown of any of the physical screening equipment.
- The waste contractor who collects the trailer containing screenings from site being unable to complete the collection.
- The waste contractor being unable to remove the by-products skip at the end of a day.
- The waste contractor who collects the blood from site being unable to complete collection.
- The waste contractor who collects general waste from site being unable to complete collection.

Document Ref	Page	Version	Date of issue:	Prepared by:	Approved by:
LLA-ENV33	19 of 33	001	02/06/2021	Luke Healy	Victoria Kerr

- A breakdown of the pet food soft offal storage container refrigeration system.
- Failure of a pump within a sump, tank or the ETP.
- ETP does not treat effluent to required discharge standard and system becomes hydraulically overloaded.
- The waste contractor who collects pressed sludge cake from site being unable to complete collection.
- pH of anoxic tank drops below 6.5.
- Insufficient chemicals available to run ETP.

The table attached in Appendix 4 of his plan outlines the actions that have been identified for completion in the event that abnormal events or conditions which may lead to odour occur. This table also highlights the potential impact in the event of abnormal events or conditions. Appendix 4 has outlined how some activities may need to be stopped in the event of control measures failing (such as part of the ETP operation) in most cases partial cessation of some activities for a short period of time may be required. However, in the event of a major failure of control measures all activities at the site may be ceased until the problem can be identified and suitable controls put in place.

A risk assessment was also completed for the abnormal odour hazards and proposed controls identified in this section and this is enclosed in Appendix nine.

5.0 MONITORING MEASURES:

5.1 Meteorological Conditions:

Site meteorological conditions are monitored using the automatic weather station, downloaded on a continuous basis and logged in electronic format. The weather station is located at the top of the effluent treatment plant. Weather data is stored electronically and is stored for three years.

5.2 Olfactory Monitoring Procedure:

Olfactory monitoring is undertaken daily and additionally in response to complaints. A procedure has been pulled together based on recommendations in the EA draft H4 guidance document. The maps in Appendix 1 outline points for Assessment on Site

Document Ref	Page	Version	Date of issue:	Prepared by:	Approved by:
LLA-ENV33	20 of 33	001	02/06/2021	Luke Healy	Victoria Kerr

(AS) and points for Assessment at Receptors (AR). The Dunbia (UK) Odour Monitoring Programme LLA-ENV33B outlines the action that will be taken during this monitoring and the record forms that will be completed. A copy of LLA-ENV33B is enclosed in Appendix 5 of this report.

In summary there are six designated site boundary assessment points identified in LLA-ENV33B. Each of these site boundary assessment points will be assessed once a week, with the assessor making observations concerning the intensity of the odour, its persistence and character. If anything stronger than a grade 3 distinct odour (Odour character is recognisable) is noted then the local area assessment points (Receptor assessment points) will also be assessed, in addition to investigation at site being completed to determine the source of the odour and the cause if possible. An odour stronger than a grade 3 odour is determined by Dunbia to be the point of annoyance as referenced in EA H4 guidance (The threshold between ‘no reasonable cause for annoyance’ and the trigger point for the site to carry out escalated response). At this stage immediate action will then be taken to control this odour and prevent it reoccurring. Once this action has been completed monitoring at the local area receptor assessment points will then be undertaken to confirm that this has resolved the problem. The local area receptor assessment points which will be monitored are based upon wind direction, as receptor points downwind from site boundary assessment points at which recognisable odour character has been detected will be monitored.

It is considered that this monitoring plan is the best approach as there is more than one area at site where odours may potentially arise. All records of this monitoring will be stored at site and will be retained for six years.

Enclosed in Appendix 6 of this report is a set of completed monitoring forms illustrating the data that will be gathered each day.

To ensure that the assessor is not suffering from odour fatigue and will be sensitive to any odours which may be arising from Dunbia the assessor will comply with the following requirements during and prior to assessments:

Document Ref	Page	Version	Date of issue:	Prepared by:	Approved by:
LLA-ENV33	21 of 33	001	02/06/2021	Luke Healy	Victoria Kerr

- The assessor must ensure they have not been subject to site odours in the thirty minutes prior to the assessment.
- The assessor must ensure they have not smoked or consumed strongly flavoured food or drink in the thirty minutes prior to the assessment.
- Scented toiletries should not be applied immediately before or during assessment.
- Vehicles used for assessment should not contain deodoriser and care should be taken concerning windscreen wash.
- The order in which the site boundary assessment points are assessed is also important. The assessor should start at AS 1 and work their way to AS 6 taking care to move between AS 4 and AS 5 using the road so as to avoid the possibility of becoming desensitised by any odour that may be generated in the lairage/T5 area.

5.3 Complaint Monitoring:

If Dunbia (UK) is contacted in relation to an odour complaint, during office hours the site contacts the (Site Environmental Officer and / or Health & Safety Officer) will talk to the complainant and record details on Dunbia’s Communication Action Form (DBG-ENVR11A) and adhere to the Communications and Complaints Procedure (DBG-ENV11. A copy of form DBG-ENVR11A is enclosed in Appendix 7 of this report. Olfactory monitoring as described in 5.2 will then be completed at both the site boundary assessment points and at the local area receptor points and at the complainant location if this information is available to determine if the odour the complainant has identified is likely to have arisen from activities on-going at Dunbia (UK).

If this monitoring confirms that it is likely that an odour may have arisen from activity at the Dunbia (UK) facility further investigation will be undertaken to confirm what the source of the odour is, what the cause of the odour is and what actions are required to control the odour. Any remedial actions identified will be recorded on the Communication Action Form (DBG-ENVR11A) with appropriate target dates for completion of these actions and if the complainant has requested feedback in relation to their complaint feedback will then be provided at this point.

Document Ref	Page	Version	Date of issue:	Prepared by:	Approved by:
LLA-ENV33	22 of 33	001	02/06/2021	Luke Healy	Victoria Kerr

If a complaint is received out of hours Dunbia’s Security personnel will record details of the complaint on Communication Action Form (DBG-ENVR11A) and complete olfactory monitoring at the site boundary assessment points, making note of any observations relating to the odour complaint. This information will then be passed to the Environmental Officer immediately the next morning. The Environmental Officer will investigate, and report as outlined in the previous paragraphs of this section.

5.4 Monitoring Frequency:

Monitoring frequencies are detailed in Table 5.1 below:

Table 5.1 Monitoring Frequencies:

Parameter	Monitoring Technique	Frequency
Meteorology	Wind speed, direction and temperature from weather station.	Continuously
Odour	Olfactory monitoring	Weekly (and as required by complaints)
	Complaint monitoring	Continuously – Site contact available 24/7 and investigation commenced as soon as complaint is received.

5.5 Responsible Persons:

Responsible persons are detailed within Appendix 8.

6.0 COMPLIANCE ACTION PLANS:

6.1 Control Levels:

The control levels are outlined in Table 6.1 below:

Table 6.1 Control Levels:

Parameter	Monitoring Technique	Control Level
Odour	Olfactory monitoring	Odour intensity grade 3 recorded at

Document Ref	Page	Version	Date of issue:	Prepared by:	Approved by:
LLA-ENV33	23 of 33	001	02/06/2021	Luke Healy	Victoria Kerr

		site boundary assessment point.
	Complaint monitoring	Complaint received.

6.2 Compliance Actions:

Exceedance of a control level will necessitate further investigation into the causes and this investigation will determine if further monitoring or additional control measures are required. The actions to be taken in the event of an exceedance will be dictated by its nature and extent (By considering the magnitude of exceedance and whether it was linked to a particular event or arose from an on-going source).

6.2.1 Response to Complaints:

The receipt of a complaint relating to odour is treated as an exceedance of a control level. The first response will be as detailed previously in this report and will be in accordance with the site's complaints procedure. An investigation into the route cause of the complaint will then be started. An investigation will entail the following:

- An olfactory survey as outlined in section 5.2.
- A review of site activities at the time of the complaint.
- An examination of the meteorological conditions at the time of the complaint.
- A review of the effectiveness of control measures.

If the complaint is verified it will be treated as an exceedance of the control level.

The outcome of the investigation will determine the corrective actions to be implemented (See section 6.2.3 below).

6.2.2 Detection of a Distinct Odour During Olfactory Survey:

The detection of a distinct odour (Odour character is recognisable) will initiate a more extensive olfactory survey to determine the extent of the odour plume. An investigation into the route cause of the complaint will then be started. An investigation will entail the following:

- A review of site activities at the time of the olfactory survey.
- A review of the meteorological conditions at the time of the olfactory survey
- A review of the effectiveness of control measures.

Document Ref	Page	Version	Date of issue:	Prepared by:	Approved by:
LLA-ENV33	24 of 33	001	02/06/2021	Luke Healy	Victoria Kerr

6.2.3 Corrective Actions:

The outcome of an investigation will determine the corrective actions to be implemented, and will consider, but not be limited to:

- Installing further control measures.
- Re-locating operations at site if possible.
- Changing the time at which operations occur.
- Review of odour neutralising chemicals to mask odour.
- Further monitoring including dispersion modelling.
- Update of OMP if new procedures are created.

6.2.4 Reporting:

An exceedance of a control level will be investigated and recorded in accordance with Dunbia's procedures (DBG-ENVR11A and LLA-ENV33B) as discussed earlier in this report. These records will include the following:

- The nature of the incident.
- The date of the occurrence (s).
- Investigation results.
- Details of responses/ action plans implemented.

These records will be made available to the EA on request.

7.0 FURTHER ACTIONS:

Further to the assessments and actions completed in the compiling of this report this section seeks to summarise the actions that are still outstanding and are scheduled for completion by site. These have been outlined in Table 7.1 below.

Table 7.1 Actions for Improvement:

Action	Completion Date	Person Responsible
Review of Odour Management Plan to assess its scope and effectiveness.	June 2022	Luke Healy

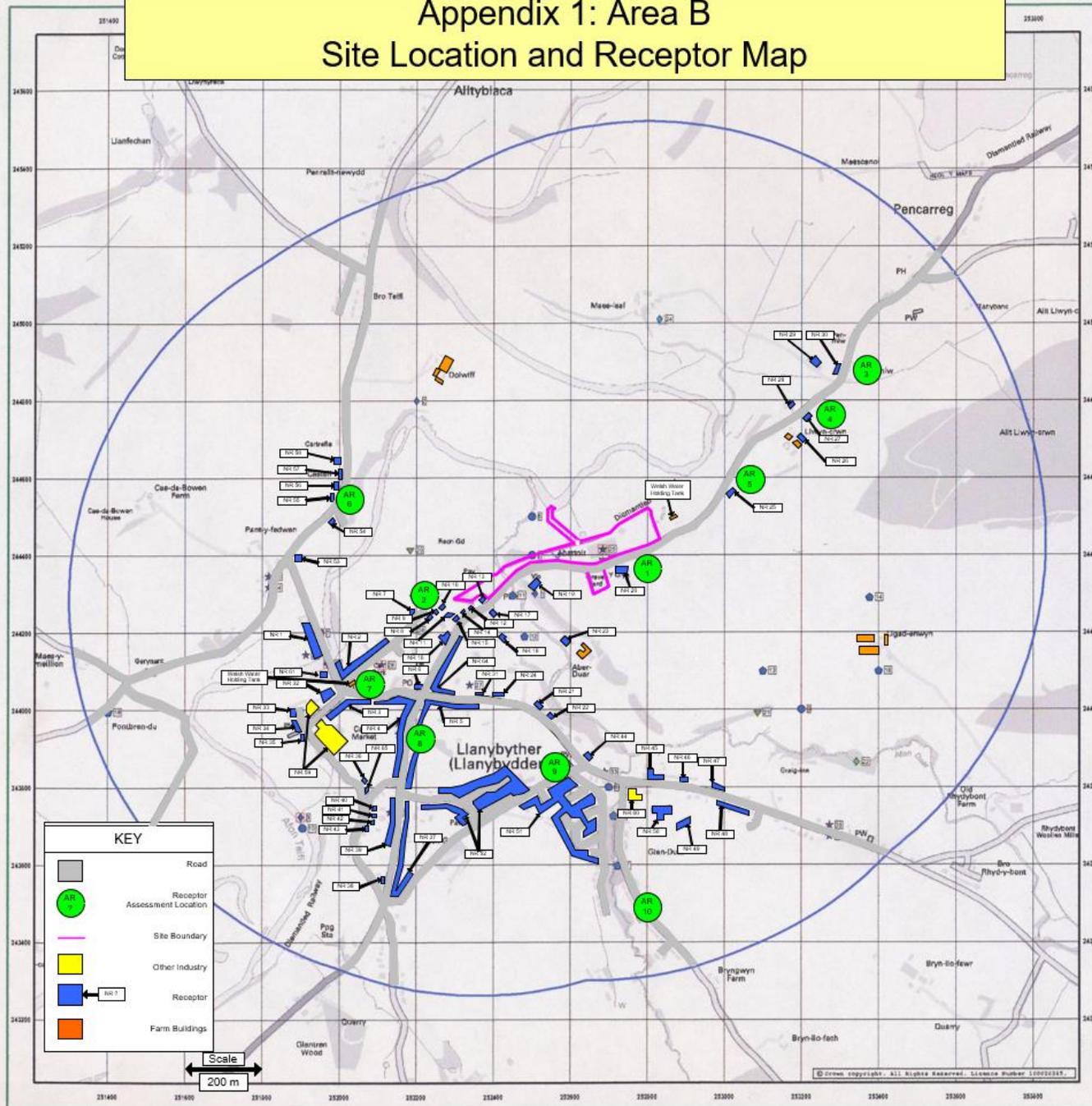
Document Ref	Page	Version	Date of issue:	Prepared by:	Approved by:
LLA-ENV33	25 of 33	001	02/06/2021	Luke Healy	Victoria Kerr

Document Ref	Page	Version	Date of issue:	Prepared by:	Approved by:
LLA-ENV33	26 of 33	001	02/06/2021	Luke Healy	Victoria Kerr

Appendix 1

Document Ref	Page	Version	Date of issue:	Prepared by:	Approved by:
LLA-ENV33	27 of 33	001	02/06/2021	Luke Healy	Victoria Kerr

Appendix 1: Area B Site Location and Receptor Map



KEY

- Road
- Receptor Assessment Location
- Site Boundary
- Other Industry
- Receptor
- Farm Buildings

Envirocheck
A Landmark product

CLIENT DETAILS Envirocheck Order No. EC2998841_1_1
Customer Ref: D Osvald, Dungenan - Oriol
ECODYN LIMITED
FLISKMILLAN STEADINGS
NEWBURGH
FF6 KY14 8HN

SITE DETAILS Grid Reference 252570 244390
Oriol Jones And Son Ltd
Telfi Park Abertar
Llanbydder
SA44 9QE

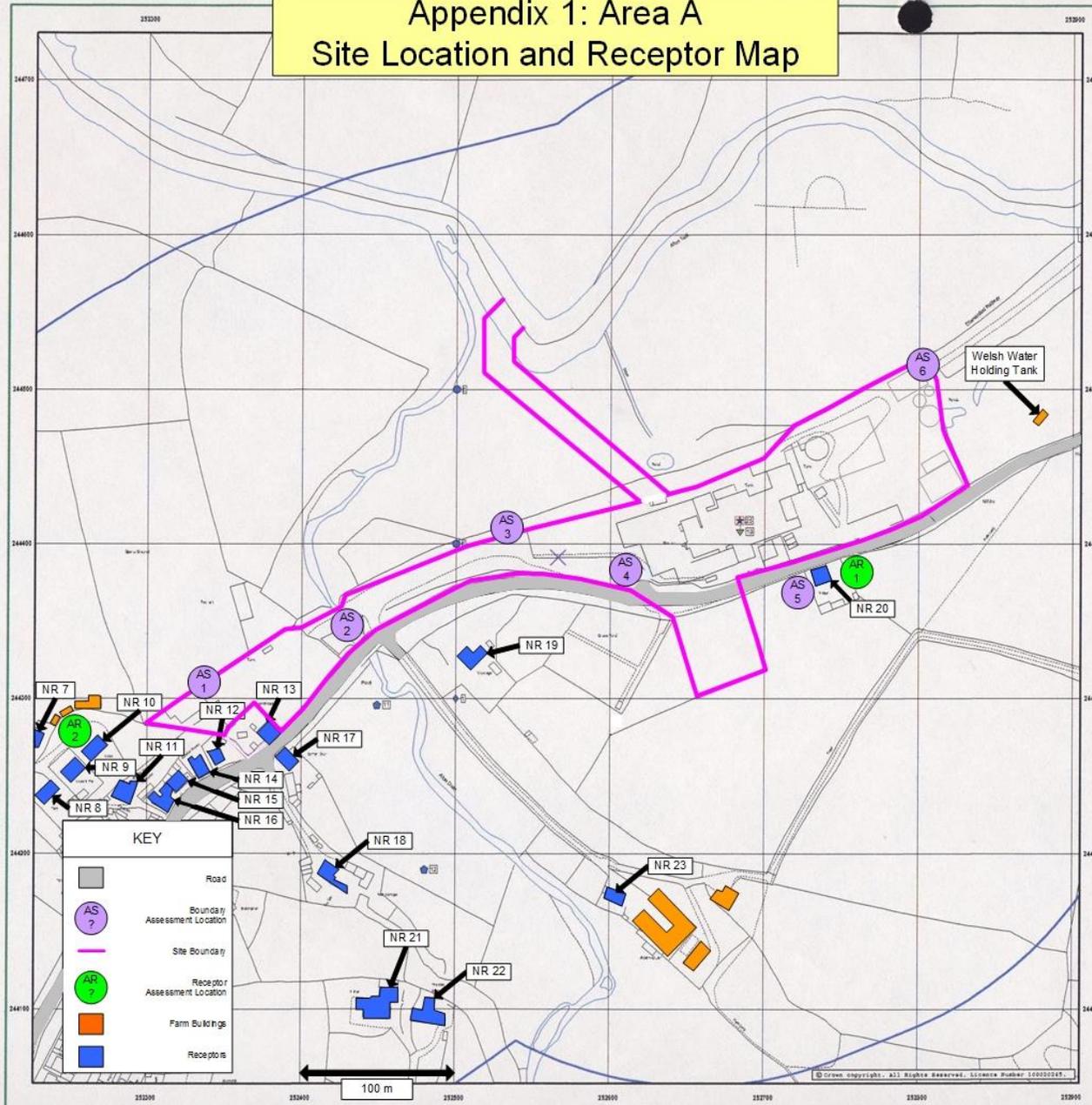
KEY TO THE LEGEND DATABASE

General	Waste
Specified Site	Point Location of BGS Recorded Landfill Site
Bearing Reference Point	BGS Recorded Landfill Site
Buffer (1000m)	Integrated Pollution Control Registered Waste Site
Reference Number	Licensed Waste Management Facilities (Landfill Boundary)
Several of Type at Location	Licensed Waste Management Facility (Location)
	Point Location of Local Authority Recorded Landfill Site
	Local Authority Recorded Landfill Site
	Registered Landfill Site
Agency and Hydrological	
Air Pollution Control	Point Location of Registered Waste Transfer Site
Air Pollution Control Enforcement	Registered Waste Transfer Site
Point Location of Contaminated Land Register Entry or Notice	Waste Treatment or Disposal Site
Contaminated Land Register Entry or Notice	Registered Waste Treatment or Disposal Site
Discharge Consent	
Enforcement Or Prohibition Notice	Hazardous Substances
Integrated Pollution Control	COMAH Site
Integrated Pollution Prevention Control	Explosive Site
Pollution incident to Controlled Waters	NIHHS Site
Substantiated Pollution Incident Register	Planning Hazardous Substance Consent
Prosecution Relating to Authorised Processes	Planning Hazardous Substance Enforcement
Prosecution Relating to Controlled Waters	
Red List Discharge Consent	Geological
Registered Radioactive Substance	BGS Borehole
River Quality Sampling Point	BGS Recorded Mineral Site
Water Abstraction	
	Industrial Land Use
	Contemporary Trade Directory Entry
	Fuel Station Entry

Produced by Landmark Information Group Limited. Tel: 01982 441792 Fax: 01982 441799

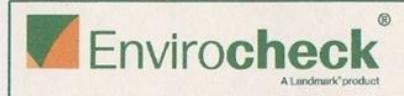
Environment Agency, Ordnance Survey, Value Added Reseller

Appendix 1: Area A Site Location and Receptor Map



KEY

	Road
	Boundary Assessment Location
	Site Boundary
	Receptor Assessment Location
	Farm Buildings
	Receptors



CLIENT DETAILS Envirocheck Order No. EC2996841_1
 Customer Ref: D Oswald, Dunganon - Oriol
 ECOOYN LIMITED
 FLISKMILLAN STEADINGS
 NEWBURGH
 FIFE KY14 8HN

SITE DETAILS Grid Reference 252570 244390
 Oriol Jones And Son Ltd
 Telfi Park Abattoir
 Llanybydder
 SA46 9QC

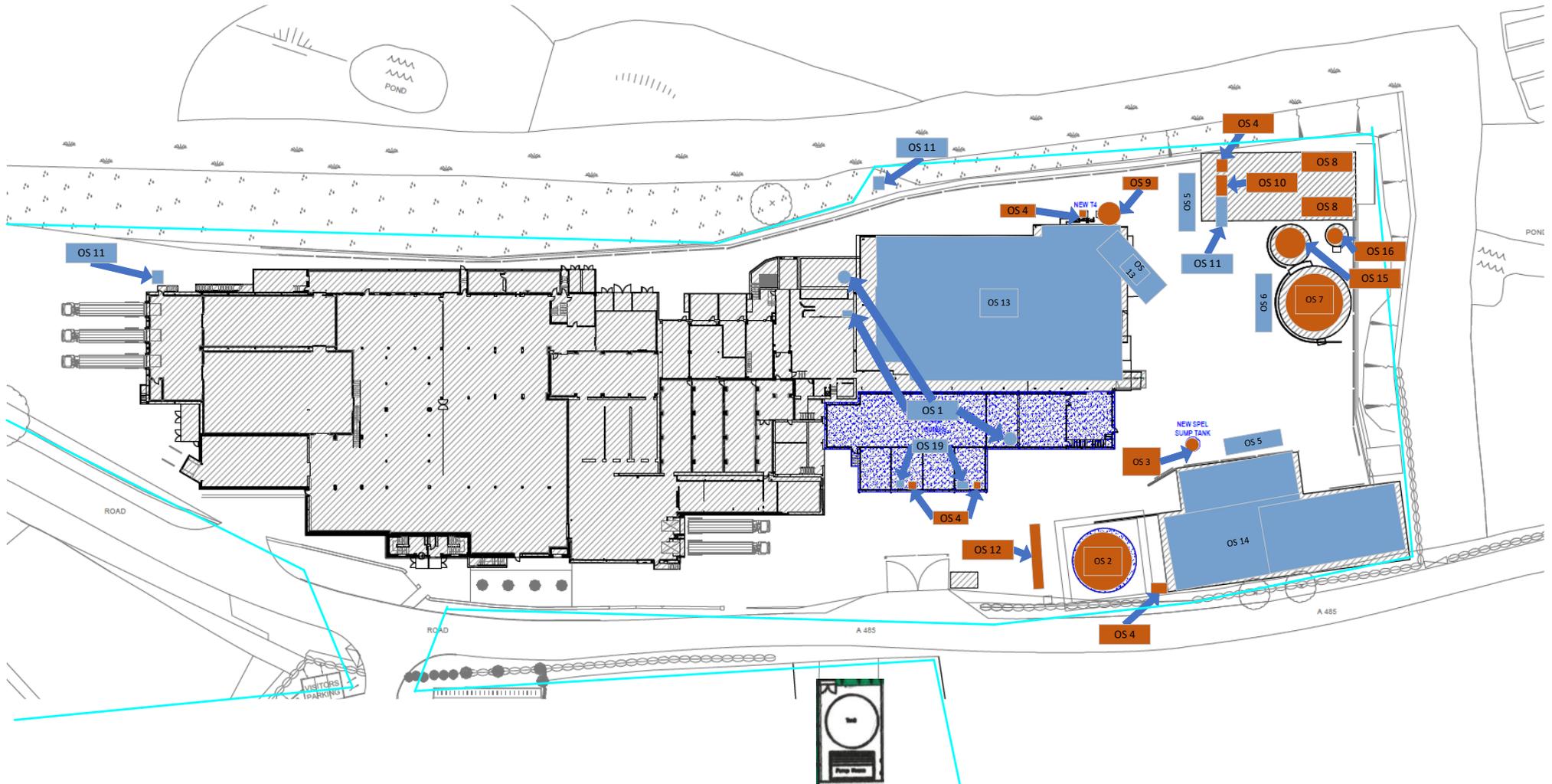
KEY TO THE LEGEND DATABASE

General	Waste
Specified Site	Point Location of BGS Recorded Landfill Site
Bearing Reference Point	BGS Recorded Landfill Site
Buffer (250m)	Integrated Pollution Control Registered Waste Site
Reference Number	Licensed Waste Management Facilities (Landfill Boundary)
Several of Type at Location	Licensed Waste Management Facility (Location)
Pylon	Point Location of Local Authority Recorded Landfill Site
Overhead Transmission Line	Local Authority Recorded Landfill Site
	Registered Landfill Site
	Point Location of Registered Waste Transfer Site
Agency and Hydrological	Registered Waste Transfer Site
Air Pollution Control	Point Location of Registered Waste Treatment or Disposal Site
Air Pollution Control Enforcement	Registered Waste Treatment or Disposal Site
Point Location of Contaminated Land Register Entry or Notice	
Contaminated Land Register Entry or Notice	
Discharge Consent	
Enforcement Or Prohibition Notice	
Integrated Pollution Control	
Integrated Pollution Prevention Control	
Pollution incident to Controlled Waters	
Substantiated Pollution Incident Register	
Prosecution Relating to Authorised Processes	
Prosecution Relating to Controlled Waters	
Red List Discharge Consent	
Registered Radioactive Substance	
River Network or Water Feature	
River Quality Sampling Point	
Water Abstraction	
	Hazardous Substances
	COMAH Site
	Explosive Site
	NIHS Site
	Planning Hazardous Substance Consent
	Planning Hazardous Substance Enforcement
	Geological
	BGS Borehole
	BGS Recorded Mineral Site
	Industrial Land Use
	Contemporary Trade Directory Entry
	Fuel Station Entry

Appendix 2

Document Ref	Page	Version	Date of issue:	Prepared by:	Approved by:
LLA-ENV33	30 of 33	001	02/06/2021	Luke Healy	Victoria Kerr

Appendix 2 - Dunbia (UK) Potential Odour Sources Area A

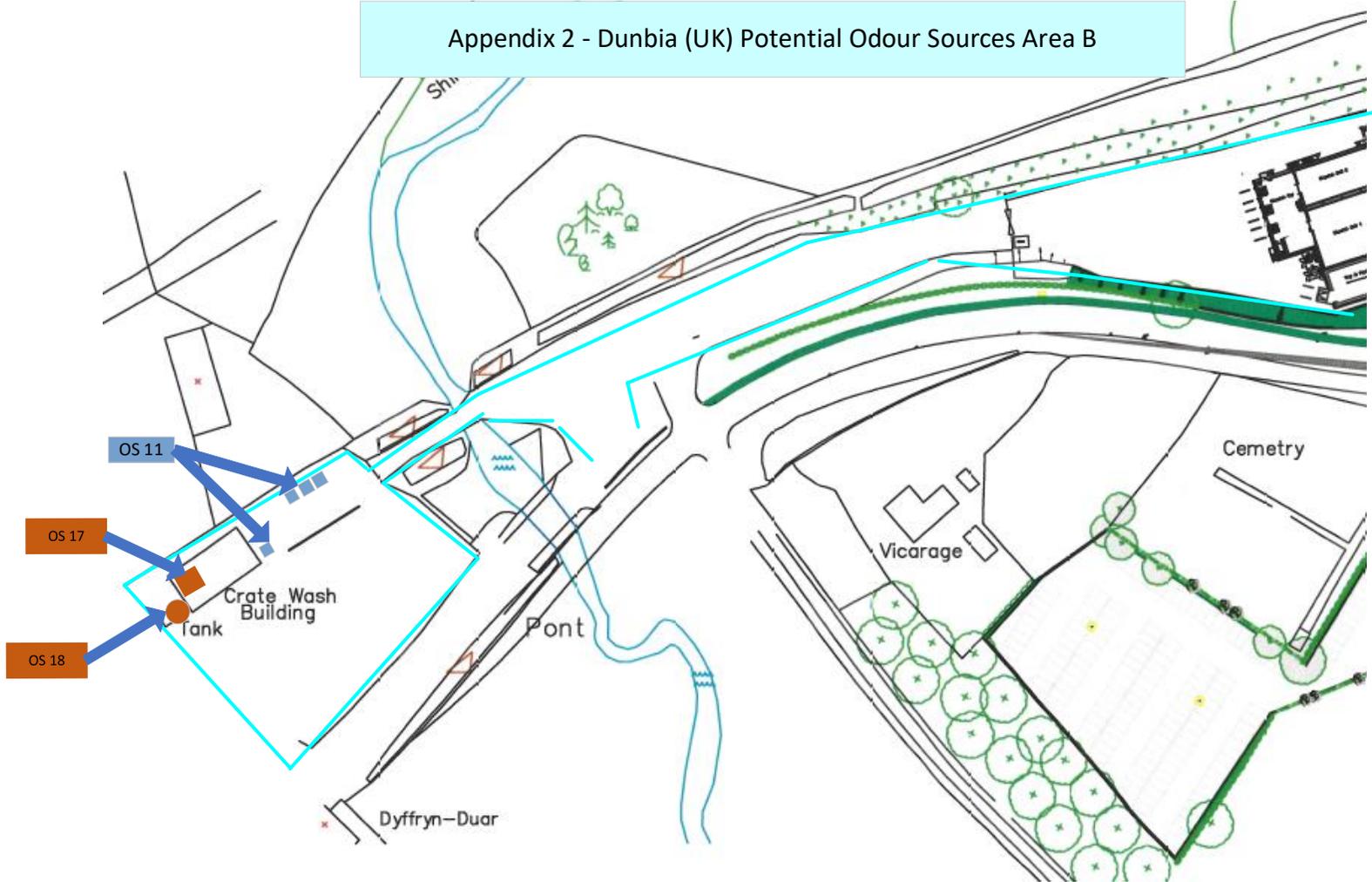


KEY		Odour Sources	
Production Processes		OS 1 - Blood Storage	OS 12 – Lorry Wash OS 13 - Lairage OS 14 – Skin Shed OS 15 – Anoxic Tank OS 16 – Sludge Tank OS 19 – ABP Collection Area
Effluent Treatment System		OS 2 - T5 Balance Tank	
		OS 3 - SPEL Tank (Sump Tank)	
		OS 4 - Rotary Screen	
		OS 5 - ABP Trailer	
		OS 6 - Pet Food Trailer	
		OS 7 - Aeration Tank	
		OS 8 - DAF Units	
		OS 9 - T4 Sump Tank	
		OS10 - Screw Press	
		OS11 - Skip/Trailer/Dolav/Container Movement	
Issue Date: 06/07/2021	Issue 1		



Prepared by: Luke Healy	Approved by: Victoria Kerr
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Appendix 2 - Dunbia (UK) Potential Odour Sources Area B



KEY		Odour Sources	
Production Processes		OS 11 - Skip/Trailer/Dolav/Container Movement OS 17 - Crate Wash Machine OS 18 - Crate Wash Effluent Tank	
Effluent Treatment System			
Installation Boundary			
Issue Date: 06/07/2021	Issue 1		

Document Ref	Page	Version	Date of issue:	Prepared by:	Approved by:
LLA-ENV33	33 of 33	001	02/06/2021	Luke Healy	Victoria Kerr